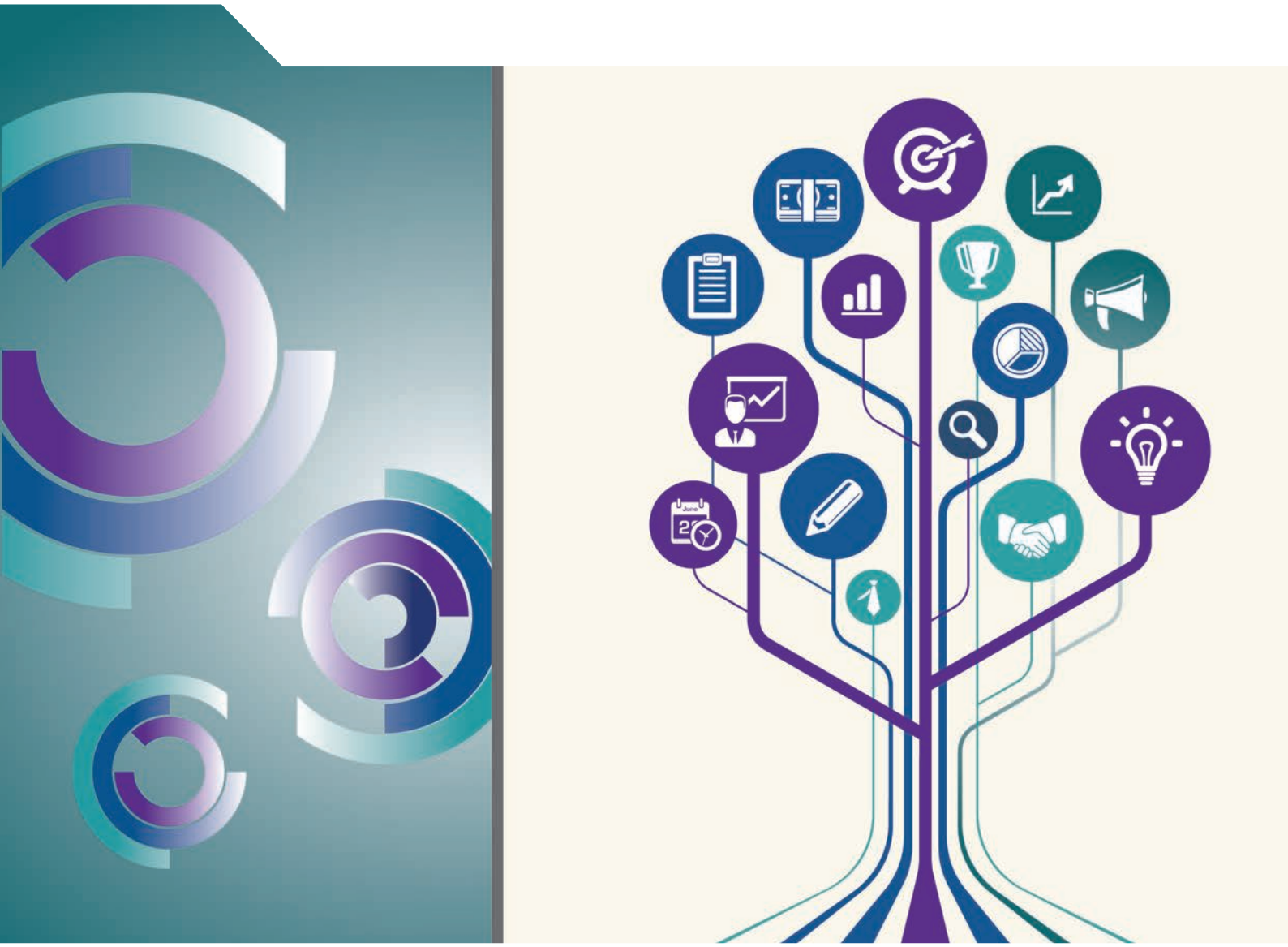
OECD Skills Studies

OECD Skills Strategy Implementation Guidance for Latvia

DEVELOPING LATVIA'S EDUCATION DEVELOPMENT GUIDELINES 2021-2027



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Foreword

People's skills are at the heart of Latvia's vision for the future.

As megatrends such as globalisation, technological progress, and demographic changes, as well as most recently COVID-19, transform jobs, how societies function and how people interact, the impetus for getting skills right is growing. People will need higher levels of skills and a well-rounded set of skills, including cognitive, social and emotional, and job-specific skills, for success in work and life. At the country level, skills are an important instrument for strengthening competitiveness, boosting productivity and fostering innovation. However, skills matter not only as an economic investment, but are also essential for the health, well-being and social cohesion of a population.

To pave a path to future success, Latvia has developed the Education Development Guidelines 2021-2027 (referred to in this report as the "EDG"), which puts education and skills policies at the forefront of the political agenda. The EDG sets the scene of how Latvia seeks to equip its citizens with the skills to flourish in work and society.

During this OECD Skills Strategy Implementation Guidance phase, Latvia has laid a strong foundation for the implementation of the EDG. Evidence on the strengths and weaknesses of Latvia's education and skills systems has informed the prioritisation of relevant policies in the guidelines. A wide range of Latvian actors across ministries, levels of government, education and training providers, employers, trade unions, the non-profit sector, and learners have been engaged to develop the EDG, demonstrating their commitment to work together. Furthermore, substantial resources have been earmarked to finance the policies presented in the guidelines.

Looking to the future, more can be done to position Latvia to successfully implement the EDG and prepare for the guidelines that will take its place. As the COVID-19 crisis has made clear, the future is uncertain, and all plans must be designed to be responsive and adaptable to overcome future challenges and seize future opportunities. With this in mind, Latvia could take further steps to strengthen its strategic planning.

The policies outlined in the EDG, when implemented with the support of all relevant actors, should allow Latvia to bridge the skills gaps and equip citizens of all ages with the skills they need to make the most of future opportunities.

Based on an analysis of Latvia's current situation, as well as the findings from widespread engagement with relevant actors in Latvia, the OECD has developed a number of concrete recommendations to help Latvia develop and implement the EDG.

The OECD stands ready to further support Latvia as it seeks to implement better skills policies for better lives.

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This report is part of a series of country projects within the OECD programme of work, Building Effective National Skills Strategies.

The OECD is grateful to the Latvian National Project Team for its invaluable guidance and input throughout the project, and its help in convening and organising stakeholder workshops. We are particularly grateful to the National Project Leader, Gunta Arāja, National Project Co-ordinator, Ilze Saleniece, and National Project Team member, Jeļena Muhina, all from the Latvian Ministry of Education and Science, for their strong leadership and co-ordination of the National Project Team. National Project support from the Latvian Ministry of Education and Science included: Dace Jansone, Inta Jaunzeme, Sigita Busule, Austra Irbe, Diāna Laipniece, Inese Lūsēna-Ezera, Inta Cinīte, Ieva Grava, Jānis Paiders, Uldis Berķis, Lana Frančeska Dreimane Rūta Gintaute-Marihina, Baiba Bašķere, Inga Zeide, Laura Vikšere, Anita Zaļaiskalne, Laura Iveta Strode, Ilze Buligina, Līga Vilde-Jurisone, Līga Buceniece, Ilze Seipule, Lelde Zemberga, Alise Trokša, Modra Jansone, Olita Arkle, Santa Šmīdlere, Santa Feifere, Ilze Sīle, Ulrika Naumova, Kristīne Grundmane, Aija Rudmane, Dace Deinate, Viktors Kravčenko, Inta Šusta, Anžela Jurāne-Brēmane, Inese Baltiņa and Aivis Majors.

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While the report draws upon data and analysis from the OECD, Latvian authorities and other published sources, any errors or misinterpretations remain the responsibility of the OECD team.

Samuel Kim was the OECD project leader responsible for co-ordinating this OECD National Skills Strategy project in Latvia. The main authors of this report were Samuel Kim and Michele Cimino. Input on relevant education indicators for Chapter 3 and during the Strategy Development Workshop was provided by Corinne Heckmann and Camila de Moraes from the OECD Indicators of Education Systems team. Julia Staudt and Joshua Polchar from the OECD Foresight team co-ordinated the Foresight Workshop. Rita Kasa (local Latvian consultant) provided input and feedback.

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Abbreviations and acronyms

The following are the main acronyms cited in the report.

AIC	Academic Information Centre
AL	Adult learning
CET	Continuing education and training
COVID-19	Coronavirus
CSB	Central Statistical Bureau
ECEC	Early childhood education and care
EDG	Education Development Guidelines
EDI	Early development index
EHIS	Estonian Education Information System
ESF	European Structural Fund
GE	General education
GDP	Gross domestic product
GPI	Gender parity index
GVC	Global value chain
HE	Higher education
HPWP	High performance work practices
ICT	Information communication technology
ILO	International Labour Organisation
IMF	International Monetary Fund
INES	OECD Indicators of Education Systems Programme
ISCED	International Standard Classification of Education
LFS	Labour Force Survey
LPI	Location parity index
MTEF	Medium-Term Expenditure Framework
NACE	Economic Activities in the European Community
NCE	National Centre for Education
NESLI	Network for the Collection and Adjudication of System-Level Descriptive Information on Educational Structures, Policies and Practices
NRA	National risk assessment
OECD	Organisation for Economic Co-operation and Development
PD	Professional development
PIAAC	Programme for the International Assessment of Adult Competencies (Survey of Adult Skills)
PIRLS	Progress in International Reading Literacy Study
PISA	Programme for International Student Assessment
PPP	Purchasing power parity
RSA	Resilience systems analysis
SDG	Sustainable Development Goals
SEC	Sector expert councils

SEDA	State Education Development Agency
SEIS	State Education Information System
SEQS	State Education Quality Service
SES	State Examinations System
SMART	Specific, measurable, attributable/actionable, relevant,and timely
SME	Small and medium enterprises
STEAM	Science, technology, engineering, arts and mathematics
STEM	Science, technology, engineering and mathematics
TALIS	Teaching and Learning International Survey
TIMMS	Trends in International Mathematics and Science Study
TOEFL	Test of English as a Foreign Language
UID	Unique identification
UNESCO	United Nations Educational, Scientific and Cultural Organisation
VECC	Vocational education competence centres
VET	Vocational education and training
VID	State Revenue Service
WBL	Work-based learning
WPI	Wealth parity index

Executive summary

OECD-Latvia collaboration on the OECD Skills Strategy project

Building on the OECD Skills Strategy Assessment and Recommendations phase, the *Implementation Guidance* phase has supported Latvia in the development of the Education Development Guidelines 2021-2027 (EDG). A whole-of-government and whole-of-society approach has been applied in Latvia involving all relevant ministries and levels of governments, as well as a wide range of stakeholders in order to build a shared understanding of which policy actions and indicators should be included in the EDG. The OECD has used international, national and other data sources, information gathered from government and stakeholder representatives, as well as expertise from across the OECD, including the Centre for Skills team, the Indicators of Education Systems team and Foresight team. The project drew upon concrete examples of education strategy development from other countries to provide important lessons for Latvia. This process provided input and shaped the recommendations featured in this current report.

The findings and recommendations of the Implementation Guidance Phase, as featured in this "OECD Skills Strategy Latvia Implementation Guidance: Developing Latvia's Education Development Guidelines 2021-2027" report, have been a major input to the development of Latvia's EDG. As Latvia's EDG was developed concurrently with the Implementation Guidance Phase, many of the findings and recommendations of this report have already been taken into consideration in Latvia's EDG. Some recommendations also go beyond the development of the EDG and are relevant for the implementation of the EDG.

The OECD was asked to provide input to Latvia's EDG in two key areas:

1. Guidance on developing Latvia's EDG and selecting EDG policy actions (Chapter 2)

Latvia's EDG is a strategic document that describes Latvia's objectives for education and skills policy in the medium term, as well as the policy actions it plans to implement to achieve these objectives. The benefits of the EDG being well-defined include aligning policy actions with policy objectives, providing clarity about what needs to be done by whom and by when, communicating the priorities, and holding all relevant actors accountable for implementing the policy actions and achieving the policy objectives.

A number of trends shape the skills needs and opportunities of Latvia. Megatrends such as globalisation, technological progress, population ageing, and migration, as well as the COVID-19 pandemic, are driving significant changes in skills needs in society and the economy. Given this context, the OECD provides guidance on the implications of this policy context for the selection of policy actions that advance the objectives of the EDG.

In developing the EDG, Latvia has considered the proposed policy actions of the "OECD Skills Strategy Latvia Recommendations and Assessment" report, which were developed based on input from a broad range of actors, as well as an in-depth assessment of Latvia's education and skills system. As the context has significantly changed due to the unforeseen COVID-19 pandemic, this report provides further complementary guidance on the policy actions that Latvia should consider taking to respond to the

pressures that the pandemic has generated. This complementary guidance has also been considered by Latvia in developing the EDG.

This report also features four further suggestions for how Latvia could develop and implement its EDG:

- **Include policy actions at the system level**. Give consideration to system level policy actions in order to address challenges that affect the entire education and skills system and not just a specific level of education.
- **Define responsibilities and timelines.** Identify the responsible actors for a policy action based on their capacity and disposition towards supporting the policy action and collaborating in its implementation. Create a timeline with short-term and long-term policy actions.
- **Identify funding implications.** For each policy action, estimate the required financial resources, identify the responsible funding party, and assess the funding source sustainability.
- **Strengthen strategic planning**. Consider multiple possible future scenarios, assess their risks, and strengthen the overall resilience of the education and skills system to adapt to future changes.

2. Guidance on improving Latvia's indicator system and selecting EDG indicators (Chapter 3)

Latvia's EDG needs to be accompanied by a robust indicator system to monitor implementation progress. This would provide reliable, accurate and timely information on the human and financial resources invested in skills, how education and skills systems operate and evolve, and the returns on investments in skills.

An assessment of Latvia's current indicator system reveals gaps in Latvia's ability to measure progress towards the achievement of its objectives. For example, indicators could be developed to track funding for lifelong learning, distinguish between drop-outs due to emigration and for other reasons, monitor student progression through education, measure the quality of early childhood education and care, and provide additional background information on students, such as their home language and disability status.

This report presents a list of potential indicators for the EDG and an overview of further considerations. The OECD, together with government and stakeholder representatives, reviewed a total of 181 possible indicators and then prioritised between 10-12 potential indicators across each of the five levels of education, for a total of 54 potential indicators. Specific suggestions are made for improving certain indicators and developing alternative indicators. Many of these indicators have been adopted in the EDG.

This report features five further suggestions for how Latvia could strengthen its indicator system:

- **Link indicator databases**. Facilitate data exchanges between indicator databases through a unique identification number for each individual, which allows data on this individual to be linked across various databases.
- **Improve the quality of indicator data.** Strengthen data validation processes by conducting regular quality checks of the data collection system and adopting digital technologies.
- **Benchmark indicators**. Set the target value to be sufficiently ambitious to inspire and mobilise action, but at the same time not so unrealistic as to demotivate actors. Consider adopting annual targets for some indicators.
- **Raise capacity to make use of indicator data.** Support research institutions to provide capacity to fully use the available national and international indicators.
- **Improve the dissemination of indicator data**. Improve the dissemination of information generated by the indicators through a user-friendly platform serving a wide audience of users.

1 Summary and recommendations

This chapter presents the main findings and recommendations of the OECD Skills Strategy Implementation Guidance project in Latvia. This project, and the first phase of the Skills Strategy Assessment and Recommendations project, were designed to support Latvia in the development of its Education Development Guidelines 2021-2027 (EDG). This chapter summarises the OECD's guidance in two areas, each of which are the subject of a separate chapter in this report: 1) guidance on developing Latvia's EDG and selecting EDG policy actions; and 2) guidance on improving Latvia's indicator system and selecting EDG indicators.

1. Introduction

The main goal of the Education Development Guidelines (hereafter referred to as the "EDG") is to guide Latvia's efforts in providing a high-quality and inclusive education and training system for all its citizens, and to support sustainable national growth. The EDG covers all levels of education and all types of learning. It is a medium-term policy planning document developed by the Ministry of Education and Science of Latvia that defines the policy objectives, policy actions, timelines, responsible actors, related finances and policy targets for the next seven years for education and skills policies. The EDG is being developed in collaboration with relevant ministries and a wide range of stakeholders, such as the Free Trade Union Confederation of Latvia, the Employers' Confederation of Latvia, the Latvian Chamber of Commerce and Industry, and various other institutions and associations (see Annex A for the full list). Once completed, the EDG will be submitted to the national parliament (Saeima) for approval.

The EDG will be designed to help Latvia achieve its national and international commitments. As Latvia is a member of international communities, such as the European Union (EU), the OECD and the United Nations, it has agreed to and is held accountable for making progress towards achieving collective goals, including in the area of education and skills. As Latvia is expected to regularly report progress towards implementing required actions and achieving shared goals, the EDG has to be aligned with these international commitments. This means, for example, integrating the skills relevant to international commitments into the EDG and using consistent terminology and indicators to measure national progress in these areas. The EDG must also support the achievement of the goals of Latvia's other major strategies and plans for national development, many of which have education and skills related goals and commitments. These include the Sustainable Development Strategy to 2030, the National Development Plan (2021-2027), and sectoral strategies in the areas of, for example, science, technology and innovation. By aligning and co-ordinating these strategies, Latvia can create synergies and ensure complementary policy actions.

The OECD has supported Latvia in developing its Education Development Guidelines 2021-2027 through the OECD Skills Strategy Latvia project, which has been conducted in two phases: the *Assessment and Recommendations* Phase (2018-2019) and the OECD *Implementation Guidance* Phase (2019-2020).

The *Assessment and Recommendations* Phase identified priority areas for action for Latvia and made concrete recommendations for improving Latvia's performance in developing relevant skills and using skills effectively. This phase analysed the performance of Latvia's education and skills system and provided tailored recommendations for its improvement. Based on this analysis, as well as input from stakeholder engagement activities in Latvia, the OECD developed a number of concrete recommendations, which are featured in the OECD report "OECD Skills Strategy Latvia: Assessment and Recommendations", published in December 2019 (OECD, 2019[1]).

The findings of the *Implementation Guidance* Phase, which are summarised in this publication "OECD Skills Strategy Latvia Implementation Guidance: Developing Latvia's Education Development Guidelines 2021-2027", are a major input to the development of Latvia's EDG. The OECD was asked to provide guidance and input to Latvia's EDG in two key areas:

1. Guidance on developing Latvia's EDG and selecting EDG policy actions (see Chapter 2).
2. Guidance on improving Latvia's indicator system and selecting EDG indicators (see Chapter 3).

Each chapter describes the elements of an effective selection process, presents an assessment of relevant contexts, discusses the proposed policy actions or indicators, and provides practical suggestions of what Latvia could consider for next steps.

The remaining part of this chapter introduces Latvia's EDG (Section 2), discusses how it relates to other international and national commitments (Section 3), and describes how Phase I (Section 4) and Phase II

(Section 5) of the OECD Skills Strategy Latvia project have contributed to the development of Latvia's EDG, it also presents the recommendations of Phase II.

2. Latvia's Education Development Guidelines 2021-2027

Skills are vital for enabling individuals and countries to thrive in an increasingly complex, interconnected and rapidly changing world. Countries in which people develop strong skills, learn throughout their lives, and use their skills fully and effectively at work and in society are more productive and innovative and enjoy higher levels of trust, better health outcomes, and a higher quality of life. Skills policies play a central role in paving countries' development path by, for example, easing the adoption of new technologies and helping firms move up the value-added chain; they also make countries more attractive to foreign direct investment and tend to help foster more tolerant and cohesive societies.

To ensure that countries are able to adapt and thrive in a rapidly changing world, all people need access to opportunities to develop and maintain strong proficiency in a broad set of skills. These skills include cognitive skills, social and emotional skills, job and occupation-specific skills, and digital skills. The process of skills development is lifelong, starting in childhood and youth and continuing throughout adulthood (Box 1.1). Skills development occurs not only formally in schools and higher education, but also non-formally and informally in the home, community and workplaces.

Box 1.1. OECD definitions of "skills"

Definition of skills

Cognitive skills involve the understanding, interpretation, analysis and communication of complex information and the ability to apply this information in situations of everyday life. These skills are general in nature and relevant for all kinds of occupations. They are considered necessary to provide a foundation for effective and successful participation in the social and economic life of advanced economies.

Social and emotional skills, also known as non-cognitive skills, soft skills or character skills, these are the skills involved in working with others (friendliness, respect, caring), in achieving goals (perseverance, self-control, passion for goals) and in managing emotions (calmness, optimism, confidence). They are based on recognised taxonomies in personality psychology, particularly the "big five" factors (extraversion, agreeableness, conscientiousness, emotional stability and openness).

Job and occupation-specific skills refer to technical skills that are demanded in the context of workplaces. Unlike cognitive and social and emotional skills, they are not relevant for or portable between all occupations, but are specific to one occupation. They are typically reflected in the qualification a person holds and are valued by employers.

Digital skills are considered technical skills, although they entail cognitive ability to enable the understanding, interpretation, analysis and communication of digital content. They are applied in a variety of different occupations and are increasingly pervading the social aspects of everyone's life.

Source: OECD (2019[2]), *OECD Skills Strategy 2019: Skills to Shape a Better Future,* https://dx.doi.org/10.1787/9789264313835-en; OECD (2020[3]), *Strengthening the Governance of Skills Systems: Lessons from Six OECD Countries*, https://dx.doi.org/10.1787/3a4bb6ea-en.

The EDG is developed under Latvia's Education Law (Paragraph 18 of Section 14[1]), which gives the Cabinet of Ministers the authority to design an education strategy. The EDG is designed to support Latvia's relevant national and international commitments (see Section 3). Some of the actions in the EDG continue

on from the previous EDG 2014-2020, while others are new. The EDG is developed by the Ministry of Education and Science in collaboration with other skills-relevant ministries, such as the Ministry of Welfare and the Ministry of Economics, among others, and a wide range of stakeholders, such as trade unions, the Employers' Confederation of Latvia, the Chamber of Commerce and Industry, and various other institutions and associations (see Annex A for a full list of stakeholders). The EDG will be submitted to the national parliament (Saeima) for approval towards the end of 2020.

3. The EDG and Latvia's international and national commitments regarding skills

The EDG is designed to help Latvia achieve its international commitments, which include those at the European level and beyond (Table 1.1). As Latvia is a member of international communities, such as the European Union, the OECD and the United Nations, it has agreed and is held accountable to making progress towards achieving collective goals and participating in shared actions in the area of education and skills. These include the Sustainable Development Goals (SDG), in particular SDG4 on education; the actions of the New Skills Agenda for Europe and the European Skills Agenda for sustainable competitiveness, social fairness and resilience (2020); the principles and rights of the European Pillar of Social Rights; and the targets of the EU Semester. As Latvia is expected to regularly report progress on these actions and goals, the EDG must be aligned with these international commitments. This means, for example, integrating the skills relevant to international commitments into the EDG and using consistent terminology and indicators to measure national progress in these areas. This will also put Latvia in a position to benchmark itself against other peer countries, identify its strengths and weaknesses, and participate more proactively in peer learning. This would provide valuable insights that could inform and guide Latvia's implementation of the EDG.

The EDG must also support the achievement of Latvia's other major goals for national development, which are described in various strategic documents, such as the Growth Model for Latvia: People First, the Sustainable Development Strategy to 2030, and the National Development Plan 2021-2027 (Table 1.1). It is important that the EDG is coherent and consistent with these strategies, and that any skills-related targets that have been set in those documents are also included in the EDG. The EDG must also be consistent with education and skills relevant projects such as Latvia's Smart Specialisation Strategy 2021-2027, which is part of Latvia's National Industrial Policy Guidelines and also has skills relevant components. By co-ordinating the development of the EDG with relevant strategies and policies it will be possible to identify areas for synergy and to ensure that the policy actions in various strategies are complementary. There are also relevant projects on specific components of the education and skills system, for example the education monitoring project within the Ministry of Education and Science that seeks to develop a monitoring system with specific indicators for measuring education quality by 2023. As indicators on education quality are also relevant for the EDG, it is important to co-ordinate the development of such indicators and reflect upon how they can be incorporated into the EDG.

Table 1.1. Overview of relevant international and national commitments for Latvia's EDG

Commitment	Description
International	
2030 Agenda for Sustainable Development (2015)	At the centre of this agenda are the 17 Sustainable Development Goals (SDGs), which all countries are called on to achieve collectively. One of these goals is SDG4 on education, which covers 10 targets and 11 indicators. Education topics covered by this SDG include: access to quality early child education and care (ECEC) for all; equal access to technical, vocational and tertiary education; a substantial increase in the number of youth and adults with relevant skills for employment, decent jobs and entrepreneurship; eliminate gender disparities; build and upgrade education facilities; and increase the supply of teachers.

Commitment	Description
European Skills Agenda (2020)	This is a shared agenda for the EU, with member states and stakeholders at all levels working together to improve skills outcomes, especially in the context of COVID-19 and taking account of the fact that opportunities to upskill and reskill should be an important part of the recovery. It includes 12 actions organised in four building blocks: 1) a call to join forces in collective action; 2) a strategic set of actions to ensure people have the right skills for jobs; 3) tools and initiatives to support people in their lifelong learning pathways; and 4) a framework to unlock investment in skills. The agenda also establishes four ambitious objectives to be achieved by 2025, based on well-established quantitative indicators.
European Pillar of Social Rights (2017)	This sets out 20 key principles and rights to support fair and well-functioning labour markets. It is structured around three chapters: 1) equal opportunities and access to the labour market; 2) fair working conditions; and 3) social protection and inclusion. To put the 20 rights and principles into practice, the European Commission is launching an action plan, concrete initiatives at the European level, and has set aside considerable financial support from the EU budget, including under the European Social Fund (ESF+), to which the Commission proposes to dedicate EUR 100 billion over the period 2021 to 2027.
National	
The Growth Model for Latvia: People First (2005)	This concept paper describes Latvia's long-term vision for growth over the next 20-30 years and emphasises the knowledge and skills that people need. The priorities are: 1) granting everyone access to secondary education and providing opportunities to pursue vocational and higher education; 2) increasing the number of higher education graduates at masters and PhD level; and 3) increasing the share of students pursuing studies in fields of technology and natural science across all levels of the education system.
Latvia's Sustainable Development Strategy to 2030 (2010)	This is the long-term development strategy for all policy domains, including education. It emphasises the need for a paradigm shift in education in which parents, teachers, students and educational institutions are fully aware of their respective responsibilities in ensuring quality education. The priorities include increasing access to education, improving the governance of the education system, transforming schools into social hubs, improving teaching, introducing information and communications technology (ICT) in education, and promoting lifelong learning.
National Development Plan 2021-27 (2020)	This is a national development strategy for the country with long-term and mid-term targets. Skills-relevant priorities in the plan include reducing the number of young people with low levels of skills while increasing the share of students with high levels of skills; decreasing the share of young people not in employment, education or training (NEET); improving vocational education and training; increasing the quality of higher education and its appeal internationally; and increasing adult learning participation.
Science, Technology Development and Innovation Guidelines 2021-27 (2020)	These guidelines describe Latvia's strategy to co-ordinate the innovation system and develop its knowledge base and innovation capacity. For this, skills in the fields of science, technology and innovation are important. The guidelines aim to raise the international competitiveness of Latvian science and research; support the modernisation of the education sector; foster an environment conducive to knowledge transfer; strengthen management in the field of science, technology and innovation; and promote demand for science and innovation, as well as socially relevant and open science to address global and local challenges.
Education Quality Monitoring System project	This project, supported with European Social Funds, began in 2018 to develop a monitoring system for the education system by 2023. The project develops and validates prototypes of education quality monitoring tools, which includes specific indicators to assess the quality of education in Latvia. Each of the indicators will be clearly defined, with explanations and methodologies of how to measure them and with benchmarks for 2024 and 2027.
Cohesive Civic Society Development Guidelines 2021-27 (2020)	The overarching goal of this policy is to support the development of a solidarity based and open civic society that stands for the democratic values and human rights specified in the Constitution, the Latvian language and Latvian cultural space. It covers civic education, language policy and youth policy. In the context of the EDG, this strategy is relevant regarding the development of social and emotional skills such as concern for others, goal-orientation and managing emotions.
Digital Transformation Guidelines 2021-27 (2020)	The goal of these guidelines is to develop joint integrated digital solutions and introduce new efficient public services and infrastructure that are integral to the global information society and trends in the EU's digital single market. Digital skills are central to fulfilling this strategy. For the development of digital skills, this strategy refers to the EU Digital Competencies Framework, where digital competence is recognised as the basic competence of the 21st century. Investment in the development of digital competencies throughout the education system in Latvia is recognised as one of the key directions in this strategy.
National Industrial Policy Guidelines 2021-27 (2020)	This is a medium-term policy planning document that covers all sectors of the economy and identifies directions for actions to promote economic growth. Five directions are identified for 2027: the development of human capital, growth in export, business environment, investment in digital and technological infrastructure, and innovation capacity. These guidelines recognise the context of a rapidly changing labour market, the need for employees to constantly acquire new knowledge, and the need for employers to invest in technological development and the education of their employees.
Regional Policy Guidelines 2021-27 (2019)	This is a medium-term strategy for Latvia's regional development. The overarching goal of this policy is to enhance the economic development potential of all regions and reduce their socio-economic disparities. To achieve this goal, one of the directions of action identified is the development of innovation and a knowledge-intensive business environment in the regions. This requires developing, attracting and retaining highly qualified human capital.

Note: This is a non-exhaustive list.

4. Phase I: OECD Skills Strategy Assessment and Recommendations

The *Assessment and Recommendations* Phase has provided a solid evidence base for the development of the EDG. The project has promoted greater interaction and exchange among all relevant actors from ministries, levels of government and stakeholders by enabling extensive engagement (Box 1.2). This process has fostered a shared understanding of the skills challenges and opportunities as a basis for taking co-ordinated actions. The OECD has used international, national and other data sources, information gathered from government and stakeholder representatives, as well as talent and expertise from across the OECD, including experts from the OECD Centre for Skills, the OECD Directorate for Education and Skills and the OECD Directorate for Employment, Labour and Social Affairs. The project has drawn upon concrete examples of education and skills policies from other countries, which have provided important lessons, and made specific recommendations in identified priority areas. Representatives from Latvia were also invited to participate in peer-learning opportunities at the OECD to share Latvia's experiences and learn from other countries' experiences. This has helped widen and deepen understanding of policies that have worked. The findings, international practice examples and recommendations from this phase of the project have informed the development of Latvia's EDG. Most importantly, the findings of Phase I have supported the development and prioritisation of the policy actions.

Box 1.2. Fostering a whole-of-government and whole-of-society approach to skills policy: The Assessment and Recommendations Phase

The OECD's Skills Strategy project in Latvia was launched at the Skills Strategy Seminar in Riga in September 2018 by the Latvian Minister and State Secretary of Education and Science. The event included representatives from the Ministry of Education and Science, Ministry of Welfare, Ministry of Economics, the Cross-Sectoral Co-ordination Centre, employer associations, trade unions and the European Commission. The project involved ongoing oversight and input from an inter-ministerial team co-ordinated by the Latvian Ministry of Education and Science, which was comprised of experts from various other ministries and organisations. Two workshops were held in February and May 2019 that convened a wide range of stakeholders, including trade unions, employers, sectoral training providers, education institutions, academics and government representatives. Eight focus groups and bilateral meetings with stakeholders and experts also took place. In total, the OECD met around 500 stakeholders. The European Commission provided financial support for the project and participated in the skills strategy seminar and in both stakeholder workshops. This process generated inputs that helped to shape the recommendations featured in the "OECD Skills Strategy Latvia: Assessment and Recommendations" report, launched on 19 December 2019.

Source: OECD (2019[1]), *OECD Skills Strategy Latvia: Assessment and Recommendations*, https://doi.org/10.1787/74fe3bf8-en.

The OECD and the Latvian Government identified four priority areas for improving Latvia's skills performance. The key findings and opportunities for improvement in each of these areas are summarised briefly below, and are elaborated with analysis and tailored recommendations in the chapters of the "OECD Skills Strategy Latvia: Assessment and Recommendations" report (OECD, 2019[1]).

Priority 1: Strengthening the skills outcomes of students

Ensuring that young people get a good start in schools is a key investment in the future economic prosperity and well-being of countries. In Latvia, the government dedicates a significant share of its expenditure to education, which denotes a commitment to providing access to quality education and translates into high enrolment rates. Latvia has opportunities to further strengthen the skills outcomes of students by:

1) building capacity to improve the teaching workforce; 2) fostering continuous quality improvement from early childhood education and care (ECEC) to secondary education; 3) improving equity between urban and rural areas; and 4) strengthening vocational education and training (VET).

Priority 2: Fostering a culture of lifelong learning

A strong adult learning culture is imperative if Latvia wishes to ensure that all individuals are ready to upgrade their existing skills or acquire new skills to adapt to new challenges and opportunities and thrive in an increasingly complex world. Fostering adult learning is a priority for Latvia as it seeks to reach the European Union benchmark of a 15% participation rate by 2020. Latvia has opportunities to foster a lifelong learning culture by: 1) raising awareness about adult learning; 2) reducing barriers to adult learning; 3) expanding the provision of adult learning; and 4) raising the quality of adult learning.

Priority 3: Reducing skills imbalances in the labour market

As the skills needed in the labour market continue to evolve due to globalisation, digitalisation and demographic change, reducing skills imbalances remains a pressing policy priority. Most employers report that skills shortages are a major obstacle to long-term investment decisions. Shortages appear particularly acute in science, technology, engineering and mathematics (STEM), and health fields. The emigration of highly educated workers from Latvia is a significant challenge that has contributed to these shortages. Latvia has opportunities to reduce skills imbalances in the labour market by: 1) strengthening the responsiveness of the tertiary education system to changing skills demand; 2) retaining talent in Latvia by stimulating sustainable wage growth and improving working conditions; and 3) facilitating internal mobility and attracting skilled workers from abroad.

Priority 4: Strengthening the governance of the skills system

Effective governance arrangements are the foundation of Latvia's performance in developing and using people's skills. The success of skills policies depends on the actions of a wide range of actors and sectors at national and local levels. Latvia's Education Development Guidelines 2021-2027 will provide an opportunity to mobilise these actors and co-ordinate their efforts. Co-operation with and between municipalities on skills policy is not systematic, and could be strengthened in the context of Latvia's administrative territorial reforms. Latvia has opportunities to strengthen the governance of the skills system by: 1) strengthening strategies and oversight for skills policy; 2) improving co-operation at different levels of government and with stakeholders; 3) building an integrated monitoring and information system on skills; and 4) raising, targeting and sharing investments in lifelong learning.

5. Phase II: OECD Skills Strategy Implementation Guidance

Building on the Assessment and Recommendations phase, the *Implementation Guidance* phase has continued to support Latvia in the development of its EDG. As before, a whole-of-government and whole-of-society approach has been applied in Latvia involving all relevant ministries, levels of governments and stakeholders (Box 1.3). The purpose has been to encourage greater interaction and exchange among relevant actors to build a shared understanding of which policy actions and indicators should be included in the EDG. The OECD has used international, national and other data sources, information gathered from government and stakeholder representatives, as well as talent and expertise from across the OECD, including education indicator experts from the OECD's Indicators of Education Systems team and from the OECD Foresight team. The project has drawn upon concrete examples of education strategy development from other countries, such as Estonia, which have provided important lessons, and made specific recommendations in identified priority areas. Representatives from Latvia were also invited to participate in peer-learning opportunities at the OECD to share Latvia's experiences, learn from other country experiences, and widen and deepen their understanding of policies that have worked.

Box 1.3. Fostering a whole-of-government and whole-of-society approach to skills policy: The Implementation Guidance Phase

The *Implementation Guidance* phase was launched by the Latvian Ministry of Education and Science in October 2019 and has engaged representatives from across the Ministry of Education and Science, the Ministry of Welfare and the Ministry of Economics, as well as a wide range of stakeholders such as trade unions, employers, sectoral training providers, education institutions, and academics.

In October 2019, the OECD organised a foresight workshop that convened government and stakeholder representatives to identify emerging socio-economic trends that had skills implications and discuss the potential future impacts, associated opportunities and challenges of these trends for Latvia's EDG.

In November 2019, the OECD facilitated a series of prioritisation workshops and focus groups with government and stakeholder representatives to discuss and identify relevant policy actions for the EDG. This resulted in 87 possible policy actions across the five levels of education (early childhood education and care, general education, vocational education and training, higher education and adult learning).

In February 2020, the OECD organised a series of strategy development workshops with government and stakeholder representatives to further work on these policy actions and prioritise potential policy indicators for Latvia's EDG. The OECD provided participants with a list of 181 possible indicators drawn from international and national sources, encouraged participants to suggest new indicators, where relevant, and facilitated discussions to identify the indicators deemed most important. Through the prioritisation exercise, 10-12 indicators for each level of education were proposed for a total of 55 indicators for the EDG.

The output of these engagement exercises, alongside additional analysis and reflections from the OECD and concrete recommendations for Latvia's next steps in finalising the EDG, are included in this report.

The findings of the Implementation Guidance Phase, which are summarised in this publication "OECD Skills Strategy Latvia Implementation Guidance: Developing Latvia's Education Development Guidelines 2021-2027", have been a major input to the development of Latvia's EDG. The OECD was asked to provide input to Latvia's EDG in the following key areas:

1. Guidance on developing Latvia's EDG and selecting EDG policy actions (see Chapter 2).
2. Guidance on improving Latvia's indicator system and selecting EDG indicators (see Chapter 3).

The OECD's input – including key findings and recommendations – to each of these areas is described in greater detail in the subsequent chapters and is summarised in the section below. The summary section below covers the input that the OECD has provided to date in the development of the EDG, as well as suggestions for further steps that Latvia needs to take to finalise the EDG.

1. Guidance on developing Latvia's EDG and selecting EDG policy actions

Latvia's EDG is a strategic document that lays out what Latvia wants to achieve in the medium term in education and skills policies. The benefits of a well-defined EDG include describing the policy actions that Latvia plans to implement to achieve its policy objectives, and providing clarity about what needs to be done by whom and by when.

An effective process for identifying policy actions for Latvia's EDG requires the application of a framework for selecting policy actions and the engagement of all relevant stakeholders in the process. A framework facilitates the selection process by guiding involved actors to consider the feasibility of proposed actions and the extent to which they advance EDG policy objectives. Identification of EDG policy actions requires the engagement of relevant stakeholders as they possess important sectoral knowledge and valuable insights and play an important role in the implementation of the policy actions.

A number of trends shape the skills needs and opportunities of Latvia. Megatrends such as globalisation, technological progress, population ageing, and migration, as well as the COVID-19 pandemic, are driving significant changes in skills needs in society and the economy. The OECD provides guidance in Chapter 2 on the implications of this policy context for the selection of policy actions that advance the objectives of the EDG.

In developing the EDG, Latvia has considered the proposed policy actions of the "OECD Skills Strategy Latvia Assessment and Recommendations" report, which are summarised in Chapter 2 of this report. These policy actions were developed based on input from a broad range of actors and an in-depth assessment of Latvia's education and skills system. As the context has significantly changed since the launch of the report due to the unforeseen COVID-19 pandemic, this report provides further complementary guidance on the policy actions that can respond to the pressures that the pandemic has generated.

Chapter 2 also makes suggestions for how Latvia could further develop and implement the EDG. Latvia should include system-level policy actions, allocate roles and responsibilities to actors for policy actions, set clear timelines for implementation, determine the amount and source of required funding, and strengthen strategic planning to better anticipate and plan for possible changes in the policy context. Further developing the EDG in this way would allow Latvia to implement the policy actions more effectively and ultimately achieve its policy objectives.

Table 1.2. Recommendations for further developing Latvia's EDG

Actions	Recommendations
1. Include policy actions at the system level	**Give consideration to policy actions that need to be taken at the system level in order to address challenges that affect the entire education and skills system and not just a specific level of education.** Policy actions at the system level include efforts to strengthen oversight for skills policy; improve co-operation across different levels of government; build an integrated monitoring and information system; and increase, better target and share investments in lifelong learning.
2. Define responsibilities and timelines	**Identify the responsible actors for a policy action based on their capacity and disposition towards supporting the policy action and collaborating in its implementation**. In selecting the relevant actors for specific policy actions, consideration needs to be given to identifying actors who collectively have both sufficient capacity (e.g. funding, experience, expertise, networks) to implement the policy action and a favourable disposition towards supporting the policy action and collaborating in its implementation. **Create a timeline that distinguishes between short-term and long-term policy actions**. Such a timeline reflects the different time required to implement different policy actions, but also allows actors to track and demonstrate progress. The timelines should be determined by assessing their respective capacities to implement the policy action, as this can influence how much time would be needed. If a single actor is responsible for multiple policy actions and has limited capacity for implementing them, it may also help to sequence these actions over time.

Actions	Recommendations
3. Identify funding needs	**Estimate the financial resources required for each policy action**. Estimates should be informed by considerations of the complexity of the policy action, the required inputs for implementation, and the ability of responsible actor(s) to effectively use the funding. In the context of the COVID-19 pandemic and a constrained budget, funding could be prioritised for higher priority policy actions, while lower priority policy actions could be eliminated or reduced in scope. **Identify for each policy action the party responsible for funding that action and assess the sustainability of the funding source.** Funding sources could come from government, employers, individuals and international partner organisations, or a combination thereof**.** Consider the sustainability of funding sources and confirm that the funding source is available for the entire duration of the planned policy action. Develop contingency plans to adapt the implementation of the EDG if there is a significant drop in funding.
4. Strengthen strategic planning	**Consider multiple possible future scenarios**, anticipate possible changes in society and economy, and explore their potential implications for education and skills policies in Latvia. Explore how multiple developments from other policy sectors (e.g. economy, labour market, health, technology) can intersect and interact with education and skills policies in unexpected ways and may require adjustments be made to the EDG. Encourage openness about the assumptions behind analyses and create an opportunity to evaluate the drivers of uncertainty in Latvia. **Assess the risks of different possible future scenarios** and identify the vulnerabilities in the current education and skills system in adapting to such changes. Identify ways to address the risks and prepare accordingly in the EDG implementation. Make the results of risk assessments available for policy makers to inform decisions and allow them to make explicit trade-off and prioritisation decisions. **Conduct a resilience systems analysis** to identify which parts of Latvia's education and skills system have been most affected by the recent COVID-19 crisis and are most vulnerable to future shocks. This would allow Latvia to prioritise those parts of the system with further support and thus strengthen the overall resilience of its education and skills system and support at-risk groups during and beyond the EDG.

2. Guidance on improving Latvia's indicator system and selecting indicators for the EDG

Latvia's EDG needs to be accompanied by a robust indicator system to monitor implementation progress. A robust indicator system for education and skills policies provides reliable, accurate and timely information on the human and financial resources invested in skills, how education and skills systems operate and evolve, and the returns on investments in skills.

An effective process for selecting EDG indicators facilitates consideration of a comprehensive set of high-quality indicators and helps to prioritise them on the basis of their ability to assess progress towards the achievement of the objectives and policy actions of the EDG. It is important to find a reasonable number of indicators, as too many can be costly and administratively burdensome and too few may not allow for a comprehensive assessment of progress towards achieving the policy objectives.

An assessment of Latvia's current indicator system (see Chapter 3) reveals gaps in Latvia's ability to measure progress towards the achievement of its objectives. For example, indicators could be developed to track funding for lifelong learning, generate more nuanced information on drop-outs, monitor student progression through education, measure the quality of early childhood education and care quality and provide additional background information on students. Developing these indicators would allow Latvia to identify whether all students are sufficiently supported and have the opportunity to develop their skills.

Chapter 3 presents a list of potential indicators for the EDG and an overview of further considerations that have been taken into account during the development of Latvia's EDG. The OECD, together with government and stakeholder representatives, reviewed a total of 181 possible indicators and prioritised and discussed in-depth between 10-12 potential indicators across each of the five levels of education,[2] resulting in a total of 54 potential indicators for Latvia's EDG. Where relevant, specific suggestions are made for improving certain indicators and developing alternative indicators.

Chapter 3 also makes suggestions for how Latvia could improve its indicator system for the EDG. These improvements include integrating the various databases, strengthening the data validation process, setting ambitious yet realistic benchmark targets, designating a research institution to fully use the indicators, and disseminating information generated by the indicators through a user-friendly platform. Improving the indicator system in these ways would allow Latvia to make more effective use of the indicators to guide the EDG implementation process.

Table 1.3. Recommendations for further improving Latvia's indicator system for the EDG

Actions	Recommendations
1. Link indicator databases	**Facilitate data exchanges between indicator databases through a unique identification number for each individual, which allows data on this individual to be linked across various databases.** Consideration should be given to linking Latvia's various administrative databases where information relevant to education and skills policy can be found. These include the State Education Information System, the Unemployment Accounting and Registered Vacancy Information System, as well as databases of EU funded projects (e.g. Information system for the professional competence project (SO 8.4.1))
2. Improve the quality of indicator data	**Strengthen data validation processes by conducting regular quality checks of the data collection system and adopting digital technologies**. Regular data collection audits, which are based on transparent and clear standards, should ensure that consistent concepts, definitions and methodologies are applied in data collection. Adopting various digital technologies, such as data collection software, school information systems, database management systems and data analytics applications, should be explored for more accuracy, reliability and timeliness of data.
3. Benchmark indicators	**Set the target value to be sufficiently ambitious to inspire and mobilise action, but at the same time not so unrealistic as to demotivate actors**. Target values should be chosen based on criteria such as government priorities, peer average, available resources, international performance standards and past trends. If any indicators from the previous EDG are being used for the new EDG, their benchmark values should be reviewed in relation to the evaluated mid-term values in order to determine a realistic benchmark target in the new EDG. **Consider adopting annual targets for some indicators.** Complementary to the mid-term and final year target values, Latvia could also consider annual targets for some important indicators. This would provide more frequent feedback on progress towards the achievement of objectives and, by extension, highlight where corrective action may need to be taken to achieve those targets. At the same time, more frequent data collection is labour intensive and comes at a cost. The potential benefits and costs should thus be weighed carefully.
4. Raise capacity to make use of indicator data	**Support research institutions to provide capacity in fully using the available national and international indicators.** The research institutions should analyse progress in implementing the EDG and regularly publish reports informing and guiding implementation. They should provide training to other government officials on how to use information generated by indicators so that the most appropriate indicators are used for the policies considered and so that the information is used with the nuances and limitations of indicators in mind.
5. Improve dissemination of indicator data	**Improve the dissemination of information generated by the indicators through a user-friendly platform serving a wide audience of users.** The platform should be accessible through a variety of channels (e.g. website, mobile) and provide up-to-date information in plain language. The platform should centralise information on skills needs and available learning opportunities, career guidance services, and funding support. The information should be available in disaggregated format so that it can be tailored to the specific needs of various users.

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Notes

[1] The Latvian Education Law is available in the Latvian language at: https://likumi.lv/doc.php?id=50759.

[2] Five levels of education: 1) early childhood education and care; 2) general education; 3) vocational education and training; 4) higher education; and 5) adult learning.

2 Guidance on developing Latvia's EDG and selecting EDG policy actions

Latvia's Education Development Guidelines 2021-2027 (EDG) describes the policy actions Latvia will take to achieve its education and skills related policy objectives. This chapter provides guidance on developing Latvia's EDG and selecting EDG policy actions. It describes the elements of an effective process for identifying relevant policy actions, assesses the skills implications of megatrends and the COVID-19 pandemic that should be reflected in the policy actions, and proposes policy actions for inclusion in Latvia's EDG. It also identifies four additional actions Latvia should take to further develop its EDG: 1) include policy actions at a system level; 2) define responsibilities and timelines; 3) identify funding needs; and 4) strengthen strategic planning.

1. Introduction

Latvia's Education Development Guidelines (EDG) aims to help Latvia achieve its economic and social development goals and commitments. It is a strategic document that lays out what Latvia wants to achieve in the medium term by describing the policy actions specific to education and skills that Latvia plans to take to achieve its policy objectives. The benefits of a well-defined EDG include providing clarity about what needs to be done by whom and by when, aligning policy actions with policy objectives, co-ordinating contributions from various actors to implement policy actions and achieve policy objectives, communicating the priorities, and holding all relevant actors accountable for implementing the policy actions and achieving the policy objectives.

This chapter provides guidance on developing Latvia's EDG and selecting relevant policy actions based on international good practice. It is organised as follows:

- Section 2 describes the elements of an effective process for identifying policy actions for the EDG.
- Section 3 analyses the implications of megatrends and the recent COVID-19 pandemic for the identification of policy actions for Latvia's EDG.
- Section 4 proposes policy actions for inclusion in Latvia's EDG.
- Section 5 makes suggestions for how Latvia could further develop its EDG.
- Section 6 provides a summary of the chapter and its recommendations.

Relevant country examples have been provided from Canada, Estonia, Finland, Flanders (Belgium), France, Germany, Ireland, Norway, Singapore, Sweden and the United States. Latvia should examine the best practice of other countries and select what works best for its own national needs.

2. Elements of an effective process for identifying EDG policy actions

The EDG is a strategic document that lays out what Latvia wants to achieve in the medium term. Developing a framework such as the EDG allows a country to be proactive and ambitious about its future, and makes it more likely that desired outcomes will be achieved.

The core of the EDG framework is its policy actions. These are the specific policies designed and implemented to achieve the overarching policy objectives, which are the main strategic goals that the government identifies in the EDG. The policy actions could be specific to one level of education, ranging from early childhood education and care (ECEC) to adult learning. They could also be at a system level, such as the improvement of an education quality monitoring system or the effective management of financial resources for education.

Clear policy actions can be selected by: 1) employing a robust framework for selecting policy actions; and 2) engaging all relevant stakeholders in the process of selecting policy objectives and actions. A brief description of each element is discussed below, along with some of the methodologies that can be used, relevant country examples and how these are relevant for Latvia's EDG.

Employing a robust framework for selecting policy actions

Selecting clear policy actions requires a robust framework, which serves to clarify the relationships between the various strategy elements (e.g. policy objectives and policy actions) and provides a rationale for their inclusion in the strategy. Determining the policy actions for the policy objectives can be difficult as the actors involved may have competing interests. A robust framework can facilitate the deliberation and negotiation process regarding which policy actions to select. A robust framework has three key characteristics.

1. **It takes into account the policy context to support an evidence-based discussion and identification of EDG policy actions**. The policy context refers to the socio-economic context in which the policies are implemented (see Section 3 for more information on Latvia's policy context). As there will inevitably be changes in the policy context in the future, any assumptions about the future should be made explicit and plans should be made for how the EDG will be adjusted in response to potential changes in the context.
2. **It supports the identification of concrete policy actions that are capable of delivering on the policy objectives**. Unless there is a clear link between the proposed policy actions and objectives, proposed policy actions should not be included. A robust framework facilitates the process of organising the various policy actions and policy objectives in a logical and coherent structure. This is important to avoid any unnecessary duplications, overlaps and contradictions among policy actions and policy objectives.
3. **It supports consideration of the feasibility of the proposed policy actions**. Policy actions require a variety of resources to implement. These resources include the capacity of actors to implement the policy actions. Capacity may refer to having the relevant resources, such as funding, experience, expertise and networks to implement policy actions. If proposed actions are less feasible, they may be downgraded or discarded. However, there may be occasions when a proposed policy action, while relatively low in feasibility could still be considered a priority due to the likely significant impact and contribution to achieving an important policy objective.

In the development of the EDG and the process of selecting policy actions, it is useful to use a robust framework for identifying, prioritising and organising the various policy actions. This will make it more likely that the final EDG document is clear, coherent and logical. When multiple actors are involved in creating the EDG there is the danger that it will become an incoherent collection of various suggestions that are not actionable. A robust framework can guide discussions and provide transparent criteria for why some policy objectives and actions are included while others are not. Latvia could consider the following methodologies in applying a robust framework to the development of the EDG and selecting policy actions:

- **Problem tree analysis:** This approach analyses an existing situation by identifying the major problems and their main causal relationships. The output of the analysis is a graphical representation of problems, their causes (reasons behind the problem) and their effects (consequences of the problem). The problem tree is then used to identify relevant policy actions. The result of this exercise is a graphical chart that shows the possible policy actions to achieve the objectives of the strategy. This is an interactive exercise that involves brainstorming sessions with all relevant actors. The quality of the exercise result depends on the expertise of the people involved (UNESCO-IIEP, 2010[1]).
- **Logical framework (also known as a logframe) matrix:** The logframe summarises the strategy with detailed information on four elements: overall objective (impact), purpose (outcome), results (outputs) and activities (inputs). Each of the four elements is further described with indicators/targets, sources of verification and assumptions. This provides a structured and systematic approach for organising the different elements of a strategy. For the individuals involved in the creation of this matrix it is important that there is common understanding about the terminology being used (UNESCO-IIEP, 2010[1]; World Bank, 2005[2]; European Commission, 2004[3]).
- **Feasibility testing**: This approach ensures that the selected policy actions are realistic, with feasibility examined within three dimensions: 1) management feasibility refers to the extent to which the implementation of what is being proposed is efficiently ensured by the management; 2) socio-cultural feasibility refers to the extent to which proposed actions are supported by the main stakeholders (e.g. teachers, parents); and 3) financial feasibility refers to the extent to which the estimated costs of what is being proposed are compatible with the expected available financial

resources. When proposed actions are not feasible in more than one of these dimensions, they require more effort to be implemented (UNESCO-IIEP, 2010[1]).

There are various approaches that countries have followed in developing a framework. While Latvia has to develop its own framework based on its specific needs, other country examples may offer some relevant insights.

Flanders (Belgium) has worked closely with the OECD in an OECD Skills Strategy project to assess its skills system and develop recommendations, which culminated in the launch of the OECD Skills Strategy Flanders report on 21 January 2019 (OECD, 2019[4]). Based on the available evidence from this report, Flanders has been in the process of developing an implementation plan to strengthen its lifelong learning system. From November 2019 to March 2020, an additional 112 interviews with stakeholders were conducted to gather further feedback for developing the implementation plan. The framework for this plan consists of four challenges and 10assignments (Table 2.1). These will be further developed in the second half of 2020 during working groups, focus groups and expert consultations, and then submitted as a proposal for the Flemish Parliament to consider in December 2020.

Table 2.1. Flanders: Implementation plan framework for strengthening the lifelong learning system

Challenges	Assignments
1. Making everyone eager to learn	• Motivate everyone to formulate learning objectives. • Support every organisation to be a learning organisation. • Stimulate eagerness to learn in society.
2. Learning is accessible	• Create an accessible, high-quality and varied range of learning opportunities. • Redesign guidance on learning opportunities.
3. Supply and demand are aligned	• Provide data driven insights into the learning demands of individuals. • Provide data driven insights into the learning demand of organisations. • Supply dynamically follows the demand and change in demand.
4. Learning becomes working and working becomes learning	• Integrate learning into labour law. • Improve funding for lifelong learning for individuals, companies and organisations, and providers.

Source: Adapted from Tindermans, B. and Dekocker, V. (forthcoming[5]), *The Learning Society*.

In June 2019, Germany launched the strategy paper of the national skills strategy, which was developed in collaboration with 17 key actors from across ministries, levels of government and a variety of stakeholders. The main challenge the strategy identifies is that the accelerating structural and sectoral change, especially the digital transformation of the economy, is causing far-reaching changes to the world of work. It outlines how Germany can improve the provision of continuing education and training to upgrade the skills of its workforce and meet the changing demands of the workplace. The strategy consists of 10 policy objectives and 70 policy actions (Table 2.2). Each policy objective has between 4 and 11 policy actions, and each policy action clearly identifies the responsible actors. The strategy is currently being implemented and will be reviewed in 2021 with the publication of a report. It may also be updated at this time.

Table 2.2. Germany: National skills strategy framework

Policy objectives	Examples of policy actions
1. Supporting the transparency of continuing education and training (CET) opportunities and programmes	• Develop a website to provide information about the support available for individual continuing education and training opportunities and programmes and make it easier to apply for support.
2. Closing gaps in support, creating new incentives, adapting existing support systems	• Provide cross-sectoral support to help meet employees' significantly rising demand for personal and professional development, and in some cases for retraining.

Policy objectives	Examples of policy actions
3. Ensuring joined-up lifelong CET counselling nationwide and strengthening skills development counselling, particularly for small and medium-sized enterprises	• Develop a new online service in the form of a self-discovery tool. • Develop the "CET Counselling" information hotline into a nationwide telephone counselling service for lifelong learning and CET.
4. Strengthening the responsibility of social partners	• Examine the possibility of launching a new and updated version of the European Structural Fund Social Partner Initiative.
5. Reviewing and enhancing the quality and quality assessment of continuing education programmes	• Introduce ratings given by participants to make the quality of the programmes offered by an education provider more transparent.
6. Increasing the visibility of and recognising the skills acquired by workers through vocational education and training	• Introduce a nationwide, standardised process to identify, assess and certify vocational skills acquired through non-formal and informal learning.
7. Developing further training qualifications and continuing education and training programmes	• Support innovation clusters in which regional and sector-specific stakeholders work together to develop and test innovative initial and continuing training programmes.
8. Strategically developing educational institutions into centres of excellence for continuing vocational education and training	• Support inter-company training centres in their modernisation, including in view of digitalisation, and in their development into centres of excellence.
9. Supporting CET staff and equipping them with the skills required for the digital transformation	• Professionalise the staff of CET providers regarding basic skills and update programmes to incorporate new findings from researchers and practitioners.
10. Strengthening strategic forecasting and optimising statistics on continuing education and training	• Launch a stocktaking exercise and support and monitor the wide range of existing analysis tools.

Note: The table only shows a partial list of policy actions. For the full list and for further explanation of the strategy paper, please see the document in the source.
Source: Adapted from German Federal Ministry of Labour and Social Affairs (2019[6]), *National Skills Strategy: Continuing Education and Training as a Response to Digital Transformation*, www.bmas.de/SharedDocs/Downloads/EN/Topics/Initial-and-Continuing-Training/national-skills-strategy.pdf?__blob=publicationFile&v=7.

Engaging all relevant stakeholders in the process of selecting policy actions

Developing clear policy actions is a process that should include all relevant stakeholders (OECD, 2016[7]; OECD, 2020[8])**.** Engaging stakeholders in this process has a number of benefits. When stakeholders participate in the development of policy actions they have a greater sense of ownership and are more likely to contribute to implementing them, leading to a higher likelihood of successful implementation (Viennet and Pont, 2017[9]; OECD, 2019[10]). This raises the legitimacy of the policy actions and helps to ensure that all involved actors are motivated and committed to contribute to the policy actions. Stakeholders can also offer many valuable insights and sectoral knowledge that are relevant for the identification of policy actions (OECD, 2019[10]). Engaging stakeholders from the beginning is also an effective communication strategy to inform all relevant actors about the policy actions and to foster consensus about what needs to be achieved (Viennet and Pont, 2017[9]; OECD, 2019[10])**.**

Engaging stakeholders is a complex task and requires a balanced approach. While the benefits previously described are significant, there also some trade-offs to keep in mind. The more stakeholders are engaged, the more diverse and diverging the interests can be, which can add to the complexity of consultation efforts and result in more effort and time spent reaching an agreement about what the policy actions should be and how to prioritise them. This may bring about a higher administrative burden, a delay in the process and consultation fatigue (OECD, 2020[8]).

In order to manage the stakeholder engagement process effectively, it is necessary to prioritise stakeholders and to use different stakeholder engagement methods depending on the stakeholders' characteristics. Engaging all stakeholders equally and with the same intensity is neither effective nor practical given the time and resource constraints. Not all stakeholders have the same need for engagement, as the relative importance of a particular stakeholder may vary based on the specific policy at hand. Broadly speaking, there are three levels of engagement, each with an increasing level of effort required. At the "informing" level, information would be disseminated to stakeholders about a process or

decision in order to abate concerns and encourage stakeholders to relate to an issue and take action. At the "consulting" level, stakeholders would be invited to provide input on the design of policies. At the "engagement' level, stakeholders would be given opportunities to discuss and propose ideas for policy implementation, with commitment to frame issues together and to respect recommendations. A large number of stakeholders could be informed, a smaller number of stakeholders could be regularly consulted and a smaller number still could be continuously engaged through formal engagement bodies. Prioritisation of stakeholders could be done through a mapping exercise that categorises stakeholders based on their importance for policy design and implementation, as well as other attributes such as legitimacy, interest, power and urgency.

Stakeholder engagement mapping can be accomplished through the application of various methodologies, which include:

- **Salience analysis**: Stakeholders are mapped in a Venn-diagram with three main categories: power, legitimacy and urgency. Power refers to how much influence they have in the success of the policy due to physical (coercive), material and normative (prestige, social pressure) means. Legitimacy is about how much claim they have at stake in terms of what is at risk for them and any other legal, contractual, moral or financial claims. Urgency refers to the degree to which stakeholder claims call for immediate attention taking into account not just time-sensitivity, but also the importance of the relationship. The more a stakeholder has these attributes, the higher their salience (Mitchell, Agle and Wood, 1997[11]).
- **Power-interest analysis**: Stakeholders are mapped in a quadrant depending on their interest and power. Interest is defined as the extent of their concern for a specific policy, while power is how much influence they have in the success of the policy. Stakeholders with high power and high interest are key players and should be engaged more intensively. Stakeholders with high power but low interest should be engaged but not involved in all the details on a frequent basis. Stakeholders with low power but high interest should be kept informed about progress and changes. Stakeholders with low power and low interest should be considered but require only minimal efforts at engagement (Bryson, 1995[12]).
- **Business process management**: Stakeholders are individually characterised by their power both in the present and after implementation to influence the project and other stakeholders. The view of the project in terms of their interest and what's in it for the stakeholder are also recorded (Jeston and Nelis, 2008[13]).

For the development and later implementation of the EDG, Latvia could identify which stakeholders need to be engaged and to what level. Mapping exercises like the ones described above are tools that Latvia could explore. The effectiveness of stakeholder engagement will affect the level of ownership of the EDG among stakeholders and the extent to which stakeholders will contribute to its implementation.

The Estonian Lifelong Learning Strategy for 2014-2020 was developed as a result of an intensive, open discussion and consultation process with a variety of stakeholders (Box 2.1). The Ministry of Education and Research initiated the project "Five Challenges in Estonian Education – Education Strategy for 2012-2020" during the period 2009-2011, in co-operation with civil society organisations, the Estonian Cooperation Assembly and the Estonian Education Forum. The starting point of the project was the establishment of a taskforce that included experts from education and the labour market who were responsible for compiling the current strategy, which was completed in 2013. During the development of the strategy, an advisory body was consulted, composed mainly of the same experts who had created the original document on the five challenges in Estonian education. The government officially approved the Estonian Lifelong Learning Strategy on 13 February 2014. In compiling the strategy, the results and written comments of discussions with different stakeholders were taken into account.

The effective development of stakeholder engagement also played a fundamental part in the development of Norway's National Skills Strategy 2017-2021. The strategy development process began in 2013 when

Norway participated in the OECD Skills Strategy Diagnostic Phase, which was followed by the Action Phase. During these phases, stakeholders played an integral part in informing the analysis of the key challenges and providing input to developing proposals for how they can be addressed. In order to identify which stakeholders to engage, a stakeholder mapping exercise was conducted (Box 2.1). The engagement was further formalised for the implementation phase of the National Skills Strategy through the formation of the Future Skills Needs Committee and the Skills Policy Council.

Latvia's EDG development has also been an inclusive process that has engaged relevant actors from various ministries, levels of government and a variety of stakeholder groups, including trade unions, employers, sectoral training providers, education institutions, academics, and non-governmental organisations (NGOs). The engagement process, accompanied by the OECD through the Skills Strategy Latvia project, occurred during numerous workshops, focus groups and bilateral meetings (see Chapter 1). This process provided input to the development of the EDG and shaped the recommendations featured in the "OECD Skills Strategy Latvia: Assessment and Recommendations" report and this report. Aside from the stakeholder engagement activities organised as part of the OECD Skills Strategy Latvia project, the Ministry of Education and Science provided opportunities for negotiations and discussions in various topic related groups and events. A wide range of education stakeholders were also engaged during discussion forums organised by the Ministry of Education and Science in partnership with the Education, Culture and Science Committee of the Parliament of the Republic of Latvia, and the United Nations Educational, Scientific and Cultural Organisation (UNESCO) advisory board.

Box 2.1. Country examples for defining clear policy objectives and actions

The Estonian Lifelong Learning Strategy 2014-2020

In 2014, Estonia established a Lifelong Learning Strategy that set the goals and priorities for the country's education system from 2014 to 2020. The document was meant to guide the most important developments in the area of education during that period. It provided the basis on which the government was supposed to make its decisions for educational funding and for the development of programmes to support the achievement of necessary changes. It specifically addressed the most important obstacles identified by Estonia in the area of lifelong learning.

The general goal of drafting the Lifelong Learning Strategy was "to provide all people in Estonia with learning opportunities that are tailored to their needs and capabilities throughout their whole lifespan, in order for them to maximise opportunities for dignified self-actualization within society, in their work as well as in their family life" (Estonian Ministry of Education and Research, 2014[14]).

Estonia developed and mapped a series of programmes responsible for achieving this goal. Programmes were developed for each level of education, and there were five additional cross-sectorial programmes: 1) teacher and school leadership; 2) labour market and education co-operation programme; 3) study and career counselling programme; 4) digital focus programme; and 5) school network programme.

The main strengths of the Estonian strategy was that it was developed as a result of an intensive, open discussion and consultation process However, there were certain challenges, including a lack of impact assessment for each action, and unclear links between activities and targets.

The Norway Strategy for Skills Policy 2017-2021

In 2017, Norway established its Strategy for Skills Policy, which describes the overall goals, priority areas and actions of the country regarding education and skills. This strategy was developed and endorsed by all relevant actors.

The overall goal of the strategy is to: "ensure that individuals and businesses have the skills that give Norway a competitive business sector, an efficient and sound public sector, and an inclusive labour market". This goal is achieved through three priority areas: 1) contribute to making informed choices for the individual and for society; 2) promote learning in the workplace and effective use of skills; 3) enhance skills among adults with weak labour market attachment. Each of the objectives is further elaborated with specific actions.

The strategy includes a number of measures aimed at more co-ordination at local, regional and national levels, including the establishment of a Future Skills Needs Committee. The strategy partners agreed to further develop co-operation and co-ordination of the national skills policy. The strategy is overseen by a Skills Policy Council. In order to identify which stakeholders to engage, a stakeholder mapping was conducted.

Sources: Estonian Ministry of Education and Research (2014[14]), *The Estonian Lifelong Learning Strategy 2020*, https://www.hm.ee/sites/default/files/estonian_lifelong_strategy.pdf; Government of Norway (2017[15]), *Norwegian Strategy for Skills Policy 2017-2021*, https://www.regjeringen.no/contentassets/3c84148f2f394539a3eefdfa27f7524d/strategi-kompetanse-eng.pdf; OECD (2014[16]), *OECD Skills Strategy Action Report Norway*, https://www.oecd.org/skills/nationalskillsstrategies/OECD_Skills_Strategy_Action_Report_Norway.pdf.

3. Assessment of the skills implications of megatrends and COVID-19 for Latvia's EDG

Megatrends, including globalisation, technological progress, population ageing, migration and most recently the COVID-19 pandemic are combining to increase and transform the skills needed to thrive at work and in society. The skills that countries invest in developing and how they use them can help overcome the challenges that these trends pose for economic growth and social well-being, as well as help to take advantage of the opportunities many of these trends present for positively reshaping our world.

As Latvia prepares its EDG, reflecting on the skills implications of megatrends can support the country in identifying and prioritising policy actions that overcome the challenges and seize the opportunities these megatrends present. Some relevant reflections in this regard for each of the megatrends are presented below.

Globalisation

Globalisation is creating a more integrated world that is characterised by the expansion of global value chains (GVCs) and increased offshoring (OECD, 2017[17]; OECD, 2019[10]). This raises the complexity of today's world, posing new challenges and providing new opportunities for individuals and firms. For some individuals, especially those with lower skill levels, this has meant job loss or income stagnation over the past decade. At the same time, firms are under pressure to change their traditional business models as competition intensifies globally, especially in capital and labour markets. Raising productivity is becoming an even more important leverage to sustain growth. However, participation in GVCs also provides new opportunities as individuals are able to offer and apply their skills internationally. Firms can engage in production processes they might have otherwise been unable to undertake on their own and participate in the global economy.

The extent to which individuals and firms can overcome the challenges and seize the opportunities of globalisation depends greatly on the level of skills that individuals possess (OECD, 2017[17]). Individuals need to have a broad set of skills that enable them to effectively continue developing their skills and adapt to changing circumstances. These skills include foundation skills (including literacy, numeracy and digital literacy); transversal cognitive and meta-cognitive skills (including complex problem solving, critical and creative thinking); professional, technical and specialised knowledge and skills; and social and emotional skills. When individuals have a mix of skills that is well aligned with the needs of the labour market, firms

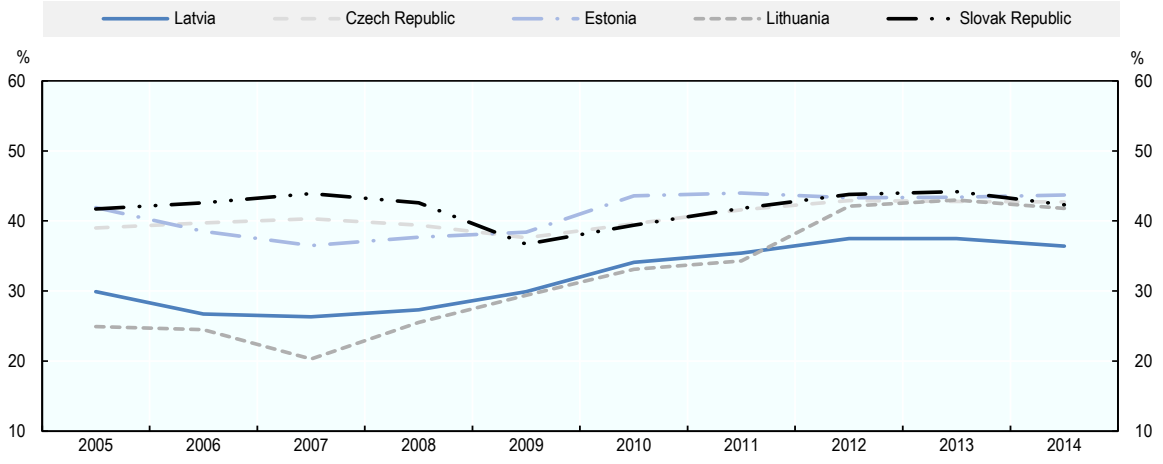
can raise their productivity, which makes them more competitive and allows them to specialise in advanced industries. Countries' skills-related policies can shape their specialisation in GVCs and their opportunities to specialise in sophisticated industries, such as complex business services and high-tech manufacturing industries.

Globalisation is creating pressure for Latvia to boost its productivity. For this, strengthening skills outcomes is essential. Latvia's economy is deeply integrated in international markets (Figure 2.1). As in all OECD countries, this integration has strongly affected the competitiveness and success of different economic sectors in Latvia, as well as the supply of jobs and demand for skills in the labour market (OECD, 2017[17]; OECD, 2019[18]). In recent years, despite increasing labour costs, Latvian exporters have remained competitive and continue to gain market share (OECD, 2019[19]). However, productivity growth has fallen since the global crisis of 2008/2009, especially among small and medium-sized enterprises (SMEs). The gap in labour productivity remains larger than for other Baltic or Central European countries (Figure 2.2). The difficulty in hiring skilled personnel is one of the most significant impediments to firm growth and investment in Latvia. Poor access to appropriate skills restricts the capacity of Latvian firms to innovate, adopt advanced technologies and participate in GVCs, all of which are important for productivity growth. Improving skills matches and access to training for Latvia's less productive SMEs will help to boost overall productivity and strengthen inclusive growth (OECD, 2019[19]; OECD, 2019[20]).

Latvia's EDG should identify policy actions that help individuals develop relevant skills and reskill in the context of change, thereby enabling Latvian firms to seize the opportunities of participating in GVCs. This is especially relevant for SMEs, which, without government action, may struggle to boost productivity on their own.

Figure 2.1. Latvia's participation in GVCs has improved over the years, 2005-2014

Share of domestic value added that is embodied in the foreign final demand

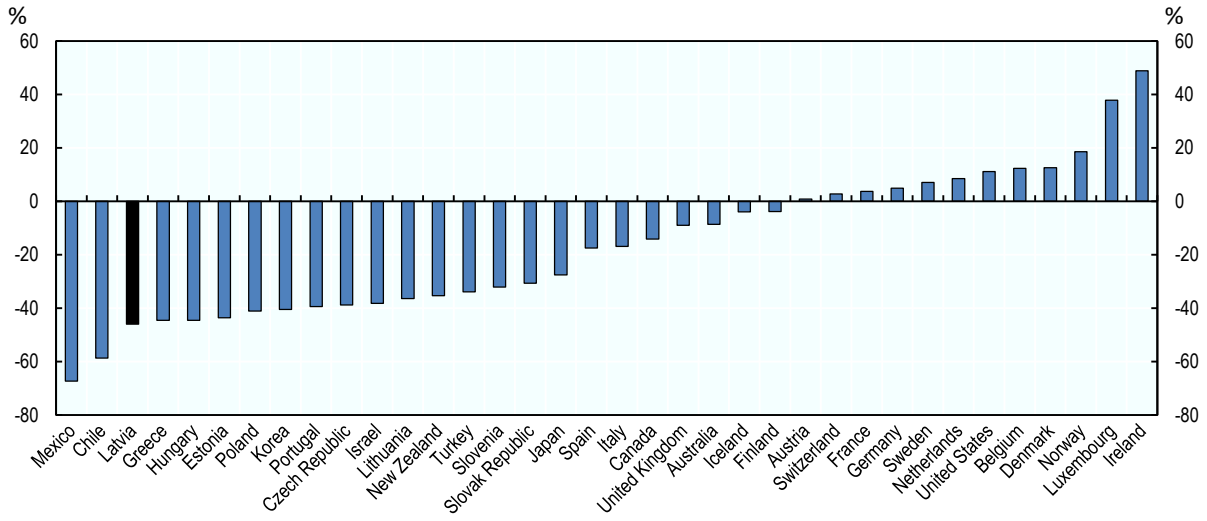


Note: Data after 2011 are estimates based on the 2011 Inter-Country Input-Output (ICIO) table and the OECD Bilateral Trade Database by Industry and End-Use (BTDIxE).
Source: OECD (2017[21]), *OECD Economic Surveys: Latvia 2017*, https://dx.doi.org/10.1787/eco_surveys-lva-2017-en.

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Figure 2.2. The labour productivity gap is large, 2017

The gap in GDP per hour worked against 17 richest OECD countries



Note: Compared to the weighted average using population weights of the 17 OECD countries with highest GDP per capita in 2016 based on 2016 purchasing power parities (PPPs). Labour productivity is measured as GDP per hour worked.
Source: OECD (2019[22]), *Economic Policy Reforms 2019: Going for Growth*, https://dx.doi.org/10.1787/aec5b059-en.

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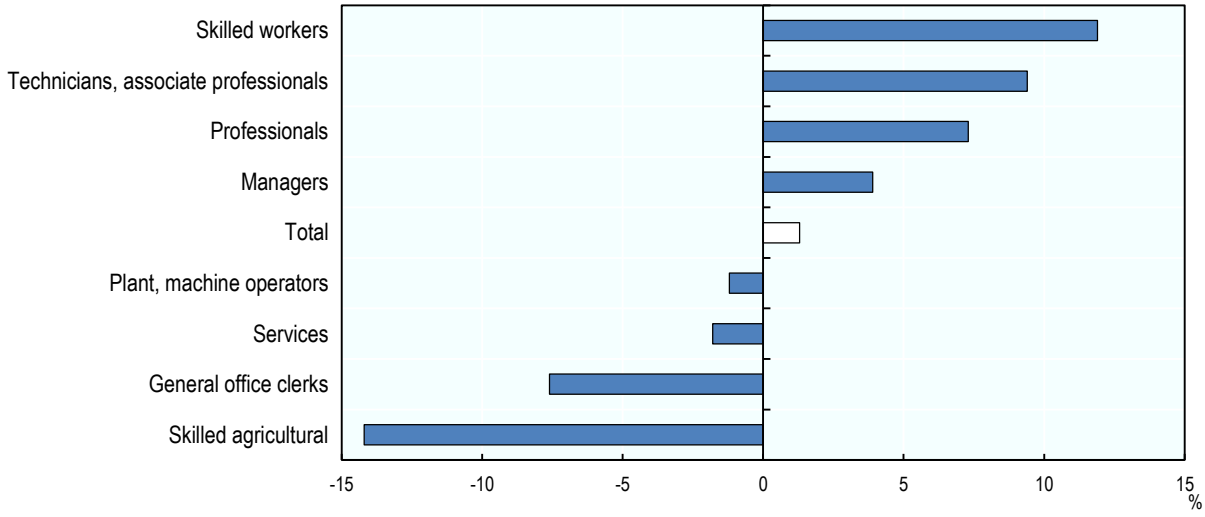
Technological progress

Technological progress is posing new challenges and offering new opportunities (OECD, 2019[23]). The way individuals work, learn, communicate and consume is being transformed by technological progress, as digitalisation, artificial intelligence, automation, robotics and machine learning begin to reveal their full potential, and are increasingly used. Individuals, firms and countries that can harness this new wave of technological progress stand to benefit greatly as it enriches lives, boosts productivity and makes learning easier. However, those who do not have the capacity to tap into its power are at risk of being left far behind. Technological progress may also widen existing inequalities and create new ones, as some jobs disappear and some skills become obsolete. The COVID-19 pandemic, and its attendant confinement measures, has forced an exponential increase in the adoption of digital solutions in almost every aspect of society, including work, social life and education. The crisis the world is experiencing has further highlighted the possibilities that new technologies have to offer, but has also underlined the challenges that digitalisation and automation pose. Inequalities have been exacerbated due to existing digital divides and the general difficulty for individuals to adapt and succeed in a fast-changing society (OECD, 2020[24]; OECD, 2020[25]).

The adjustments that have been made to how we learn and work in the wake of the COVID-19 crisis has provided a glimpse into a not-so-distant future in which technologies, such as digital tools, are used pervasively. This vision of the future underscores the important role that skills will play in reducing the inequalities that may arise in a fast-changing world driven by technological progress. Without a broad range of skills, individuals are locked out of the benefits that technological progress can offer or are limited to its most elementary uses. In a context in which robots are taking on more and more routine tasks, displacing workers from some jobs, it is urgent for countries to develop the skills of workers whose jobs are at high risk of automation. The OECD estimates that across OECD countries, on average 14% of workers face a high risk of seeing their jobs automated, and another 32% face significant changes in their job tasks due to automation (Nedelkoska and Quintini, 2018[26]).

Latvia, more than some other countries across the OECD, needs to make the best use of new technologies to improve the productivity of its firms and sustain inclusive economic growth. It is projected that economic growth in Latvia will mainly come from the use of new technological processes, digitalisation (Industry 4.0 concept) and the optimisation of processes (OECD, 2019[19]), with the strongest job growth expected in high and medium-high technology sectors, such as information and communication, and occupations requiring high skill levels (see Figure 2.3).

Figure 2.3. Change in labour demand, 2017-2025



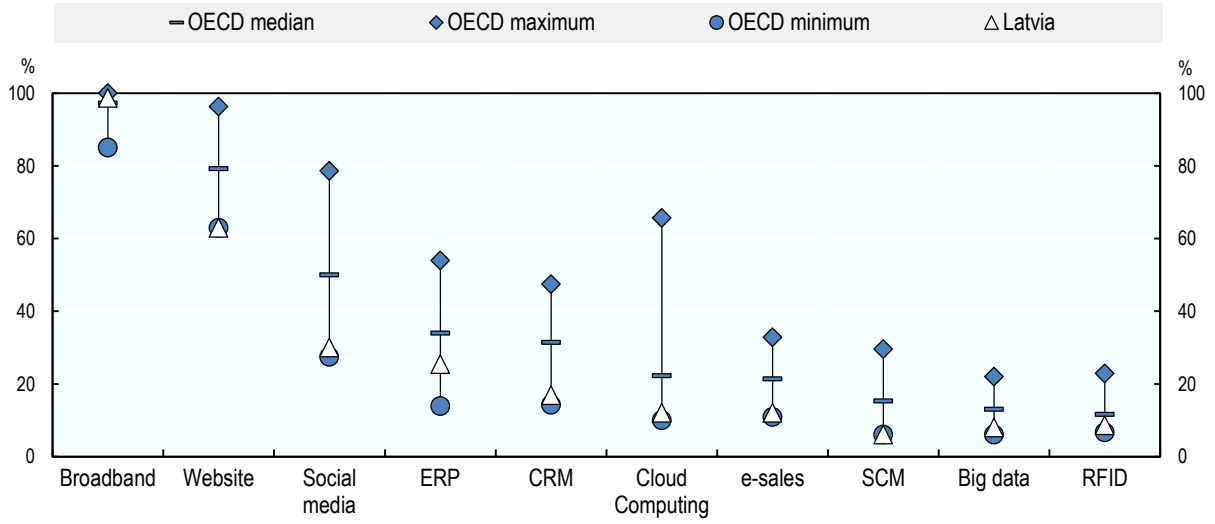
Source: Adapted from Latvian Ministry of Economics (2018[27]), *Informative Report on Medium and Long-term Labour Market Forecasts*, https://www.em.gov.lv/files/tautsaimniecibas_attistiba/dsp/EMZino_06072018_full.pdf.

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Relatively few Latvian firms have adopted new technologies or introduced organisational improvements and more efficient production techniques (see Figure 2.4). In particular, Latvia lags considerably behind other OECD countries in the use of digital technologies (OECD, 2019[19]). Poor information and communications technology (ICT) skills and skills that complement ICT, such as advanced management, limit the capacity of Latvian firms to employ and make the best use of the latest digital technologies. Half of the population still lacks basic digital skills (European Commission, 2018[28]). In a context in which digitalisation and the adoption of new technologies will become increasingly important for economic and social success, investing in people's skills is going to be a fundamental factor in reducing inequalities and ensuring equal opportunities for everyone (OECD, 2017[29]; OECD, 2019[20]).

Figure 2.4. Latvia's firms lag behind in the use of digital technologies

Percentage of firms using specific digital technologies, 2017



Note: Data cover 26 OECD countries and correspond to the share of businesses with ten or more employees with broadband connection (fixed or mobile); with a website or home page; using social media; using enterprise resource planning (ERP) software; using customer relationships management (CRM) software; purchasing cloud computing services; receiving orders over computer networks; sharing electronically supply chain management (SCM) information with suppliers and customers; having performed big data analysis (2018 data), and using radio frequency identification technology (RFID).
Source: OECD (2019[19]), *OECD Economic Surveys: Latvia 2019*, https://dx.doi.org/10.1787/f8c2f493-en.

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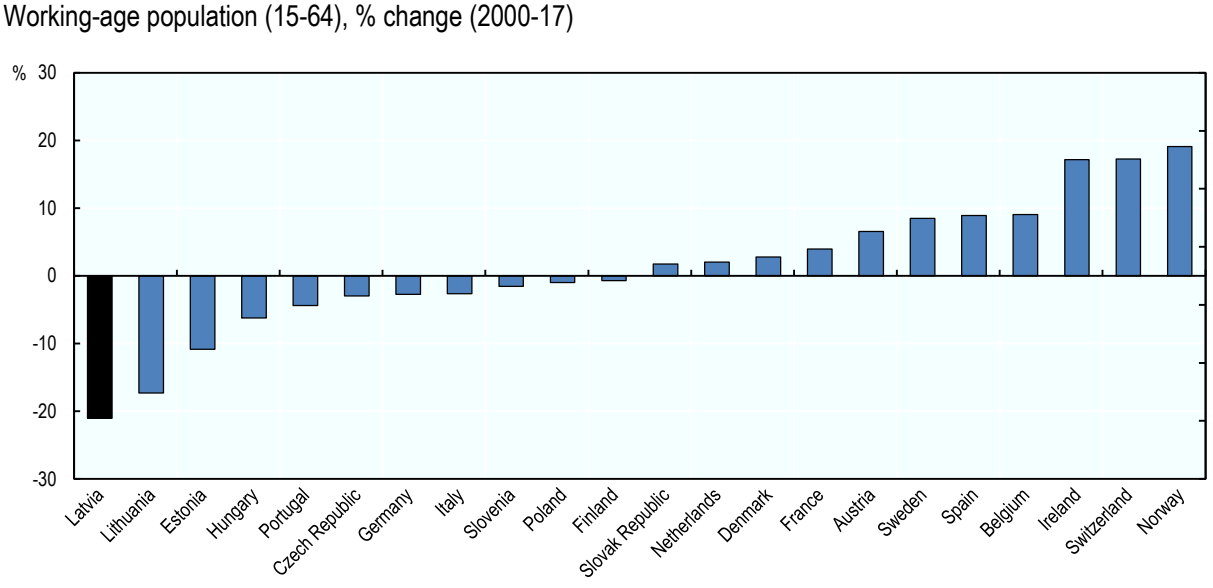
In order for Latvia to address the challenges and fully take advantage of the opportunities offered by technological change, the EDG needs to emphasise the development of a broad range of skills, including digital and technical skills, in order to mitigate the inequalities that result from an unequal ability to use technology. It will also be key to incentivise and support the skills development of workers for medium-high and high technology sectors, where the largest job growth in Latvia is expected. Latvian firms need to be supported to adopt new technologies and introduce organisational improvements and more efficient production techniques. This is particularly relevant for SMEs.

Population ageing

Population ageing presents challenges and opportunities for the education and skills system. This occurs, when the dependency rate, which is the ratio of older people (aged 65+) over the working age population (aged 16-64), increases. Ageing societies face the challenge of improving workers' productivity in order to sustain growth and ensure the sustainability of social care systems (OECD, 2019[10]; OECD, 2019[18]). Improving the skills of youth is a strategic objective of many governments attempting to boost productivity in the context of population ageing. At the same time, longer lives and better health in older age imply that older workers can stay in the labour market for longer, provided they have adequate incentives and support. For this cohort there is a need to provide adequate opportunities to reskill and upskill to ensure that they can continue to contribute to the economy. The needs of a growing elderly population are also leading to the expansion of sectors related to healthcare and social support, which are difficult to automate given that they require social and interpersonal skills. This is reshaping the occupational structure of the economy and, by extension, its skills needs.

An ageing population in Latvia means that the working-age population has been declining (Figure 2.5) and is expected to continue to decline in the medium and long term, with rural and poorer regions most affected. This declining working-age population, which is further exacerbated by emigration, contributes to both labour shortages and skills shortages in Latvia. Skills shortages are concentrated in urban areas, particularly the Riga region where 80% of all job vacancies are located. While shortages are currently evident in high-skilled/cognitive occupations, by 2025 shortages are projected to be most severe in occupations that require a vocational secondary education, including those in engineering and manufacturing, and the construction and processing sectors. Shortages are also projected in certain occupations that require a higher education level, particularly those in STEM and health and social welfare (OECD, 2019[20]). While the economic downturn Latvia is experiencing in the wake of the COVID-19 crisis may lessen labour and skills shortage pressures in the short run, Latvia must continue to address the features of its education and skills system that give rise to these imbalances to ensure that they do not impede growth in the recovery.

Figure 2.5. Latvia has a decreasing working-age population



Source: OECD (2019[19]), *OECD Economic Surveys: Latvia 2019*, https://dx.doi.org/10.1787/f8c2f493-en.

StatLink https://doi.org/10.1787/888934176948

The ageing population also has significant implications for the education system. Schools in rural regions are characterised by a small and decreasing number of students. This is increasing the pressure on rural schools to remain efficient, attract talented teachers and have access to enough funding to hire support personnel for students with special needs. Municipalities across Latvia have varying levels of resources to support their schools due to differences in per capita tax revenues. In Riga, income tax revenues are three times higher than in some rural municipalities. The highly decentralised nature of the Latvian education and skills system, combined with the diverse resources available across municipalities, is causing concerns over the quality and equity of skills development opportunities across Latvia (OECD, 2019[20]).

The teaching workforce is also ageing. In primary and secondary education, the average age of teachers increased by three years between 2010 and 2016, and 46% of teachers are over 50 years old, compared to an OECD average of 34% (OECD, 2019[30]). As the government has been introducing a new competency-based curriculum since September 2019, starting with pre-school education, it will be key for Latvia to recruit and train the best candidates and upskill the existing teaching workforce to ensure that implementation is successful.

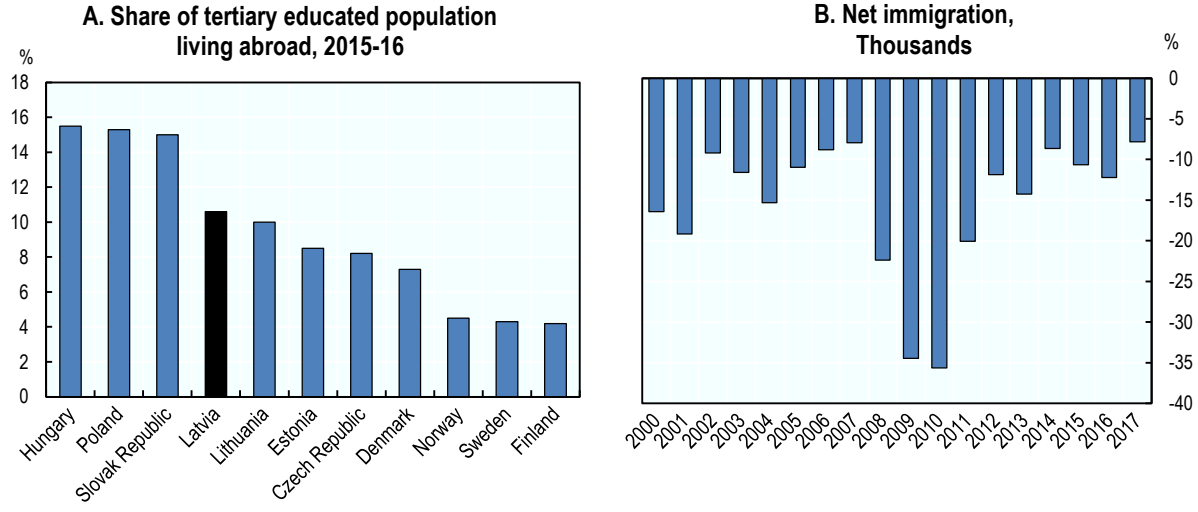
Latvia's EDG should identify policy objectives and actions that help to address the challenges and opportunities posed by the ageing population. Efforts are needed to support older cohorts in reskilling and upskilling opportunities so that they can remain active and productive. Given the shrinking student population, ongoing school consolidation efforts will be critical in establishing and operating an efficient school network. The ageing teaching workforce means that Latvia has a unique opportunity to replenish its teaching workforce by making the teaching profession more attractive and selective, and by attracting and retaining the best and most suitable candidates for the future.

Migration

Increased mobility has made it possible to attract talent where it is most needed, and countries are competing for high-skilled migrants to contribute to their economic growth (OECD, 2019[18]). However, this requires proactive migration policies that attract migrants, especially in areas where there are shortages. To capture the benefits from migration it is essential for countries to foster the process of integrating migrants into the education and skills system and the labour market. This means, for example, providing access to language courses and improving the recognition of qualifications and competences. Emigration could, however, cause or exacerbate skills shortages in the labour market. The current COVID-19 pandemic is severely disrupting global mobility, and migration flows are negatively affected for now and the foreseeable future.

Emigration remains the main factor behind Latvia's shrinking population (OECD, 2019[19]). Between 2008 and 2017, about 260 000 people emigrated from Latvia, amounting to 13.5% of the population in 2017. The emigration flow peaked in 2009 and 2010, when Latvia lost just under 2% of its population each year. In 2017 more than 80% of emigrants were of working age, and more than half were aged between 20 and 39, according to the data by the Central Statistical Bureau of Latvia. The pace of emigration has stabilised since 2014 to 19 000 people per year. Emigrants are overall less skilled than permanent residents. Nevertheless, 20% of emigrants had higher education attainment in 2016, implying a sizable brain drain. Negative net migration has slightly decreased since 2011 (see Figure 2.6, Panel B), both due to a reduction in emigration and an increase in immigration (Latvian Ministry of Economics, 2018[27]).

Figure 2.6. Levels of emigration, 2000-2017



Source: Panel A: OECD (2019[31]), Database on Immigrants in OECD and non-OECD countries: DIOC, https://www.oecd.org/els/mig/dioc.htm; Panel B: OECD (2019[19]), *OECD Economic Surveys: Latvia 2019*, https://dx.doi.org/10.1787/f8c2f493-en.

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Low wages for employees with higher education degrees create strong incentives for emigration, as skilled workers can reap a higher return for their skills investment by leaving the country. Latvia has the highest share of low-wage employment (defined as two-thirds of the median gross hourly earnings) among EU countries. Employees without a higher education degree have a higher risk of being in low-wage employment. Over the long term, high-skilled emigration dampens productivity and growth. The loss of many highly-educated workers can reduce the productivity of the economy as a whole, which leads to lower wages for everyone (Elsner, 2015[32]). These productivity effects are particularly strong in small countries like Latvia, and are caused by a number of factors such as fewer opportunities for knowledge transfer, lost return on public training investment, poor substitutability of high-skilled and low-skilled workers, and reduced opportunities to achieve economies of scale in skill-intensive activities (World Bank, 2005[2]).

The challenges posed by migration should be addressed either directly by the EDG or indirectly in co-ordination with other national strategies, such as the National Development Plan. Migration policies targeting immigrants should support access to language courses and enable the recognition of foreign qualifications and competences so that immigrants can fully participate in the labour market. Migration policies aimed at reducing emigration should improve overall job quality in all occupations, but particularly in high-demand occupations. Job quality improvements would make Latvia a more attractive place to work for high-skilled workers and may even incentivise high-skilled Latvian workers to return and attract other skilled workers from abroad. Better job quality would mean improving wages and working conditions. To support sustainable wage growth, efforts are needed on the demand side to boost productivity growth, including by moving up global value chains and improving the use of skills in the workplace. Improving access to social protections would also help to improve working conditions (OECD, 2019[20]).

COVID-19

The Coronavirus (COVID-19) pandemic is not only a global health emergency, but also one of the worst economic, financial and social shocks of the last two centuries (OECD, 2020[25]). The stringent containment measures needed to slow the spread of the pandemic have resulted in significant declines in GDP for many countries. Containment measures have led to many businesses shutting down temporarily or going out of business completely, widespread restrictions on travel and mobility, financial market turmoil, and an erosion of confidence and heighted uncertainty.

The crisis has transformed into an economic and labour market shock that has impacted both supply by halting the production of good and services, and demand by reducing consumption and investment (OECD, 2020[33]). Disruptions to production, initially in Asia, have now spread to supply chains across the world. All businesses, regardless of size, are facing serious challenges, especially those in the aviation, retail, manufacturing, agriculture, tourism and hospitality industries, where there is a real threat of significant declines in revenue, insolvencies and job losses. Given the current environment of uncertainty and fear, firms are delaying investments, purchases of goods and the hiring of workers. Consumers in many economies are unable or reluctant to purchase goods and services, and sustaining business operations is increasingly difficult, especially for SMEs.

The OECD estimates that the initial direct impact of the confinement measures could be a decline in the level of output of between one-fifth to one-quarter in many economies (OECD, 2020[34]). In Latvia, there is an expectation of a significant decline in GDP for 2020. According to the Bank of Latvia, the rapid spread of COVID-19 has caused a sizeable decline in global market sentiment[1] as well as significant business disruptions, which will determine a significant recession in the country. Contrary to initial estimates of a 2.5% growth rate provided in late 2019, the Bank of Latvia has revised its GDP forecast and now expects a severe economic recession, the extent of which will be determined by the development of the health crisis and the extent of restriction measures adopted globally (Latvijas Banka, 2020[35]). In a continuously changing environment it is extremely difficult to quantify the exact magnitude of the impact of these

measures on economies, but it is certain that countries will be facing the difficult consequences of the crisis for years to come.

In order to respond to the COVID-19 crisis, countries across the OECD need to plan and implement large-scale policy responses to stimulate economic recovery (OECD, 2020[25]). The extent and speed of the recovery from the COVID-19 outbreak in Latvia, as well as in other countries, will greatly depend on the effectiveness of its recovery strategies and the ability of the government to support workers and businesses negatively affected by the crisis. Government intervention must align stimulus packages with investment in the resilience of the economy and social structure, improving preparedness for future shocks.

Skills policies are an essential component of such an exit strategy**.** Skills can have a positive impact on economic recovery through increasing productivity, competitiveness and innovation (OECD, 2019[10]). A resilient and adaptable education and skills system could support countries to respond effectively to mitigate economic and social shocks. It could play a crucial role in stimulating economic recovery in the short term and help countries prepare for the future of work in the longer term.

No single policy can address the many challenges created by the COVID-19 pandemic. To face the challenges in the short term (i.e. ensuring an inclusive economic and social recovery) and long term (i.e. building a resilient and adaptable education and skills system), governments need to strengthen a broad range of policies. Latvia's EDG 2021-2027 represents an important opportunity for the Latvian government to assess the challenges and adopt and plan a comprehensive and strategic approach to support the development of a resilient, inclusive and adaptable education and skills system.

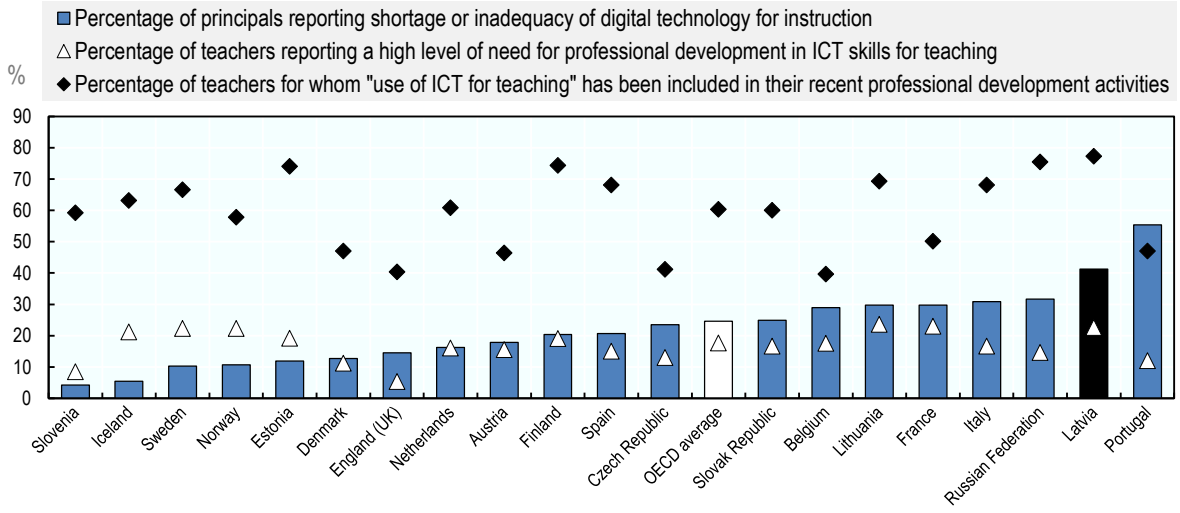
Developing skills during and after COVID-19

The education system has been heavily impacted by the COVID-19 outbreak (OECD, 2020[24]). Schools across the world have closed to ensure safety for students and teachers, and have adopted digital solutions to support distance learning. Despite the numerous technological solutions that continue to deliver quality education, the closure of schools is expected to have deep impacts on the lives of students and communities.

The COVID-19 outbreak has exposed weaknesses in the education system, such as the absence of broadband and computers needed for online education and the lack of teacher preparedness to use digital technologies for teaching activities and professional development. Data from the Teaching and Learning International Survey (TALIS) show that while many schools in Latvia are now equipped with at least the minimum technology needed for online learning, 41% of principals report a shortage or inadequacy of digital technologies for teaching. Some 77% of teachers had the "use of ICT for learning" included in recent professional development activities, but only 48% felt "well prepared" or "very well prepared" for the use of ICT for teaching, and 23% reported a high level of need for further professional development (Figure 2.7).

It is important to ensure that every learner can remain engaged. As education and skills systems shift towards digital learning and students move away from classrooms, existing digital divides and socio-economic differences might worsen the outcomes of students already at risk, which would exacerbate skills gaps. For example, socio-economically advantaged students are more likely to have parents with higher levels of digital skills who can support the learning of children who cannot attend school. Students from less advantaged families are less likely to have this support, meaning that they risk falling even further behind. In Latvia, around 7% of 15-year-old students do not even have a quiet place to study in their homes (OECD average 9%), as indicated by the latest data from the Programme for International Student Assessment (PISA) (OECD, 2019[36]; OECD, 2020[37]).

Figure 2.7. ICT for teaching



Source: OECD (2019[30]), *TALIS 2018 Results (Volume I): Teachers and School Leaders as Lifelong Learners*, https://dx.doi.org/10.1787/1d0bc92a-en.

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Opportunities for learning might also be hindered due to the impending economic recession. The availability of work-based learning and apprenticeships for students might significantly decrease due to the inability of private companies to offer positions to learners. The latest reforms implemented by the Latvian government in vocational education and training (VET) schools significantly improved the adoption of work-based learning (WBL) in VET curricula, and recent efforts were exploring the potential for implementation at the higher education level (OECD, 2019[20]). Despite the availability of compensation for firms admitting a WBL student, difficulties in engaging private sector businesses emerged due to the high administrative burden and the requirement of no tax debt for firms engaging in the programme. These barriers might be reinforced by the coming economic crisis, as firms, especially SMEs, are expected to experience less financial and administrative flexibility. In order to sustain and continue the expansion of the WBL programmes, the government will likely need to rethink the incentives for firms' financial participation and engagement.

While the current emergency facing education provision due to the pandemic requires the most immediate policy attention, Latvia should already be considering the significant opportunities and challenges for the education and skills system in the medium term when designing the EDG for 2021-2027. It is likely that some of the changes Latvia is experiencing today will persist in the future, and that new changes will emerge in time.

New skills opportunities might lie ahead**.** The need to study remotely may provide lessons about how to better harness technology to improve efficiency, quality and access. Teachers will have the chance to test out different digital learning solutions and learn how technology can (or cannot) be used to foster deeper student learning. Teachers need to be encouraged to think creatively about their role as facilitators of student learning, and how technology can support them in doing so (OECD, 2020[24]). The need to explore how students can learn in different places and at different times will deepen understanding of the potential of digital learning solutions to bring communities, homes and schools closer together. New tools designed to monitor and support students learning from home might be used in the future to engage students from disadvantaged backgrounds outside schools, monitoring the risk of exclusion more closely and improving schools' engagement with the community. These lessons will be useful in Latvia as there are still significant gaps across urban and rural areas, and the use of technology could potentially reduce this gap.

Schools and learning institutions increasingly need to become learning organisations[2] (OECD, 2018[38]). In rapidly changing environments, the ability of schools and institutions to quickly respond to the changing needs of society in developing skills for youth and adults will be a central aspect of the education and skills system. Investment in teacher professional development, collaborations with external actors – such as private companies, sectoral skills councils, higher education and research institutions – and investments in school leadership are ways of improving schools' ability to provide youth and adults with the right skills to become effective lifelong learners.

However, new challenges might also emerge. The COVID-19 crisis is causing considerable and long-lasting changes in our economy and society. Even when the current health crisis is eventually contained, it is likely that significant changes will persist. The increased use of digital solutions to overcome social distancing requirements might speed up digitalisation, while the need for production processes to be more resilient to supply shocks might incentivise businesses to embrace automation and new technologies in their activities. As a consequence, new skills might be required in the labour market and in society in general. Given the high level of uncertainty and the fast-evolving context of today's world, it is difficult to assess future skills needs with precision. Nonetheless, it is important to consider the potential implications for the EDG for 2021-2027.

Individuals will require more frequent updates and improvements to their set of skills. Adult learning will be a way to ensure that individuals form and maintain the required broad set of skills to adapt in a changing working environment and succeed in a dynamic society. A broad set of skills includes foundation skills; transversal cognitive and meta-cognitive skills; professional, technical, and specialised knowledge and skills; and social and emotional skills (see Box 1.1. in Chapter 1 for a definition of skills).

Using skills effectively during and after COVID-19

Using skills effectively in work and society could be a crucial element of Latvia's education and skills policy response to COVID-19**.** Making the most of the available skills supply could bolster the economy, spur innovation, productivity and growth, and strengthen social cohesion, which should make it a vital part of any exit strategy after the COVID-19 pandemic (OECD, 2019[10]). As part of a forward-looking approach to skills policies, and with the aim of developing a resilient and adaptable education and skills system, the effective use of skills could support countries' recovery and overall performance. In the short term this could be done by re-designing and transforming workplaces during the COVID-19 pandemic to stay healthy and in business. In the medium to long term this could be done by strengthening workplace practices that improve business performance after the pandemic and by reactivating workers through upskilling and reskilling.

After the pandemic, businesses will be confronted with a business environment that looks very different to before the pandemic. This could create a need for businesses to transform their workplaces in order to adapt to the new context. As a result, while the COVID-19 pandemic will be a major challenge for businesses in the short term, it could potentially create opportunities to improve business performance in the longer term. For instance, firms can take the opportunity presented by the prevalence of the under-utilisation of many skills of employees to reorganise their workplaces in ways that make fuller and better use of these skills to boost productivity growth, innovation and competitiveness, and thereby support job creation and economic recovery.

OECD research has shown that firm management practices, as well as the way work is organised and jobs are designed, can have a strong impact on how skills are used in the workplace (OECD, 2016[39]).

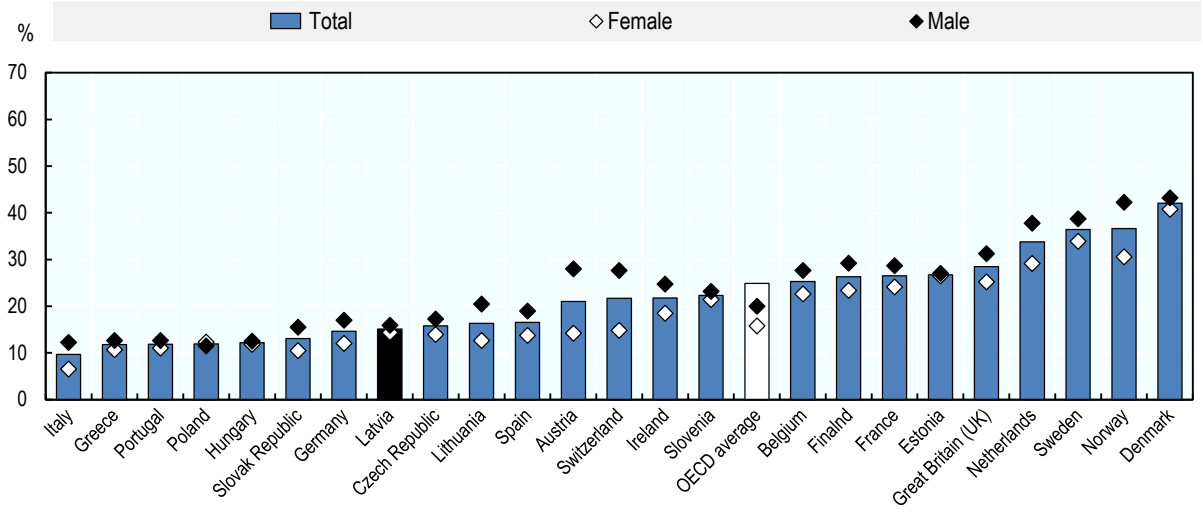
In this context, there is a role for government to support firms in adopting high performance workplace practices (HPWP), especially for SMEs and firms in struggling sectors (OECD, 2020[40]). Such HPWP include an emphasis on teamwork, autonomy, task discretion, mentoring, job and task rotation, and applying new learning. Firms should furthermore be supported to promote the skills development of their employees, invest resources in their employees' reskilling and upskilling efforts, and assess for today as

well as anticipate for the future the alignment between the skills of their workers and the needs of the firm. Practices such as teleworking that allow workers to manage their time more flexibly can positively affect skills utilisation and overall workplace performance. The penetration of teleworking practices in Latvia was calculated by the OECD at just 15% in 2015, compared to 25% on average across the OECD, and only 29.5% of workers use computers at work regularly (see Figure 2.8). Adults with lower levels of skills are less likely to be teleworking, which puts them at a further disadvantage (Espinoza and Reznikova, 2020[41]).

Latvia performs below the EU average in Eurofound's measure of management quality, as well as in indicators of autonomy (the ability to set own working time arrangements, choose order of tasks, and choose working method). Strong and effective leadership and management is also associated with higher levels of employee engagement and greater willingness to invest effort in work, which becomes even more important when firms are facing their current challenges (Bloom et al., 2019[42]; UKCES, 2014[43]). As the majority of firms in Latvia are SMEs, which generally lag behind larger firms in terms of good management practices, they may need stronger incentives and more support to improve their managerial capabilities. Latvia should provide the management level with clear and accessible information on how to engage and empower the workforce in times of uncertainty, and give them additional support if needed, for instance through short-term courses.

Figure 2.8. Feasibility of teleworking

Share of workers having teleworked at least once in their life, 2015



Note: The share of workers having teleworked is calculated as the share of workers who use ICT at work at least 75% of the time and who report having worked outside the employer's premises at least once.
Source: OECD (2019[44]), *How's Life in the Digital Age? Opportunities and Risks of the Digital Transformation for People's Well-being*, https://dx.doi.org/10.1787/9789264311800-en.

StatLink https://doi.org/10.1787/888934177005

Reactivating workers through reskilling and upskilling will also be fundamental to recovery. After the economic crisis of 2008, Latvia experienced a strong labour market, with low unemployment rates and increasing wages for employees. The unprecedented decline in output caused by the COVID-19 crisis will drastically increase unemployment and economic inactivity. In spite of the generous support measures offered by the government, some of the losses in employment and productive capacity could be long lasting. This means that there will likely be more jobseekers than available jobs for a considerable time, reversing the trend that has characterised the Latvian labour market in recent years. The anticipated

economic downturn might incentivise Latvian workers to emigrate, as was the case during the 2008 financial crisis, which would further worsen skills mismatches in the labour market. Helping youth and adults to reskill and upskill will be crucial for retaining talent in Latvia and accelerating the recovery.

Latvia will need to support workers in need of reskilling and upskilling, and improve skills matches in the job market so that more people can relocate in a timely manner and use their skills more effectively, thus shortening the time of unemployment for workers. Significant challenges will include the financial sustainability of adult learning programmes in the medium and long term, and the capacity enhancement needed for education institutions to support every individual in need, regardless of age.

Latvia's EDG needs to give consideration to actions that can help address the challenges posed by COVID-19 for society and the economy, including policies that support skills development and use. This means increasing access to broadband and computers needed for online education, preparing teachers to use digital technologies for teaching and their own professional development, providing financial incentives for firms affected by the crisis to continue to provide work-based learning opportunities, and promoting adult learning to allow individuals to upskill and reskill to adapt to a new environment. In order to ensure the effective use of skills, Latvia could implement measures supporting firms to stay in business and retain workers, promoting high performance workplace practices and workplace re-organisation to boost productivity and make workplaces safe, as well as improving worker reallocation processes that help workers transition from struggling to growing sectors. As COVID-19 has disproportionally negative effects on vulnerable groups, such as those with low socio-economic backgrounds and low skill levels, policy efforts should be targeted at these groups. Latvia's EDG 2021-2027 represents an important opportunity for the Latvian government to adopt a comprehensive and strategic approach and support the development of a resilient, inclusive and adaptable education and skills system.

4. Potential policy actions for inclusion in Latvia's EDG

This section presents the OECD's proposal of policy actions for inclusion in Latvia's EDG framework. The OECD was specifically asked to participate in the process for identifying potential policy actions for the policy objectives, which were chosen by Latvia through internal consultations. Clarifying actors and timelines, and describing the funding implications were not discussed during these consultations as Latvia discussed these internally at a later stage.

In order to discuss relevant policy objectives and policy actions for Latvia's EDG Framework, a series of workshops and focus groups were held in Riga in November 2019. The workshops convened representatives from various ministries and stakeholders (e.g. employers, education and training providers, trade unions, academics, and civil society organisations) to discuss and identify a set of policy objectives and policy actions relevant for Latvia's EDG. While the OECD team delivered the opening keynote presentation in the workshop, based on the findings and recommendations of the 2019 OECD assessment and recommendations report, the discussions were facilitated by the Latvian project team and took place in working groups organised by level of education, ranging from early childhood education and care to adult learning. The reason for dividing the groups in this way was to make best use of the expertise and experience of participants who were often specialists and responsible for a specific level of education. The results from the workshops were then field tested with a broader group of stakeholders during focus groups, which were also organised by level of education and led by the OECD. As the findings from the workshops and focus groups were still preliminary at the time of writing, they are not featured in this report. Instead, the proposed policy actions based on the recommendations of the 2019 "OECD Skills Strategy Latvia Recommendations and Assessment" report are presented here, as these have been developed with a broad range of actors during the extensive engagement processes of Phase I of the OECD Skills Strategy project, and are based on an in-depth assessment of Latvia's education and skills system. As the context significantly changed due to COVID-19 after Phase I was completed, further guidance from Phase II is

provided as to how the proposed policy actions may be applicable in the current context. Phase II recommendations are complementary to the Phase I recommendations, and therefore the recommendations of both phases should be considered.

At the time of the consultations, the specific policy objectives were identified on a conceptual level and were further developed and discussed by the Ministry of Education and Science based on the input received during consultations with stakeholders, and taking into account the 2019 OECD assessment and recommendations report conclusions and recommendations. The four policy objectives identified as a result of the consultation process and further work from the Ministry of Education and Science are:

1. Highly qualified, competent and excellence-oriented teachers and academic staff.
2. Modern, high-quality and labour market oriented education.
3. Support for everyone's achievement.
4. Sustainable and effective governance of education system and resources.

In line with how the consultations were organised, the policy objectives and policy actions are listed by level of education: 1) early childhood education and care (ECEC); 2) general education (primary to secondary education); 3) vocational education and training (VET); 4) higher education; and 5) adult learning.

For each level of education, a table shows for each objective the relevant OECD findings from the 2019 "OECD Skills Strategy Latvia: Assessment and Recommendations" report. Most, but not all, levels of education have relevant OECD assessments and recommendations for each policy objective, depending on whether the objective was covered in the report (OECD, 2019[20]). For simplicity and clarity of presentation, each OECD assessment and recommendation is associated with a single policy objective, but a recommendation may nevertheless be considered as relevant for multiple policy objectives.

Early childhood education and care

The first years of life provide the foundations for an individual's future attitudes, behaviours and skills, and support their future skills development. The Latvian government recognises that investment in high-quality ECEC pays dividends in terms of children's long-term learning and development.

Columns 1 and 2 in Table 2.3 show a summary of the findings from the 2019 "OECD Skills Strategy Latvia: Assessment and Recommendations" report. As the context has significantly changed since the launch of the report due to the unforeseen COVID-19 pandemic, column 3 provides further complementary guidance on the policy actions that can respond to the pressures that the pandemic has generated. This is based on the recent OECD publications (www.oecd.org/education/) related to COVID-19 and education.

Table 2.3. Early childhood education and care: Relevant assessments, recommendations and guidance from Phases I and II of the OECD Skills Strategy project

P/O	Assessments (Phase I)	Recommendations (Phase I)	Guidance (Phase II)
4	• **There is a shortage of public places for ECEC** in urban areas, especially Riga, and long waiting lists. This can disproportionally disadvantage families with lower income who have less access to private alternatives due to the relatively higher costs.	• **Provide means-tested support from municipalities to reduce the financial burden** associated with ECEC for families from the lower end of the income distribution who do not have access to a public pre-primary school.	• **Improve accessibility of ECEC for 1-4 year-olds.** Due to the pandemic there may be more families struggling financially for whom the cost of ECEC is difficult to bear. Access for essential personnel (e.g. healthcare workers, transit workers) should also be prioritised.

P/O	Assessments (Phase I)	Recommendations (Phase I)	Guidance (Phase II)
1	• **There are no national standards for school leaders and ECEC staff** to inspire, assess and guide them in their professional development. Latvian law specifies that it is the responsibility of the school leader to organise yearly teacher appraisals; however, there is no specific rule on how they should be done or on how they inform teacher professional development.	• **Develop occupational standards for school leaders and ECEC staff.** Ensure that developed standards are aligned with the new curriculum. Develop national guidelines for appraisal and link them to teachers' professional development to initiate a life cycle approach to professional development, rather than a mere performance-based pay system.	• **Include occupational standards that relate to health and safety** in order to provide and maintain a safe work environment. This could include, for example, requiring ECEC staff to follow hygiene guidelines, requiring workers to stay home when sick, cleaning the ECEC institution regularly and thoroughly, and limiting the number of people in the ECEC institution at any given time.
2	• **A national assessment instrument to monitor child development and ECEC quality is absent**. Control of ECEC institutions is relatively limited once they have obtained their license.	• **Develop a national assessment tool to monitor child development and ensure ECEC quality**. Such an instrument could support the external evaluation of ECEC institutions and inform the Ministry of Education and Science about early childhood education and care quality.	• **Use the national assessment tool to track students' physical health, social and emotional needs and other special needs.** This would help identify ECEC institutions that may have a disproportionally larger share of at-risk children who may need additional support.

Note: P/O refers to policy objective: 1) highly qualified, competent and excellence-oriented teachers and academic staff; 2) modern, high-quality and labour market oriented education; 3) support for everyone's achievement; and 4) sustainable and effective governance of education system and resources.
Source: OECD (2019[20]), *OECD Skills Strategy Latvia: Assessment and Recommendations*, https://dx.doi.org/10.1787/74fe3bf8-en.

General education

Strong skills developed in youth not only pave the way to success in higher education and the labour market, but also help foster a culture of lifelong learning that can make individuals more adaptable to future changes. Countries whose youth develop strong skills typically have highly skilled adult populations.

Columns 1 and 2 in Table 2.4 show a summary of the findings from the 2019 "OECD Skills Strategy Latvia: Assessment and Recommendations" report. As the context has significantly changed since the launch of the report due to the unforeseen COVID-19 pandemic, column 3 provides further complementary guidance on the policy actions that can respond to the pressures that the pandemic has generated. This is based on the recent OECD publications (www.oecd.org/education/) related to COVID-19 and education.

Table 2.4. General education: Relevant assessments, recommendations and guidance from Phases I and II of the OECD Skills Strategy project

P/O	Assessments (Phase I)	Recommendations (Phase I)	Guidance (Phase II)
1	• **There are no selective criteria for entering initial teacher education or for hiring teachers**. Universities are currently working on a new curriculum for initial teacher education programmes that includes standardised entrance criteria and final assessment requirements. The introduction of entrance examinations needs to be carefully balanced with the expected level of teacher salary in a decreasing workforce context, overly stringent hiring requirements may result in a teacher shortage.	• **Base selection for initial teacher education on a mix of criteria and methods**. In line with the ambitions of the new competency-based school curriculum and the newly defined teaching standards, teacher education institutions should explore and pilot more elaborate, well-rounded selection criteria and intake procedures that cover a mix of cognitive and socio-emotional skills.	• **Review the process of selecting students for initial teacher education.** Given the challenges of COVID-19, preference should be given to selection methods that can be conducted also online. Criteria for selection should remain consistent with the new competency-based school curriculum and the newly defined teaching standards.

P/O	Assessments (Phase I)	Recommendations (Phase I)	Guidance (Phase II)
	The preparation of the teaching workforce needs to be aligned with the new competency-based curriculum. Initial teacher education needs to be aligned with the new curriculum requirements. The incumbent teaching workforce has to be updated on pedagogical practices and assessment methodology. Professional development is mandatory, with teachers and school leaders required to undergo at least 36 hours of training every three years; however, the number of hours of training is low compared to many OECD countries.	• **Encourage representation of teachers and support the development of professional teacher associations to raise the quality of teaching and promote the teaching profession**. The scope of action of professional teacher associations could extend from defining teaching standards and selection criteria for the teaching profession to programme accreditation, continuous professional development and career paths. In the short term, the professional teacher associations could identify which competences the incumbent teaching workforce is lacking for the successful implementation of the new curriculum and ensure that adequate professional development is provided. In the long term it could sustain the continuous improvement of the teaching profession.	• **Consider how the professional teacher associations could also support teachers dealing with the pandemic.** This would include supporting the availability of sufficient ICT tools in schools and the adoption of ICT in teaching and learning (learning platforms, digital learning resources, etc.). Teachers should develop the skills to be able to implement the new curriculum through remote teaching, if necessary. The professional teacher associations should also help teachers to cope with the virus in terms of recognising risks, implementing appropriate measures (e.g. school hygiene), and communicating effectively with parents to encourage and guide them to support children's education while at home during confinement.
	• **Curriculum reform in Latvia will require a change in teaching and pedagogical approaches**. The challenge will be to build the capacity needed to deliver the intentions of the curriculum in the classroom. This will involve teachers being motivated to update their skills and knowledge and to invest significantly in continuous professional development to equip them with the adequate competences. In the long term, adopting a more holistic approach that views the school as a learning organisation would strengthen a life cycle approach to professional development.	• **Develop schools as learning organisations in the long term to empower teachers to put the curriculum into practice**. In such schools, teachers, support staff and school leaders benefit from career-long development that is based on research and effective collaboration. This involves moving away from the current model of delivering professional development through courses outside the school setting towards a more collaborative, practitioner-led experience embedded in classroom practice. It also involves reviewing the role and selection of school leaders, as strong pedagogical leadership is pivotal in transforming schools into learning organisations.	• **Foster learning organisations in schools with strong leadership and an effective use of technology** that allows teachers to participate in technology empowered and enhanced professional development activities. Provide training for teachers in using technology for coaching, mentoring and collaboration with peers.
2	• **The relative quality of school self-evaluation, and the extent to which this process feeds into the school development plan, is not clear**. Self-evaluation has to be conducted every year, include an indicator relative to teacher professional development, and be published on the school or founder website for transparency. Furthermore, founders may not have the capacity to follow-up with their schools effectively once accreditation has been granted.	• **Consider strengthening the role of the State Education Quality Service (SEQS) to support the self-evaluation of low-capacity schools.** All education institutions should have the capacity to lead and appropriately use meaningful self-evaluation so that founders can reflect on the school improvement plan. This can take the form of toolkits that frame self-evaluation distributed to education institutions, or advisory teams visiting the municipality in need.	• **Support school self-evaluations in the context of Covid-19 as part of the Education Quality Management System in general and vocational educational institutions**. These self-evaluations should reveal where schools can do better in reaching out to vulnerable groups, preventing drop-outs, using technology solutions for learning, communicating with parents, introducing health and safety measures, and making contingency plans for different scenarios of length of school closure and expected timing of school reopening.

P/O	Assessments (Phase I)	Recommendations (Phase I)	Guidance (Phase II)
3	• **Schools in small rural municipalities face challenges attracting young talented teachers**. Such schools have fewer financial resources. After graduating, teachers are free to choose where they want to work.	• **Consider designing incentives to motivate highly competent teachers to teach in rural areas**. These could be financial incentives set by an external evaluation body like the SEQS.	• **Explore how to use technology to equip teachers in rural areas**. Although COVID-19 may make it difficult to provide additional financial incentives to recruit teachers to rural areas in the short term, technology may offer solutions to enhance the teaching of existing teachers.
4	• **School evaluation and external evaluations need to take into account a broader framework** that includes the requirements of the new curriculum to be implemented.	• Foster greater policy coherence by embedding school evaluation and external evaluation within a broader evaluation and assessment framework that supports the introduction of the new curriculum.	• Consider how remote instruction can be taken into account in school evaluation and external evaluation. This may require different approaches in the evaluations that consider the particularities of remote instruction**.**
	• **There is no centralised monitoring mechanism** that could help identify educational institutions with low student learning outcomes before the regular six-year reaccreditation process, and thus trigger an external evaluation by the SEQS.	• **Finalise and implement a comprehensive monitoring system** that ensures alignment between the different evaluation arrangements (teacher appraisal, school evaluation, system level monitoring). Incorporate the systematic use of the State Education Information System as an input for research to spread best practice and base policy initiatives on scientific evidence.	• **Monitor how schools are coping with the pandemic among other significant pre-defined education quality aspects**. This includes procedures for how to deal with sick students or staff, regular health checks, social distancing measures, and how education is provided when schools are closed.
	• **The decision to close an education institution belongs to the municipality**. The average rural secondary school in Latvia has 146 students, less than half the OECD average of 369. municipalities are under local political pressure to maintain their small schools. There is a no national-level set of objectives, nor transparent criteria, for decisions around consolidating schools.	• **Define a set of transparent quantitative and qualitative criteria at the national level for decision making around consolidating schools** in order to strengthen the founders' responsibility for establishing and operating an efficient school network. This would alleviate the political pressure on school founders and could support the school consolidation process to move forward with certain quality criteria. To establish an efficient network and compensate the closure of schools, the state, in co-operation with municipalities, should develop effective student transportation systems.	• **Consider how technology could be used to provide learning opportunities in municipalities to ensure quality education accessibility to every child.** As COVID-19 might mean that a substantial part or all of education is shifted towards remote learning, this could be an opportunity to test technological solutions that could be continued beyond COVID-19 to provide remote learning opportunities in municipalities that have closed schools in the consolidation process.

Note: P/O refers to policy objective: 1) highly qualified, competent and excellence-oriented teachers and academic staff; 2) modern, high-quality and labour market oriented education; 3) support for everyone's achievement; and 4) sustainable and effective governance of education system and resources.
Source: OECD (2019[20]), *OECD Skills Strategy Latvia: Assessment and Recommendations*, https://dx.doi.org/10.1787/74fe3bf8-en.

Vocational education and training

Improving the VET system has been a priority of government in recent years. As a response to skills imbalances in the labour market, the government wants to strengthen the sector's prestige, increase student participation in VET and improve student outcomes.

Columns 1 and 2 in Table 2.5 show a summary of the findings from the 2019 "OECD Skills Strategy Latvia: Assessment and Recommendations" report. As the context has significantly changed since the launch of the report due to the unforeseen COVID-19 pandemic, column 3 provides further complementary guidance on the policy actions that can respond to the pressures that the pandemic has generated. This is based on the recent OECD publications (www.oecd.org/education/) related to COVID-19 and education.

Table 2.5. Vocational education and training: Relevant assessments, recommendations and guidance from Phases I and II of the OECD Skills Strategy project

P/O	Assessments (Phase I)	Recommendations (Phase I)	Guidance (Phase II)
1	• **Only about 39% of students are entering VET after completing basic education**. This falls short of Latvia's aim to have 50% of students enter vocational programmes, and the share has not significantly evolved over recent years, despite efforts to make vocational education more attractive.	• **Mainstream the "Effective management for VET schools" (SO 8.5.3.) project** that promotes, among other aspects, teacher and school leader training to strengthen the capacity of VET school administration and the quality of vocational education.	• **Consider how to strengthen VET schools' capacity to use online platforms.** While online training cannot fully replace in person training, and its effectiveness depends on occupation, it should be used to help keep learners engaged in learning while in-person training is not possible.
2	• **Only certain companies can participate in the work-based learning (WBL) project.** In the newly introduced work-based learning project, a VET student spends at least 25% of the VET programme in a firm, and firms admitting a WBL student receive compensation. However, only companies without a tax debt can participate in the project.	• **Continue strengthening WBL implementation to develop relevant skills for the labour market**. Review the financial incentives to encourage small and medium-sized firms to participate in the WBL programme, and simplify the process for receiving financial compensation for work-based learning.	• **Consider wage support programmes to maintain work-based learning.** Wage support programmes could be in the form of a subsidy, short-term work schemes, and other types of financial incentives. The wage support should be targeted at small firms that would otherwise not be able to offer work-based learning opportunities.
	• **The vocational education system as a whole suffers from a lack of prestige**. Only 63% of respondents in Latvia perceived VET to provide "high-quality learning", the second lowest value among EU-27 countries.	• **Embed career/learning guidance for students and their parents in the education system** as a requirement to improve VET take-up and consideration.	• **Update guidance information with the latest labour market data**, as short-term to long-term projections will have been impacted by COVID-19. Provide information on the most promising VET tracks.
3	• **In the 2017/2018 school year, 19% of students from upper secondary vocational education dropped out**, compared to around 7.5% of students from general upper secondary education. From a monitoring perspective, the establishment of evaluation systems for the identification of students at risk can allow intervention to take place earlier, can better attend to students' needs and provide adequate guidance, and can prevent drop-out until the student acquires a certain qualification level.	• **Establish a VET tracking system to improve the tracking of drop-outs**. Provide incentives to local authorities to monitor students' attendance more closely. More stringent requirements could help boost graduation rates. Enrich the contextual information of vocational education students and define indicators that identify students at risk of dropping out in order to better attend to students' needs and provide adequate guidance.	• **Consider tracking drop-outs due to COVID-19** in order to provide targeted support to students. Ensure that such involuntary breaks do not result in any fees, repayment or other penalty for the students or providers. Financial and mentoring support may be required so that providers can maintain readiness and be quickly and fully operational post-crisis, and so that learners can resume learning as soon as possible.
4	• **The VET system still relies heavily on funding from European Structural Funds** to support work-based learning and sector expert council activities.	• **Develop a co-funding instrument to fund sector expert councils for the medium term, aligned with defined performance criteria and methodology**. Identify which institutions benefit from sector expert councils and design a collaborative funding mechanism, such as a mutual fund where all institutions contribute to the cost, to ensure the sustainability of these councils, as well as their effective operation.	• **Review the viability and timing of the co-funding instrument in the current situation.** As many firms are adversely affected by the crisis in the short term, the timing of introducing a co-funding instrument for sector expert councils could be delayed to the recovery and growth phase, after COVID-19. At the same time, their effectiveness through clear guidance on performance criteria and methodology should be strengthened.

Note: P/O refers to policy objective: 1) highly qualified, competent and excellence-oriented teachers and academic staff; 2) modern, high-quality and labour market oriented education; 3) support for everyone's achievement; and 4) sustainable and effective governance of education system and resources.

Source: OECD (2019[20]), *OECD Skills Strategy Latvia: Assessment and Recommendations*, https://dx.doi.org/10.1787/74fe3bf8-en.

Higher education

Given the significant skills imbalances, and in particular a shortage of workers with a higher education to fill high-skilled jobs, improving higher education and making it more labour market relevant is a priority for the Latvian government. Recent initiatives include the restructuring of the university management system, strengthening of management capacity and strategy development, and the implementation of the new academic career model.

Columns 1 and 2 in Table 2.6 show a summary of the findings from the 2019 "OECD Skills Strategy Latvia: Assessment and Recommendations" report. As the context has significantly changed since the launch of the report due to the unforeseen COVID-19 pandemic, column 3 provides further complementary guidance on the policy actions that can respond to the pressures that the pandemic has generated. This is based on the recent OECD publications (www.oecd.org/education/) related to COVID-19 and education.

Table 2.6. Higher education: Relevant assessments, recommendations and guidance from Phases I and II of the OECD Skills Strategy project

P/O	Assessments (Phase I)	Recommendations (Phase I)	Guidance (Phase II)
1	• **Employers in Latvia report that skills shortages are a major obstacle** to long-term investment decisions. Compared to other OECD countries, the share of workers in Latvia who are under-skilled for their jobs is high, and more workers are under-qualified than over-qualified.	• **Raise awareness among higher education management of the importance of career guidance services** for promoting sound enrolment decisions, lowering drop-out rates, and facilitating graduate employment in high-demand occupations. The career guidance should be informed by data from forecasting platforms and the Higher Education graduate monitoring system, so that there is a better skills match with the labour market.	• **Provide guidance to students on what COVID-19 means for the higher education experience and what support mechanisms can be provided.** Guidance should be given as to what modalities higher education programmes (on campus, online) are offered, as well as which programmes have promising prospects in the new labour market.
2	• **Work-based learning has yet to be introduced in higher education** in Latvia, and is only starting to develop in secondary education. Creating work-based learning opportunities for students requires strong engagement with employers. However, employer engagement in a pilot project that developed work-based learning for secondary vocational education was low.	• **Establish a legal framework for work-based learning in higher education** and carry out pilot projects. Assist small and medium-sized enterprises (SMEs) in pooling the responsibilities associated with providing work-based learning opportunities. Consider encouraging the integration of work-based learning in higher education programme curricula by including it as a criterion for the performance-based funding of education institutions (in addition to labour market relevance, and science, technology, engineering and mathematics prioritisation).	• **Consider the introduction of pilot projects for work-based learning in higher education in sectors less affected by COVID-19.** As many sectors are struggling with the current situation, it may at present be more viable to introduce work-based learning in less affected sectors, where work-based learning arrangements with higher education institutions could be piloted safely. Lessons learned through these pilots could then be applied to other sectors, once the economy recovers and grows again.

P/O	Assessments (Phase I)	Recommendations (Phase I)	Guidance (Phase II)
4	• **Sector expert councils (SECs) face capacity and financial constraints** to their participation in the development of occupational standards. These standards set out what someone needs to do and know in a particular occupational area or role, and often form the basis of vocational qualifications. Legislation from 2016 requires that all occupational standards are updated once every five years. However, the process for updating occupational standards in higher education is complicated and costly, and this requirement is not being met. Council members often lack the technical expertise and knowledge to translate skills needs into occupational standards, and could benefit from additional support.	• **Build the capacity of SECs to engage in updating and designing curricula in higher educatio**n. This would improve linkages between employers and higher education institutions. Members of SECs should receive financial, technical and administrative support to translate skills needs into occupational standards and qualifications. At the same time, procedures involved in updating occupational standards should be simplified. As SECs develop their capacity they could be involved in the licensing and quality assurance of professional qualifications, as well as in the development of curricula. When involving employers in curriculum development, care should be taken not to neglect key foundational skills.	• **Engage SECs in updating and designing curricula in higher education, taking COVID-19 and its ramifications into account.** The role of the SEC should be strengthened as they may have key insights into the relevant skills needed in the labour market at present and for the foreseeable future. Given the financial constraints of government and employer resources due to COVID-19, efforts to update occupational standards should be prioritised for sectors with growth potential.

Note: P/O refers to policy objective: 1) highly qualified, competent and excellence-oriented teachers and academic staff; 2) modern, high-quality and labour market oriented education; 3) support for everyone's achievement; 4) sustainable and effective governance of education system and resources.
Source: OECD (2019[20]), *OECD Skills Strategy Latvia: Assessment and Recommendations*, https://dx.doi.org/10.1787/74fe3bf8-en.

Adult learning

A strong culture of lifelong learning, particularly in adulthood, is essential for Latvia to boost the skills of its adults, and can generate a range of personal, economic and social benefits. Adult learning matters for Latvia, as the lack of productivity in workplaces, coupled with demographic trends, are exacerbating skills shortages, thus requiring workers to enhance their skills.

Columns 1 and 2 in Table 2.7 show a summary of the findings from the 2019 "OECD Skills Strategy Latvia: Assessment and Recommendations" report. As the context has significantly changed since the launch of the report due to the unforeseen COVID-19 pandemic, column 3 provides further complementary guidance on the policy actions that can respond to the pressures that the pandemic has generated. This is based on the recent OECD publications (www.oecd.org/education/) related to COVID-19 and education.

Table 2.7. Adult learning: Relevant assessments, recommendations and guidance from Phases I and II of the OECD Skills Strategy project

P/O	Assessments (Phase I)	Recommendations (Phase I)	Guidance (Phase II)
3	• **A significant share of adults report scheduling challenges at work as a barrier to participating in adult learning**. A common challenge among SMEs, which make up most enterprises in Latvia, is that even when training itself is financed through government funding, employers may still be reluctant to support adult learning participation.	• **Explore the viability of introducing a mandatory requirement for employers to provide or support participation in adult learning for their employees**. Employers and unions should be part of the decision-making process of how such a requirement is implemented in practice.	• **Provide employers with sufficient support to make the participation of their employees in adult learning possible.** Since many employers, particularly SMEs, are currently struggling, they may need additional support to provide adult learning if it is made mandatory.

P/O	Assessments (Phase I)	Recommendations (Phase I)	Guidance (Phase II)
	• **A significant share of adults report scheduling challenges at home as a barrier to participating in adult learning**. ECEC places only become available for most parents when their children are about 1.5 years old. If there are no alternative care options, such as extended family members, it may not be feasible for adults caring for their young children to participate in training. Providing childcare options near the training site for adult learners may make it easier for parents to participate.	• **Promote collaboration between adult learning providers and municipalities to provide childcare options near to adult learning programmes**. This could mean expanding already existing childcare options to make them available during times of adult learning (e.g. evening or weekend). Explore whether, in the context of the territorial reform, the financial capacity of each consolidated municipality could be elevated to provide expanded childcare services. In cases where no public childcare option is available during times of adult learning, consider subsidising the cost of alternative private childcare options for low-income adult learners.	• **Consider the provision of childcare options during times of adult learning programmes.** Given the COVID-19 context, adult learning programmes are more likely to be provided remotely, which means that there is no need for childcare options to be located near adult learning programmes. At the same time, childcare options may be more limited due to restrictions in the number of children that can be looked after in a constrained place. This may make it necessary to expand alternative childcare options beyond those that currently exist.
1	• **The quality of non-formal education programmes that do not specifically focus on unemployed adults is not centrally monitored**. Public and private educational institutions must apply for a license from the municipality to provide non-formal adult education programmes. Municipalities vary in terms of how the licensing procedure is conducted, including fees, requirements and criteria.	• **Work with relevant stakeholders to define quality standards, particularly in non-formal adult education**, including how they will be measured, how they will be used in evaluation and monitoring, and how adult learning staff will be supported in implementation. Consider transferring responsibility for the licensing of adult learning providers from municipalities to the state to ensure the same quality standards nationwide.	• **Consider quality standards that include the provision of distance learning as well as health and safety concerns.** All non-formal adult education should be provided with the appropriate health and safety measures in place. Distance learning should also be promoted, where possible.
3	• **A significant share of adults lack motivation to participate in adult learning**. Around 35% of adults reported that they did not participate in adult learning and did not want to participate in adult learning. There are a number of different channels through which adults can learn about adult learning possibilities, but they need to be better co-ordinated and targeted at unmotivated adults. Only about 4.7% of unmotivated adults reported having received any information about adult learning opportunities.	• **Co-ordinate awareness raising campaigns about the value of adult learning through a central body** that fosters co-operation across ministries and between government and stakeholders. Such awareness raising campaigns (e.g. "know your rights") targeting unmotivated adults should provide information about the different available adult learning opportunities, how to access them, and their benefits. Such a body should also develop and implement strategies on how to engage and encourage unmotivated adults to raise their participation in adult learning.	• **Raise awareness about the importance for adult learning to deal with the uncertainties of COVID-19 through the central body.** Awareness raising campaigns should provide adults with information about what adult learning opportunities exist and which sectors are growing, so that adults who have become unemployed or furloughed can temporarily or permanently transition to a different job/sector. The importance of foundation skills should be emphasised.
	• **Not all vocational education competence centre (VECC) programmes are actively catering for adult learners**. They often lack the management capacity to deal with this new influx of students, and the related budgetary changes in terms of income and expenses. They also find it challenging to actively recruit adult students and compete with private VET providers.	• **Strengthen the management and pedagogical capacity of VECC to deal with more adult students**, including related budgetary and scheduling changes, the tailoring of course offerings to the specific needs of adults, and recruiting adult students through marketing and promotion activities. Make it possible for VECC to provide adult learning opportunities for employed and unemployed adults grouped together.	• **Strengthen VECC capacity in dealing with uncertainty.** This requires training in how to budget, schedule and plan when the future is highly uncertain. Provide support to VECC in making contingency plans to be able to deal with different scenarios.

P/O	Assessments (Phase I)	Recommendations (Phase I)	Guidance (Phase II)
	• **The provision of higher education offerings could be better adapted to the needs of adult learners**. Existing modular programmes focus mostly on academic content and should be adapted to the needs of the labour market. Financial support is not available for those studying part time. Adult learners who cannot afford the cost of studying part time, or the loss in income when studying full time, may not be able to pursue studies in higher education.	• **Expand higher education programmes for adult learners**. This means enlarging the course offerings in higher education, providing courses in a flexible and modular format in labour market demanded subject areas, providing higher education staff with training to deal with adult students, and offering financial support to part-time adult students who are on a low income.	• **Support higher education institutions in providing more remote learning opportunities**. Courses offered on-campus should adhere to strict health and safety measures. Courses offered online in live or pre-recorded format should be developed. Higher education staff should be supported and trained to teach in various modalities. Digital assessment formats should be developed.
4	• **A significant portion of the operational expenses of guidance and counselling services is covered by European Structural Funds**. There is currently no specific plan for what will happen afterwards and how these services will be funded. This may undermine the long-term sustainability of guidance and counselling services.	• **Make guidance and counselling services financially sustainable**. Evaluate current funding mechanisms in terms of effectiveness, equity and alignment with priorities. Consider alternative financing entities, such as municipalities or employers, and cost-saving possibilities through collaboration among public providers (public employment services, State Education Development Agency) and private providers, as well as a more cost-efficient blended career guidance and counselling approach that combines online and offline formats.	• **Consider how to provide guidance and counselling services online or remotely (e.g. phone calls).** Given the limitations of in-person meetings, online and remote counselling services are increasing by necessity. As people get more used to such remote services, this may be a viable financially cost-effective solution in the long term that could be expanded and maintained post COVID-19.
	• **It is challenging for guidance counsellors to reach under-represented groups**, in particular unmotivated adults. While services such as the State Employment Agency receive adults when they engage, outreach activities are mostly invitation-based (e.g. school) or specific events, and unmotivated adults may not be reached effectively through such means alone.	• **Improve guidance and counselling services through providing ongoing training for guidance counsellors** so that they can provide services tailored to the specific needs of individuals, as well as reach out to and effectively engage under-represented adults (e.g. unmotivated, low skilled, rural residents). The role of VECC guidance counsellors could be strengthened to raise public awareness about VET among adults and provide individual support for adults in making use of the newly introduced VET modules.	• **Update guidance and counselling services with the latest labour market information.** Guidance counsellors should receive information and training on how the COVID-19 situation affects the job market, and how to engage adults affected by the crisis
	• **There is a need for better targeting of financial incentives for employers**. Employers are reluctant to invest in adult learning, as other employers could poach the staff once the adult learning participation is completed. There is no common approach across sectors to fund adult learning provision.	• **Explore piloting a shared training fund in some sectors that employers contribute to and can draw from**. Engage employers from the beginning to ensure that there is ownership for such a fund. After the pilot, evaluate the effectiveness of the shared fund and whether it is worthwhile being extended to other sectors. The training fund could be part of a comprehensive support system for employers to support the skills development of their employees.	• **Review the timing of such a shared training fund in the current situation**. As employers are adversely affected by the crisis in the short term, the timing of introducing a training fund could be delayed to the recovery and growth phase following COVID-19, or piloted in sectors that have not been substantially affected.

Note: P/O refers to policy objective: 1) highly qualified, competent and excellence-oriented teachers and academic staff; 2) modern, high-quality and labour market oriented education; 3) support for everyone's achievement; 4) sustainable and effective governance of education system and resources.

Source: OECD (2019[20]), *OECD Skills Strategy Latvia: Assessment and Recommendations*, https://dx.doi.org/10.1787/74fe3bf8-en.

5. Suggestions for how Latvia could further develop its EDG

This section presents four actions Latvia should consider for further developing its EDG: 1) include policy actions at the system level; 2) define responsibilities and timelines; 3) identify funding implications; and 4) strengthen strategic planning. Each of these opportunities is discussed with relevant information on Latvia, practical suggestions of what could be done, relevant country examples and specific recommendations.

Action 1. Include policy actions at the system level

Although consultations on possible policy actions were structured by level of education, there are also policy actions that should be considered at the education and skills system level (i.e. those relevant across levels of education and learning). Such policy actions were not discussed in great depth during the workshops, largely due to the framing of discussions around distinct levels of education. However, given their importance to the whole education and skills system, policy actions at the system level should still be considered. The following are system-level assessments and recommendations from the 2019 "OECD Skills Strategy Latvia: Assessment and Recommendations" report, which Latvia should consider for inclusion in its EDG. They include strengthening oversight of skills policy; improving co-operation at different levels of government; building an integrated monitoring and information system; and raising, targeting and sharing investments in lifelong learning.

Strengthening oversight of education and skills policy

Effective oversight bodies are part of the "enabling conditions" to support a whole-of-government approach to skills policy, and are important for ensuring stakeholder engagement, integrated skills information and co-ordinated financing (OECD, 2019[20]).

Table 2.8. Assessment and recommendations for strengthening oversight for education and skills policy

Assessments	Recommendations
The government does not have a process in place to monitor the effectiveness of its oversight bodies for skills. As such, it is unclear how well each body is performing in terms of achieving its remit. This limits the government's ability to continuously improve inter-ministerial and cross-sectoral co-ordination through methods such as re-focusing, reorganising or terminating bodies. Latvia's oversight bodies may lack analytical capacity and support. While existing bodies often have secretariat support, this is largely limited to administrative functions. Latvia's oversight bodies typically lack decision-making authority for skills policy. Bodies are largely limited to discussion and information sharing, often without tangible results.	**Appoint a whole-of-government and cross-sectoral body** to oversee the Education Development Guidelines 2021-2027. The body should guide skills policy and spending, and have sufficient analytical capacity, for example through expert and/or secretariat support. The state should clearly and formally establish the body's objectives and goals, and monitor and continuously improve its performance against these objectives and goals.

Source: OECD (2019[20]), *OECD Skills Strategy Latvia: Assessment and Recommendations*, https://dx.doi.org/10.1787/74fe3bf8-en.

Improving co-operation at different levels of government and with stakeholders

Effective co-ordination between Latvia's ministries, agencies, municipalities (*novadi*) and cities (*pilsētas*) will be essential for implementing lifelong learning policies and integrating skills and learning information. Such "whole-of-government" co-ordination is crucial to minimise overlaps and gaps in services, share experience and sectoral expertise, identify opportunities for partnerships, design complementary policies, and develop better processes for engaging with stakeholders. Effective stakeholder engagement can lead

to better quality skills policy and lifelong learning services. Stakeholder engagement throughout the policy cycle helps to ensure that relevant actors in the private sector, such as trade unions, businesses and employer associations, are meaningfully involved in the design, implementation and evaluation of skills policies. Engaging stakeholders can improve policy relevance, flexibility and sustainability, as well as the effective implementation of policies (OECD, 2019[20]).

Table 2.9. Assessment and recommendations for improving co-operation at different levels of government and with stakeholders

Assessments	Recommendations
The governance structure for overseeing adult education policies is fragmented. There are at least three governance bodies that oversee adult education policies. These include the Governing Board from the Ministry of Education and Science, the Training Committee from the Ministry of Welfare, and a board that oversees adult education activities funded by European Social Funds. This fragmentation makes co-ordination cumbersome and increases the administrative burden.	**Introduce a consolidated approach to oversee adult education policies.** Adult education policies could be overseen by a single board. This would make it possible to identify ways to make various adult education programmes complementary and to design adult education programmes that could reach a larger target group. For example, adult education programmes designed for unemployed adults could also be relevant for employed adults. A single board would also reduce the overall administrative burden.
Effective co-ordination between the state and municipalities on skills policies remains challenging for Latvia. Latvia has struggled to find the right balance between local responsibility and autonomy for skills policy on the one hand, and centralised responsibility and oversight on the other. Education governance in particular is highly fragmented. Municipalities vary significantly in size, socio-economic composition and capacity. Municipal representatives could play a more active role in oversight bodies for skills. Setting appropriate national standards for education and employment policy has proven a challenge for Latvia. The central government and municipalities do not widely use "soft mechanisms" such as contracts, agreements and pacts for co-operation on delivering education and employment services.	**Strengthen co-ordination between national and subnational authorities on skills policy in the context of Latvia's administrative territorial reforms**. The state should give municipal representatives greater representation in existing oversight bodies for skills policies, such as the National Tripartite Cooperation Council and sector expert councils. The state should find opportunities to introduce risk-based regulation for municipalities, rewarding high-performing municipalities with less stringent compliance requirements. Finally, the state and municipalities should pilot softer co-ordination mechanisms, such as agreements and pacts that outline responsibilities, or transfer decision-making rights for select policies, especially for resource constrained municipalities.
Civil servants in national or subnational governments sometimes lack the skills and support required for effectively co-ordinating or fulfilling their responsibilities for skills policy. Local governments suffer from a lack of capacity in financial management. Ministries, including the Ministry of Education and Science, have also faced their own capacity constraints: government wages have been volatile over the last decade, and stagnant more recently, which has left the public sector with a significant challenge in attracting, retaining and motivating talent. Despite their responsibilities, local governments are under funding pressure and face incentives to compete rather than co-operate under the current revenue raising and state funding arrangements.	**Strengthen civil servants' capacity to fulfil their roles and co-ordinate with others on skills policy**. In the context of Latvia's ongoing public administration and administrative territorial reforms, the state should survey ministries, agencies and municipalities involved in skills policy to understand the extent to which civil servants are capable of fulfilling their responsibilities and effectively co-ordinating with others on skills policies. Based on the results, the state should seek to redress major resource gaps with targeted support in the form of training, exchanges, mentoring, coaching, networking or peer learning, and/or through targeted funding.
Subnational co-operation on skills policies could be more systematic and substantive. In general, municipalities are reluctant to enter into more substantive forms of co-operation for education and employment services, such as partnerships and shared service agreements. Existing bodies at the regional or municipal level could do more to support co-operation on skills. Planning regions have no formal power to ensure co-ordination between municipalities in education and employment services, or in other fields. Most municipalities operate and fund their own board of education that is responsible for the provision of education across levels from early childhood education and care to adult learning. Associations representing subnational actors are more focused on vertical co-ordination, do not focus on skills and tend to formalise rather than initiate co-operation.	**Give subnational bodies a greater role in co-ordinating skills policy, while supporting the spread of good inter-municipal co-operation practices.** In the context of Latvia's administrative territorial reforms, planning regions, the State Regional Development Agency and subnational associations should have a more explicit focus on facilitating inter-municipal co-operation on skills policy. The state could create a new body to encourage and co-ordinate inter-municipal partnerships on delivering education and employment services. This could be subordinate to existing regional bodies, similar to the way entrepreneurship centres are overseen by planning regions. Central and regional bodies should raise awareness of successful inter-municipal networks on skills issues, such as the Association of Regional Development Centres and the regional education, culture and sport administration for the Riga area, and encourage their replication.
There are very few networks between local policy makers that are focused on skills. The state does not use the budget or European Structural Funds funding to incentivise or require regional co-operation on delivering education and skills services. Competition between municipalities for taxpayers is one of the main barriers to co-operation, which reflects the reliance of municipalities on income taxation to raise revenue.	**Provide state financial incentives for inter-municipal and public-private partnerships to deliver skills services**. The state should financially reward local and regional partnerships for delivering education and employment services, for example by adding inter-municipal and/or public-private partnerships as criteria in public tenders and other state funding mechanisms, or providing bonuses for such partnerships.

Assessments	Recommendations
The impact and quality of stakeholder consultations appears limited. Only 10% of Latvians had voiced their opinion to a public official during the last month, the lowest of all 41 OECD and EU countries except Turkey. The State Chancellery of Latvia (Latvijas Valsts kanceleja) surveyed stakeholders on non-involvement in consultations and heard that government communication is too formal, there is an absence of feedback to stakeholders, and stakeholders want earlier involvement in the policy process. Some groups of stakeholders may lack the capacity to effectively engage in the multiplicity of bodies and consultation processes. Social interest groups are very diverse, and uneven capacity between them leads to some groups dominating negotiations. Some social interest groups may require capacity building to be able to engage effectively. Capacity constraints for effective consultation are also a challenge for government.	**Build the trust and capacity of stakeholders, while supporting the spread of good engagement practices**. The government should build stakeholder trust to underpin improved engagement by documenting and publicly communicating how stakeholder input has affected skills policy. It should seek feedback from stakeholders themselves on opportunities to increase the benefits and lower the costs of engagement, especially groups with lower resources. The government could devote ESF or state resources to co-fund the capacity building of smaller, less engaged skills stakeholder groups. The tertiary and adult education sectors should seek to adapt successful stakeholder engagement practices such as VET institution conventions and sector expert councils to their sectors. The government and social partners could develop guidelines for employer engagement and work-based learning that would be relevant for vocational, tertiary and adult education institutions, as well as different types of firms.

Source: OECD (2019[20]), *OECD Skills Strategy Latvia: Assessment and Recommendations*, https://dx.doi.org/10.1787/74fe3bf8-en.

Building an integrated monitoring and information system for education and skills

As education and skills systems evolve and become more complex, managing data and information becomes a key policy issue. Effective information systems are needed to collect and manage the data and information that governments and stakeholders produce, analyse and disseminate. This helps to ensure that policy makers, firms, individuals and others have access to accurate, timely, detailed and tailored information. Relevant data and information include the skill levels of individuals, the skills demanded by the labour market, skills needed in the future, as well as information on learning and training opportunities and their effectiveness (OECD, 2019[20]).

Table 2.10. Assessment and recommendations for building an integrated monitoring and information system for education and skills

Assessments	Recommendations
Assessment and anticipation of skills exercises have some methodological gaps. The quantitative elements of exercises are well developed, but the processes for qualitatively validating the results with sectors are limited, as is the regional and sectoral disaggregation of the results. Furthermore, the system remains focused on assessing occupations, rather than on assessing changes in the need for specific skills and competencies. Several weaknesses have also been acknowledged in relation to the dissemination and use of the forecasts. The results are primarily distributed in the form of a technical report, which is unlikely to meet the needs of the lay person. Limited dissemination channels have led to a lack of awareness about changes in the labour market and a lack of discussion about labour market trends and future skills needs. The forecasts have also not been used to develop policy at the sectoral level.	**Develop a comprehensive skills assessment and anticipation system with input from, and shared oversight by, social partners**. Building on recent projects to improve skills needs information, Latvia should integrate and build on the skills assessment and anticipation exercises of the Ministry of Economics and Ministry of Welfare. The system should be designed based on the needs of key user groups: policy makers, education and training institutions, career advisors, students, and learners. These groups should also be represented in the ongoing governance of the system. The improved system should make greater use of qualitative inputs, for example from industry experts, to test the results of quantitative modelling. As there will be shared responsibility, it will be essential to support the capacity of government and stakeholders to utilise skills needs information effectively.
Stakeholder engagement in sector expert councils could be improved. Following a two-year study, the Ministry of Economics and the Ministry of Welfare plan to introduce new measures that will include more stakeholder involvement in discussing the implications of skills forecasts for policy, streamlining the number of working parties and committees that consider different aspects of the forecasts, improved dissemination channels (e.g. more online access), and an increased role of employers and regional authorities in discussions on labour market needs. However, these improvements have not yet been implemented, and it is not clear how they will be funded.	**Strengthen the role of sector expert councilswith support from industry to validate and provide high-quality information on sectoral skills needs and trends**. Latvia could utilise sector expert councils to ensure that representatives of state, employers, employees and trade unions, professional organisations and industry specialists on human resource issues validate and provide information on sectoral skills needs and trends. In order for sector expert councils to play such a role they would need sufficient resources, which will likely require co-funding from government and employers.

Source: OECD (2019[20]), *OECD Skills Strategy Latvia: Assessment and Recommendations*, https://dx.doi.org/10.1787/74fe3bf8-en.

Raising, targeting and sharing investments in lifelong learning

Governments, individuals and employers need to work together to share the costs of investing in lifelong learning; the government alone cannot shoulder these costs. However, certain individuals and firms are unlikely to invest in learning without government and or/sectoral support. The targeting and sharing of investment in lifelong learning is important for the sustainability and equity of lifelong learning financing in Latvia (OECD, 2019[20]).

Table 2.11. Assessment and recommendations for raising, targeting and sharing investments in lifelong learning

Assessments	Recommendations
Spending on lifelong learning is relatively low in Latvia: less is spent on educational institutions per student than the OECD average at all levels of formal education. Latvia is highly reliant on state funds for learning during the school years, and the state is the sole funder of early childhood and school education (ISCED 0-3), and the main funder of tertiary education. However, the state does not currently fund adult education and training, instead relying on the European Structural Funds. Employers and individuals also spend relatively little on tertiary and adult education and training. Latvia lacks a clear framework or agreement on how to sustainably share the costs of funding lifelong learning between the government, employers and individuals.	**Develop a cross-sectoral funding agreement for lifelong learning, and allocate state funds to adult learning**. The National Tripartite Cooperation Council should seek to develop a funding agreement that outlines how government, employers and individuals will share the costs of investing in different types of adult learning and skills. The agreement would specify the funding commitments of ministries, municipalities and social partners for skills, as well as facilitate public-private partnerships in vocational and tertiary education. The government should make the funding of lifelong learning more sustainable by increasing state funding to VET and adult learning to complement European Structural Funds funds, initially for disadvantaged groups and between operational periods.
Funding for lifelong learning in Latvia is not allocated based on strong evidence about which programmes work best. Deficiencies in the evaluation of lifelong learning outcomes limit the ability of policy makers to allocate funding to programmes that have the largest positive impacts. This may entail inefficient public expenditure in some instances. Greater use of performance-based funding can increase incentives for quality and the efficient provision of lifelong learning.	**Increase the impact of lifelong learning funding through greater performance-based funding**. The government should improve the results achieved by public funding for lifelong learning by implementing a common performance-based funding model. The model should partly base the public funding of education and training providers on the skills development and labour market outcomes of their learners. It should be informed by the performance monitoring and funding elements being developed in Latvia's school system, tertiary education and the State Employment Agency.
Funding for lifelong learning could be allocated more equitably. The financial capacity of municipalities to fund lifelong learning is constrained and uneven across regions. The allocated tasks of municipalities are meant to be accompanied by a funding source; however, in practice funding is not made available for all tasks. Local governments have a high degree of expenditure autonomy, but a low degree of income autonomy. Unequal tax capacity across municipalities, notably between Riga and rural areas, may lead to disparities in funding lifelong learning.	**Ensure equitable funding for lifelong learning across regions through greater cost- and needs-based funding of municipalities**. In the context of Latvia's administrative territorial reforms, the government should partly link state grants for education and training to the costs of service provision to improve the capacity of poorer municipalities to invest. It could also create incentives (bonuses) in state funding for the joint municipal delivery of education and employment services to spur partnerships, and consider adding metrics on regional skill levels and learning participation to the equalisation funding formula.

Source: OECD (2019[20]), *OECD Skills Strategy Latvia: Assessment and Recommendations*, https://dx.doi.org/10.1787/74fe3bf8-en.

Recommendation for including policy actions at the systems level

Give consideration to policy actions that need to be taken at the system level in order to address challenges that affect the entire education and skills system and not just a specific level of education. Policy actions at the system level include efforts to strengthen oversight for skills policy; to improve co-operation across different levels of government; to build an integrated monitoring and information system; and to increase, better target and share investments in lifelong learning. These system level policy actions are required to strengthen the governance of the education and skills system and raise the effectiveness of all other policy actions.

Action 2. Define responsibilities and timelines

In order for the EDG to achieve its policy objectives it needs to specify the actors responsible for individual policy actions and those who will be contributing to these efforts. The actors designated to lead efforts are given legitimacy, authority and responsibility to co-ordinate the efforts. The EDG should also specify the timeline for the actions and what intermediate milestones should be reached at what moment. This would hold relevant actors accountable for achieving milestones, allow for corrective action to be taken if they are not met, and contribute to reaching the policy objectives. A brief description of each element is discussed below, along with some of the methodologies that can be used, relevant country examples and how these are relevant for Latvia's EDG.

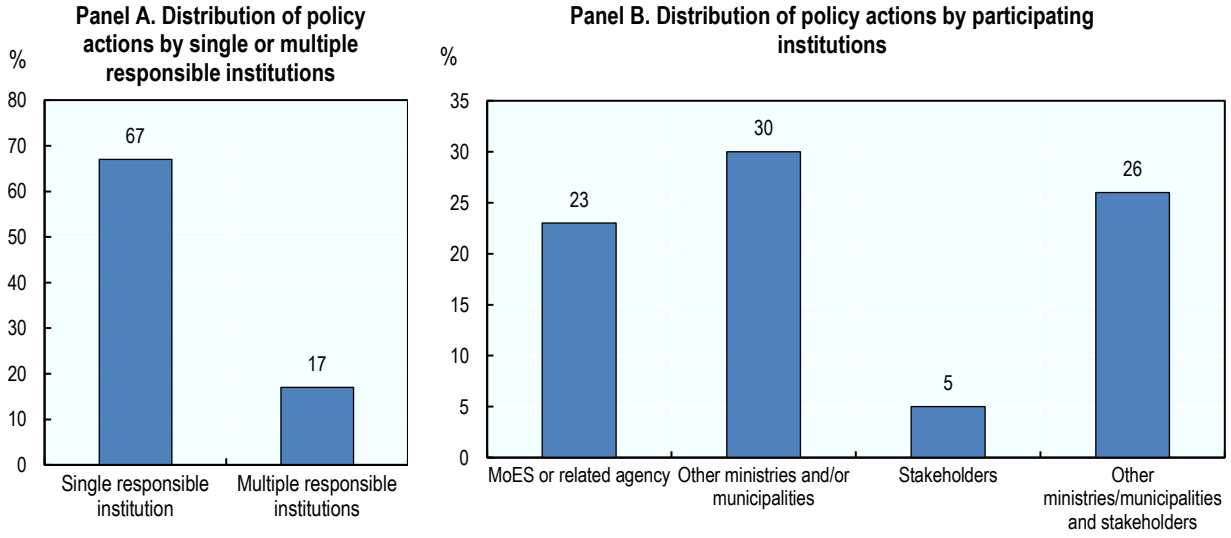
Identifying the responsible parties for each policy actions

By identifying and aligning actors to their corresponding responsibilities for specific policy actions the implementation of the EDG can be better co-ordinated and become more effective (Viennet and Pont, 2017[9]). Each policy action needs to clarify who is supposed to implement what and who is to be held accountable. Responsibilities should be allocated on the basis of the capacity and preparedness for taking responsibility for specific policy actions. Capacity includes resources such as funding, experience, expertise and networks (Malen, 2006[45]). Capacity and preparedness for implementing policy actions applies equally to government institutions and stakeholders.

In Latvia's previous EDG 2014-2020, the actors were clearly defined in terms of the main responsible institution and any other participating institutions (Figure 2.9). For almost 80% of the 84 policy actions a single institution was designated as responsible. The responsible institution was most often the Ministry of Education and Science, followed by the National Centre for Education, the Council for Higher Education, the State Education Development Agency, the Latvian Language Agency, the State Service of Education Quality and the Agency of International Programmes for Youth. Around 20% of policy actions were assigned to multiple institutions, which were often a combination of the above. With more than one institution responsible for a policy action it is important to clarify the respective roles, how decisions regarding the implementation of the policy action are made and how disagreements are resolved. Without such clarity, sharing responsibility for a policy action can be challenging. A significant share of policy actions were also assigned to participating institutions such as other ministries and municipalities (36%), various stakeholders (6%) or a combination of both other ministries and municipalities as well as stakeholders (31%). While their names are mentioned in the EDG document, it is not clear what contributions participating institutions were asked to make regarding implementation of the policy action. Without specifying their respective contributions, it could be difficult to hold them accountable afterwards.

Figure 2.9. Overview of responsible and participating institutions for Latvia's EDG 2014-2020

Number of policy actions based on responsible and participating institutions



Note: Whole-of-government refers to other ministries or municipalities. Whole-of-society refers to other stakeholders. MoES is the Ministry of Education and Science.

Source: Adapted from Latvian Ministry of Education and Science (2014[46]), *Education Development Guidelines 2014-2020*, http://m.likumi.lv/doc.php?id=266406.

StatLink https://doi.org/10.1787/888934177024

The number of responsible and participating institutions may vary depending on the complexity of the policy actions. Narrow and self-contained policy actions might only require one actor, while broad and cross-cutting policies may require the collaboration of a multitude of actors. When considering the number of responsible and participating institutions it is important to take into account any resulting trade-offs. Selecting too many actors might increase the amount of conflicting interests between actors, raise the complexity of the decision-making process in planning and implementing the policy actions, and slow down implementation, particularly if co-operation and collaboration between actors had already been lacking before the implementation of the policy action was initiated. However, selecting too few responsible actors may mean that not all parties with an influence on the desired outcome are held accountable, and may entail a lack of capacity to implement the policy action in a timely manner.

When allocating a specific policy action to actors it is also important to consider their disposition and level of support towards the policy action. Multiple actors may have to work together, and the (mis)alignment of their respective interests has an impact on whether the policy action will be implemented effectively (Spillane, Reiser and Reimer, 2002[47]). Competing interests may affect a policy's implementation process by creating or exacerbating ongoing conflicts between actors. The deliberation and decision-making process of how to implement a policy action may create tensions. A clear and well-considered allocation of responsibilities has to take into account such possibilities, and should therefore clarify which actor is leading the efforts among various involved groups to implement a specific policy action.

In order to determine which actors should be responsible for and participate in certain policy actions for Latvia's EDG 2021-2027, Latvia should consider the relative capacities of actors to implement the various policy actions. Analysing the capacity of actors for implementing policy actions, and therefore determining how to allocate those policy actions, can be done using various methodologies, for example:

- **Analysis of system capacity:** Analyses the internal capacity within the government to effectively implement an education strategy. The analysis covers public financial management, competencies and qualifications of staff in relevant departments, capacity to respond to changing policy contexts, capacity to identify and engage stakeholders, and organisational aspects, such as the functioning of the education system at the national, regional and local level with respective roles and responsibilities for implementation (UNESCO-IIEP, 2010[1]).
- **Partners' role matrix**: Informs a dialogue with external relevant actors about the appropriate role that they should play in implementing an education strategy. The aim is to ensure ownership, mutual respect and collaborative efforts. The matrix is completed according to current roles and proposed roles. Relevant actors are largely divided into more active and more passive roles. While the tool was developed initially for capacity development planning, it could equally be applied to strategy planning in education and skills policies (European Commission, 2010[48]).

As Latvia develops its EDG it should carefully consider which actors should be given responsibility for which policy actions. The presented methodologies can support and inform such deliberations. Latvia should also consider how effective certain actors were in implementing policy actions in the previous EDG. In cases where policy actions were not effectively implemented, further analysis may be necessary to identify the reasons and the implications this may have for the new EDG. For example, if a lack of capacity was identified as the main reason for an actor not being able to implement a policy action, then further measures may be required to raise the capacity of that actor for the new EDG policy actions. If more than one institution is responsible for a policy action it is important to clarify the respective roles, how decisions regarding the implementation of the policy action are being made, and how disagreements are being resolved. The respective contributions of participating institutions should also be clarified to hold them accountable.

The experience in Estonia shows the importance of identifying clear responsibilities (see Box 2.1 in Section 2). In Estonia's Lifelong Learning Strategy, several programmes and actors were responsible for the same goal, which led to a lack of clarity in terms of responsibility and an excessively long decision-making process. This challenge highlights the importance of assigning clear responsibilities and leadership roles.

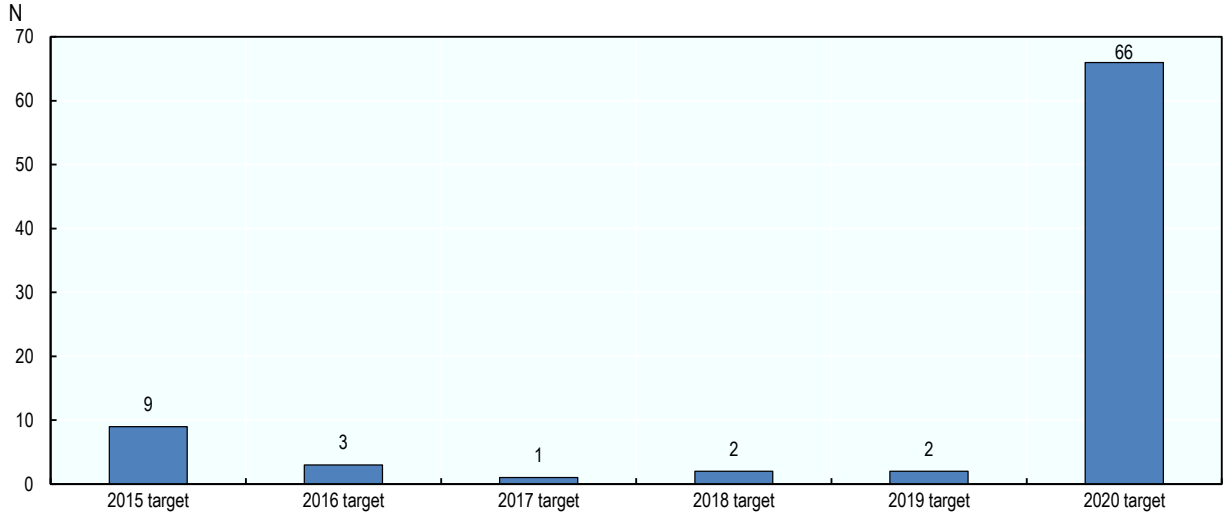
Clarifying timelines for actions

Having a clear timeline is another crucial factor for the successful implementation of policy actions and to achieve the policy objectives. By setting a clear timeline the government sets the pace and expectations for all actors to implement the policy actions. Time constraints can determine to a large extent the success of implementation (Viennet and Pont, 2017[9]).

The previous EDG 2014-2020 differentiated timelines for its 84 policy actions. While almost 80% of policy actions had target goals for 2020, there were a number of policy actions with target goals between 2015 and 2019 (Figure 2.10). A separate implementation plan also existed for the first three years with detailed policy actions and deadlines. Some of the policy actions were scheduled to begin later in 2015, and others were planned to continue beyond 2020. However, it was not always clear in the EDG why certain policy actions were scheduled at different times. If single actors are responsible for multiple policy actions and have limited capacity for implementation, a large share of policy actions due in 2020 may have exerted a lot of pressure towards the end of the EDG. Further differentiating the timeline of policy actions and providing a clear explanation is something Latvia should consider for its new EDG.

Figure 2.10. Overview of the target years for policy actions in the EDG 2014-2020

Number of policy actions with a specific target year for achievement



Source: Adapted from Latvian Ministry of Education and Science (2014[46]), *Education and Development Guidelines 2014-2020*, http://m.likumi.lv/doc.php?id=266406.

StatLink https://doi.org/10.1787/888934177043

When planning the timeline for the EDG, balance needs to be given to quick solutions to urgent policy needs that can generate immediate political wins and generate reaction for the strategy, and implementing complex policies that may take years to show results but have a more profound and lasting impact.

When the timeline is shorter than ideal, this may limit the ability of actors to organise themselves and co-ordinate policy responses, which may negatively affect the effectiveness of the implementation. It may also mean that not all relevant information has yet been collected to inform and guide the implementation process. When the timeline is longer than ideal, this may unnecessarily consume many more resources or could result in policy efforts losing momentum. Finding the right balance is challenging and depends to a large degree on the level of ownership and willingness of involved actors, as well as their respective capacities to implement the policy action (Haddad and Demsky, 1995[49]).

Given that efforts required for implementation vary across policy actions, it may be necessary to have a differentiated timeline that distinguishes between short-term and long-term policy actions. This could provide the necessary flexibility to allocate the time required for different policy actions. A single timeline for all policy actions could exert unrealistic pressure on policy actions that might need more time, and be insufficiently time bound for policy actions that could be implemented more quickly. A differentiated timeline would also make it possible to consider sequencing policy actions that may have to follow another action.

There are various tools that can be used to set timelines. While many of these tools are common in the private sector, they are also increasingly being used in the public sector for policy planning and implementation purposes. These tools include:

- **Work breakdown structure**: This approach breaks the policy action into smaller tasks and provides guidance on the schedule to implement the tasks. Tasks must be measurable and independent, with clearly defined limits. This structure defines and organises the required tasks by identifying, assigning and tracking each one. Required funds are also determined (US Department of Energy, 2003[50]).

- **Gantt chart**: This gives a graphic representation of the different activities to be completed for specific tasks of a policy action. It provides the estimated time for a task and is modelled by a horizontal bar, the left end of which is positioned on the intended start date and the right end on the intended end date. Tasks can be placed in sequential chains or carried out simultaneously (UNESCO-IIEP, 2010[51]).
- **Critical path method**: This is an algorithm for scheduling a set of policy action tasks. A critical path is determined by identifying the longest stretch of dependent tasks and measuring the time required to complete them from start to finish. By finding ways to shorten tasks along the critical path, the overall project time be reduced (Levy, Thompson and Wiest, 1963[52]).

Latvia may wish to explore using some of these tools to plan the policy actions in the EDG and to consider how to set an appropriate timeline. Since the level of ownership and willingness, as well as the level of capacity, play a role in determining actors' ability to implement policies within a certain timeframe, it will be important to engage with those actors so that they can inform the decision-making process of setting timelines. If single actors are responsible for multiple policy actions and have limited capacity for implementation, it may also help to sequence policy actions more with differentiated timelines in order to lessen the pressure of many policy actions being due at the same time.

In order to set a timeline for each of the policy actions, Latvia may wish to consider the Irish National Skills Strategy 2025, which clearly identifies what each actor is to achieve by when, as well as the targets for measuring their achievements (Box 2.2).

Box 2.2. Country examples for clarifying actors and timelines

Identifying actors in the Irish National Skills Strategy 2025

The Irish National Skills Strategy 2025 is a 10-year plan guiding the skills agenda. The vision expressed in the strategy is that "Ireland will be renowned at home and abroad as a place where the talent of our people thrives."

The six objectives to achieve this vision are: 1) education and training providers placing a stronger focus on providing skills development opportunities that are relevant to the needs of learners, society and the economy; 2) employers participating actively in the development of skills and making effective use of skills in their organisations; 3) quality of teaching and learning at all stages of education and training continually being enhanced and evaluated; 4) people across Ireland engaging more in lifelong learning; 5) active inclusion to support participation in education and training and the labour market; and 6) support an increase in the supply of skills to the labour market.

Each of the six objectives is further elaborated with actions and corresponding measures. For each measure, the strategy clearly states who is/are the leading actor(s) of implementation, with a baseline, mid-term indicator and 2025 indicator.

Source: Irish Ministry for Education and Skills (2016[53]), *Irish National Skills Strategy 2025*, https://planipolis.iiep.unesco.org/sites/planipolis/files/ressources/ireland_national_skills_stratgey_2025.pdf.

Recommendations for defining responsibilities and timelines

Identify the responsible actors for a policy action based on their capacity and disposition towards supporting the policy action and collaborating in its implementation. The capacity for taking responsibility for specific policy actions refers to governmental and stakeholder actors having the relevant resources, such as funding, experience, expertise and networks, to implement policy actions. In selecting the relevant actors for a specific policy action, consideration needs to be given to identifying actors who

collectively have both sufficient capacity to implement the policy action and who have a favourable disposition towards supporting the policy action and collaborating in its implementation. It is also important to ensure that the number of responsible actors is not so large as to unnecessarily slow down implementation. Latvia should consider how effective certain actors were in implementing policy actions in the previous EDG. In cases where policy actions were not effectively implemented, further analysis may be necessary to identify the reasons why, and what implications this may have for the new EDG. For example, if a lack of capacity was identified as the main reason for an actor not being able to implement a policy action, then further measures may be required to raise the capacity of that actor for the new EDG policy actions. If more than one institution is responsible for a policy action, it is important to clearly specify their respective roles, how decisions regarding the implementation of the policy action are being made, and how disagreements are to be resolved. The respective contributions of participating institutions should also be clarified to hold them accountable.

Create a timeline that distinguishes between short-term and long-term policy actions. Such a timeline reflects the different time required to implement different policy actions, but also allows actors to track and demonstrate progress. The timelines should be determined by assessing the capacities of actors to implement the policy action, as this influences how much time would be needed. If a single actor is responsible for multiple policy actions and has limited capacity for implementation, it may also help to sequence these actions over time to lessen the pressure.

Action 3. Identify funding implications

The EDG should describe the funding implications of the proposed policy actions, and where the funding is coming from. The implementation of each policy action requires the allocation of sufficient funding. The necessary financing can be determined by a number of different factors, discussed below, which need to be taken into account when calculating the estimates. Once the necessary funding has been calculated, adequate funding sources need to be identified. Funding for education and skills policies can be diverse, ranging from the government, employers, individuals and international partner organisations.

The funding implications can be described by: 1) estimating the cost of each policy action; and 2) identifying the source(s) of funding. A brief description of each element is discussed below, along with some of the methodologies that can be used, relevant country examples and how these are relevant for Latvia's EDG.

Estimating the cost of each policy action

The implementation of each policy action requires the allocation of sufficient funding. The funding allocation process needs to take into consideration multiple aspects, such as the total amount needed for a policy action, as well as the period of time over which it has to be allocated. When the implementation of policy actions is delegated from the national to the subnational level, or from government to semi-public or private actors, it is important to provide these delegated actors with sufficient funding to match their responsibilities (OECD, 2020[8]). If the allocated funding is insufficient, it could jeopardise the effective implementation of the policy actions and make reaching the policy objectives difficult (OECD and Wurzburg, 2010[54]; OECD, 2010[55]). However, if the allocated funding is excessive, this may mean wasted resources that could be used for other policy actions

The required funding for policy actions can be categorised as either variable or fixed costs. Variable costs are expenses that vary according to the volume of outputs, activities and services provided (e.g. materials, communication costs, training costs). Fixed costs are constant and do not vary according to the volume of the given activity (e.g. office rents, utilities and overheads). When the required funding for a policy action is being calculated, it is more important to be clear about what variable costs will occur as they usually constitute an additional financial burden to the existing budget (Vági and Rimkute, 2018[56]).

The required amount of funding for a policy action is determined by a number of factors, such as the complexity of the policy action and the required input. The ability of the responsible actor(s) to efficiently use the funding also affects the costs. There may also be external circumstances (e.g. recession) that can affect costs. Any cost estimates are therefore based on past data and some assumptions about the future (Vági and Rimkute, 2018[56]).

Estimating the funding required for each policy action can be accomplished via various methodologies, for example:

- **Bottom-up costing (engineering approach)**: This is based on a detailed analysis of resource requirements and their costs to determine the estimated cost of a project or programme. This requires the breaking down of a project or programme into its smallest components (e.g. activities or actions). Resource requirements (e.g. labour, materials, infrastructure needs) and their respective costs are estimated at this lowest level. Cost is calculated by multiplying quantities of resources by their unit cost. The total estimate is built by summing up detailed estimates, calculated at lower levels (Vági and Rimkute, 2018[56]).
- **Top-down costing (parametric costing)**: This is estimated based on past costs of similar programmes. The similarity may be determined by a programme's volume, scope or complexity (e.g. number of participants and institutions, geographic coverage, complexity of training). It is important to identify the characteristics that most influence or drive the programme cost (e.g. the number of training interventions directly affects the cost of programme, but the complexity of training may not be relevant). The assumption is that the same factors that affected cost in the past will continue to affect future costs (Vági and Rimkute, 2018[56]).
- **Analogy costing**: This is based on the assumption that new programmes are evolved from those already implemented, but have different features or components. The costs of new programmes are therefore estimated based on actual costs of a similar programme, with adjustments to account for differences between the requirements. For example, if the previous project amounting to EUR 1 million involved the construction of a 500 m2 school building and the new project will involve the construction of similar school building of an area of 800 m2, the cost of the new project can be roughly estimated as: EUR 1 million / 500 x 800 = EUR 1.6 million, assuming a linear relationship between the projects (Vági and Rimkute, 2018[56]).
- **Simulations based approach**: The Simulation for Education (SimuED) and its predecessor, Education Policy and Strategy Simulation (EPSSim), are tools that allow policy makers to make simulations about various scenarios and plan accordingly. The simulations are run with data on the school-age population, enrolment rates, graduation rates, teacher numbers, infrastructure, materials, and macroeconomic and budgetary data to calculate educational expenditures and provide different cost scenarios for alternative scenarios in the future (UNESCO, 2020[57]; UNESCO, 2005[58]).

Latvia can draw upon these various methodologies when budgeting for the individual policy actions of the EDG. These funding discussions may also impact which policy actions Latvia will prioritise. For example, in the context of the COVID-19 pandemic and a constrained budget, funding could be reallocated from a lower priority policy action to a higher priority action. Lower priority actions could also be eliminated or reduced in scope. These deliberations may also result in a sequencing of the policy actions, so that the cost is spread out more over time. These discussions should also involve the Ministry of Finance, as there may be certain rules and regulations determining the flexibility of how funding can be allocated within the medium-term expenditure framework.

In the Estonian Lifelong Learning Strategy, the strategic priorities and goals are expressed in concrete financial terms by the Ministry of Education and Research's four-year Medium-term Expenditure Framework. They are also revisited every year and adjusted based on economic forecasts and in discussions with the Ministry of Finance and Parliament (Box 2.3).

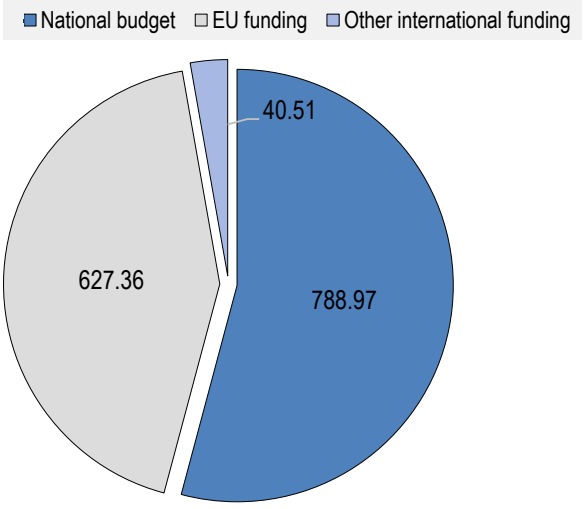
Identifying the source(s) of funding

Once the required funding for each policy action has been calculated, it is important to assess how the funding will be sourced. Financial feasibility should therefore be assessed in relation to the country's medium-term expenditure framework, and current or future annual budget. Funding may come from the government, stakeholders, other international partner organisations (e.g. EU, International Monetary Fund) and individuals. Since these actors benefit in different ways from the returns on investment in education and skills policies, they may be willing to contribute financially.

In Latvia's previous EDG 2014-2020, 54% of funding came from the national budget, 43% from EU funds and another 3% from international funding sources (Figure 2.11). While the EU funding and international sources all require a certain amount of national co-funding, the overall reliance on external funding in Latvia has been significant. International sources have made it possible to fund ambitious projects, such as the new competence-based curriculum, the development of digital learning tools, drop-out prevention measures, professional development for teachers, career guidance services, work-based learning in VET, modernisation of higher education, and adult learning programmes.

Figure 2.11. Overview of funding sources in the EDG 2014-2020

Amount in million euros



Note: EU Funding amount includes EUR 93.87 million national co-funding. Other international funding includes EUR 0.43 million national co-funding. Funding of EU funds for 2007-2013 were not included in figure as the amount was only EUR 0.009 million, including EUR 0.001 million national co-funding.
Source: Adapted from Latvian Ministry of Education and Science (2014[46]), *Education Development Guidelines 2014-2020*, http://m.likumi.lv/doc.php?id=266406.

StatLink https://doi.org/10.1787/888934177062

Diversifying funding sources has a number of benefits, such as reducing over-reliance on a single funder to avoid the risk of not having sufficient funding if that single funder has unexpected financial constraints or changes its priorities. Involving other funders in financing the costs of a policy action, such as stakeholders and individuals, may also increase their ownership of a policy action. Securing funding from international partner organisations may be an important boost to the available funding for policy actions, which otherwise may not have been possible. Large-scale implementation may thus be more effective when using multiple funding sources for implementation (Gage and et al., 2014[59]).

It also important to consider the sustainability of funding sources. This is particularly relevant given the uncertain environment due to COVID-19, and potentially shifting priorities for international funders (e.g. "Brexit" in the EU). For the purposes of planning Latvia's EDG it is important to confirm that the funding source is available for the entire duration of the planned policy action. This would reduce the risk of not being able to implement a policy action due to funding suddenly becoming unavailable. In the long term, it may be prudent to plan and identify alternative, in-country funding sources that could supplement and eventually replace international funding sources. An example of this would be piloting a shared training fund in some sectors that employers contribute to and can draw from (OECD, 2019[20]).

Determining how the required amount of funding is sourced can be done with various methodologies, for example:

- **Funding gap analysis**: This identifies the difference between the projected costs of the strategy and the projected domestic and external resources available for education. If a funding gap remains between the costs of the plan and the expected funding from domestic and external resources, the strategy will need to be revised to reduce the resource gap. There may be an opportunity to find more cost-effective implementation strategies or prioritise policy targets. It could be useful to review the unit costs and see where they can be reduced by sharing information on best practices (UNESCO-IIEP, 2015[60]).
- **Funding source analysis**: This identifies which sources of funding are available and which are likely to be available based on current projections. It also reviews other potential funding sources and whether they can be channelled through general or sectoral budget support, or through earmarked funding for selected activities. The analysis should take into account the macroeconomic projections that may affect funding availability (UNESCO-IIEP, 2015[60]).

Given the current uncertainty of available funding for future policy actions due to the COVID-19 pandemic and its secondary effects, the EDG should consider a number of different projections, ranging from best case to worst case scenarios, so that the implementation of the EDG is not jeopardised and can be quickly adapted should the policy context face further significant changes and/or should funding become further constrained.

Box 2.3. Country example for describing the funding implications

Funding implications in the Estonian Lifelong Learning Strategy

Educational priorities are further defined by the Estonian Lifelong Learning Strategy 2020, which serves as the platform for education financial planning between 2014 and 2020. Strategic priorities and goals are expressed in concrete financial terms by the Ministry of Education and Research's four-year medium-term expenditure framework (MTEF), and are currently implemented through 13 programmes. This expenditure framework is subject to inter-ministerial discussion and debate before being integrated into the government's overarching MTEF. Every March, the Ministry of Finance uses economic forecasts and the government's MTEF to give all line ministries a budget ceiling for the following four years. By April of each year, line ministries must fit their priorities to these ceilings in accordance with their stated objectives and adjust their MTEFs accordingly. Negotiations between high-level civil servants result in further modifications of each ministry's budget. In September, the government submits its general budget proposal for the next fiscal year to Parliament for debate. Local governments are also required to align their annual budgets with both four-year expenditure plans and longer-term strategic development plans.

Source: Santiago, P. et al. (2016[61]), *OECD Reviews of School Resources: Estonia*, http://dx.doi.org/10.1787/9789264251731-en.

Recommendations for identifying funding implications

Estimate the financial resources required for each policy action. The estimates should be informed by considering the complexity of the policy action and the required inputs for implementation, the ability of responsible actor(s) to efficiently use the funding, and any external circumstances (e.g. recession) that could influence cost. The data and assumptions on which the estimates are based should be made transparent. In the context of the COVID-19 pandemic and a constrained budget, funding could be prioritised for higher priority policy actions, while lower priority policy actions could be eliminated or reduced in scope. In order to spread the cost out more over time, policy actions could also be sequenced. Funding deliberations should involve the Ministry of Finance as there may be certain rules and regulations determining the flexibility of how funding can be allocated within the medium-term expenditure framework.

Identify for each policy action the party responsible for funding that action and assess the sustainability of the funding source. Funding sources could come from government, employers, individuals and international partner organisations, or a combination thereof. Given the uncertain budgetary environment due to COVID-19 it is important to consider the sustainability of funding sources and confirm that the funding source is available for the entire duration of the planned policy action. The EDG should consider a number of different scenarios, ranging from best case to worst case, so that in the case of a significant drop in future funding contingency plans are in place and the implementation of the EDG can be adapted accordingly.

Action 4. Strengthen strategic planning

As policy contexts inevitably change, long-term strategy documents such as the EDG should be designed to evolve. Strategic planning is an approach that balances short-term priorities with long-term perspectives. This approach adapts strategies as new developments are anticipated and emerge, continuously (re)assessing long-term goals while staying true to an agreed, long-term and overarching policy objective. Strategic planning helps to make informed decisions, find better strategies and challenge existing mindsets (OECD, 2019[62]). Strategic planning can be strengthened through: 1) applying a foresight approach; 2) conducting risk assessments; and 3) conducting resilience systems analysis. These approaches are complementary.

The required capacities for strategic planning include:

- Regularly assessing signals of change and levels of risks within the internal and external environment.
- Developing multiple plausible scenarios to inform strategic planning.
- Designing and facilitating strategic dialogue across government and with stakeholders.
- Identifying how to address the risks.
- Designing and testing policy proposals against multiple scenarios.

Effective strategic planning capacity also requires those not directly involved to understand its overall purpose and use, and how to implement this approach in their respective work. As such, governments may want to provide basic strategic planning training for all public servants, as well as tailored training for senior decision makers.

Latvia is becoming increasingly interested in strategic planning and has engaged, for example, in a number of foresight activities in the context of the OECD Skills Strategy Latvia project and the OECD Digital Review project (OECD, forthcoming[63]). However, based on the feedback the OECD has received, activities like these have so far been one-off events and are not widely adopted across the Latvian government. In the context of COVID-19 and the high level of uncertainty, strategic planning takes on greater importance and could be useful for Latvia to consider.

A brief description of the three strategic planning approaches, some of the methodologies they use, the benefits they provide to governments, country cases where they have been applied and how they could be useful for Latvia's EDG are discussed below.

Applying a foresight approach

Foresight is a systematic approach that looks beyond current expectations and takes into account a variety of plausible future developments in order to identify implications for policies. It does this by revealing implicit assumptions, challenging dominant perspectives, and engaging with surprising and significant disruptions that might otherwise be dismissed or ignored (OECD, 2019[64]).

Foresight can support government policy making by supporting better anticipation in identifying and earlier preparation for new opportunities and challenges that could emerge in the future, by encouraging policy innovation that spurs new thinking about the best policies to address these opportunities and challenges, and by future-proofing to stress-test existing or proposed strategies against a range of future scenarios (OECD, 2019[64]).

Foresight does not attempt to predict or forecast the future, which would be of limited benefit in a world of high uncertainty. Instead, it seeks to identify a number of different plausible future scenarios, explore what impacts they could have, and identify potential implications for policies. Foresight looks beyond the scope of traditional policy silos and considers how multiple developments can intersect and interact in unexpected ways. Change may be happening further and faster than current deliberative and sometimes lengthy policy processes are designed to cope with, and when change grows exponentially, so too must a government's ability to respond (OECD, 2019[64]).

Foresight uses a range of methodologies, for example:

- **Horizon scanning:** This involves seeking and researching signals of change in the present and their potential future impacts. Horizon scanning is the foundation of any strategic foresight process. It can involve desk research, expert surveys and the review of existing futures literature.
- **Megatrends analysis:** This involves exploring and reviewing large-scale changes taking place at the intersection of multiple policy domains that have complex and multidimensional impacts in the future.
- **Scenario planning:** This involves developing multiple stories or images of how the future could look in order to explore and learn in terms of implications for the present.
- **Visioning and back-casting:** This involves developing an image of an ideal (or undesirable) future state and working backwards to identify what steps to take to achieve (or to avoid) this state.

Governments around the world are using foresight. Canada produces regular "meta-scans" on key emerging changes that have transformative potential for the country as a whole (Box 2.5) (Government of Canada, 2020[65]). The US National Intelligence Council publishes a regular strategic assessment of how key trends and uncertainties might shape the world over the coming 20 years to help senior US leaders think and plan for the long term. The Committee of the Future of the Finnish Parliament has published 100 anticipated radical technologies and identified 100 legislative objectives to streamline the adoption of technologies. It has also identified 200 new professions of the future so that the country can prepare for upcoming challenges with the right knowledge and skills (Committee for the Future, 2019[66]; OECD, 2019[64]). In Singapore, a common practice is to place policy makers in central foresight institutions to gain experience and then deploy them across government to propagate their expertise. The Strategy Group located in the Prime Minister's Office drives whole-of-government strategic planning by identifying key priorities and emerging issues over the medium to long term. It is led by the head of civil service/permanent secretary (strategy) and two deputy secretaries. It also serves a training and consultancy role to support foresight mainstreaming across government (OECD, 2019[64]; Government of Singapore, 2020[67]).

Latvia's EDG development and implementation would benefit from a foresight approach. During the OECD Skills Strategy project, a foresight workshop was held with government officials and stakeholders in Latvia to provide an initial experience of foresight approaches and discuss multiple scenarios that may be relevant for Latvia's EDG. A description of the four different scenarios that participants came up with, their implications for skills issues, as well as some considerations for Latvia's EDG are presented in Box 2.4. In order for this foresight workshop experience to not just be a one-off event, Latvia should consider further foresight interventions. Foresight discussions with relevant actors could allow Latvia to reflect upon multiple possible future scenarios, anticipate possible changes in society, and adapt the implementation of the EDG as needed.

Box 2.4. OECD foresight workshop in Latvia

Main findings

Government and stakeholder representatives discussed in groups potential future disruptions within one of four domains: demography, society/culture, economy and digitalisation. They were encouraged to think beyond the immediate world of education in order to consider external changes that could have unexpected impacts on skills needs in Latvia.

Scenario 1: $E=DU^2$

$E=DU^2$ is a world in 2035 where the education system provides hardware devices such as implants and connected objects that allow access to infinite factual knowledge; however, it also coaches individuals in the skills and characteristics needed to survive and thrive in a fast-moving world of information overload, which involve dimensions of maturity such as resilience and compassion. Knowledge of facts is taken for granted, at least among those with access to tech devices. There is fierce labour market competition for individuals with the right social and emotional skills. Today's emphasis on "hard" digital skills for teachers may be overstated as technology is becoming more widely accessible and user friendly. Instead, teachers would be better served by spending more time educating students in maturity.

Scenario 2: BYOB – Build Your Own Bubble

BYOB is a world in 2035 where everybody socialises, learns, works and lives in their own virtual bubble. Individuals can build their educational path according to their own needs and preferences, and tailored learning becomes available to everyone. Teachers may guide students along the way in the form of holograms. Everybody has access to a wide range of educational offers that are often difficult to compare for content and quality. The government may take a greater role in enabling private sector innovation, using big data to evaluate the system and trying to ensure comparability of educational offers. While learning becomes more tailored and individual, general skills may no longer be acquired by everyone, which makes it difficult to compare skillsets, diplomas or certificates. It is unclear how education quality can be guaranteed in this world where everybody can offer courses and training.

Scenario 3: Baby come Back

Baby come Back is a world in 2035 where the current trend of the low rate of childbirth in Latvia is reversed and the country is experiencing a new baby boom. This is combined with the return of Latvians to their country after a long time spent abroad. This double shock on the demography composition of the country implies more need for childcare and education, inclusion services, better infrastructure and public interactions with citizens. However, this future also implies a larger workforce, a rise in employment, and new possibilities for better matches in the labour market. This scenario poses challenges to the education system with a lack of skilled teachers and infrastructure, and emphasises the need to redesign curricula and teaching materials.

Scenario 4: Barriers between Brics

Barriers between Brics is a world in 2035 where the global web is ending in favour of separate regional and state Internet. This has ramifications on the inclusion and cultural integration of Latvian citizens as they have less access to international networks and information sources, such as those related to research. In order to overcome the lack of diversified information resources (or alternatively, misinformation), the education system will need to adjust to promote greater inclusiveness.

Implications for Latvia's EDG

Based on the four scenarios, participants suggested a number of considerations for Latvia's EDG. These considerations would allow Latvia's EDG to better position itself for an uncertain future, which could include some elements of the four scenarios discussed. The considerations include:

- Promoting interdisciplinary studies of science, technology, engineering and mathematics (STEM) combined with liberal arts to avoid skills silos.
- Increasing the teaching of existing and new approaches to metacognition to help students cope with information overload and critically reflect.
- Encouraging bottom-up education approaches and the development of interdisciplinary and modular learning programmes.
- Designing new possibilities for teacher career development, for instance by allowing experienced teachers to train colleagues.
- Rethinking funding mechanisms in terms of who should finance which parts of educational service delivery.
- Building better databases and improving data-based decision making.
- Building strategic foresight capacity and long-term thinking within ministries.

Conducting risk assessments

Risk assessments evaluate the probability and consequences of risks in order to better understand where contagion effects and amplification are likely to occur. The aim is to identify risky events that could result in adverse impacts of national significance that disrupt vital sectors, degrade key assets, negatively impact public finances and erode public trust in government (OECD, 2011[68]). Risk assessments can support the government by identifying and assessing risks arising from vulnerabilities in the status quo, as well as promoting a shared understanding of the risk landscape (OECD, 2011[68]).

Risk assessment is enriched by the involvement of a variety of stakeholders who can provide insights and feedback on the wide-ranging impact that certain risks can have, and what capabilities would be required to address these risks (OECD, 2015[69]).

Risk assessment can be done through various methodologies, for example:

- **Mapping:** This involves providing a conceptual system for understanding networks, processes and organisational features. It helps to identify the hubs most likely to serve as the propagation pathways for a large-scale risky event.
- **Modelling:** This involves understanding what conditions and variables make an event more likely to result in propagation effects. Models are able to identify the general conditions that might lead to a risky event.

Risk assessments have been undertaken across OECD countries. For example, after two hurricanes hit France in 1999 and damaged 5 489 schools, the government introduced regular risk assessments to provide early warning and anticipate the impact of such a crisis. It also designed safety plans and

strengthened a programme with “major risk co-ordinators” to provide training in how to deal with such a crisis. Similar risk assessment approaches exist in countries like Mexico, Turkey and Iceland to help them be better prepared for earthquakes (OECD, 2004[70]). The Netherlands conducts regular national risk assessments to define priority risks that need preparation and capacity development. An impact assessment allows for the determination of which capabilities are needed for each type of risk (Box 2.5).

Recent crises such as COVID-19 show the adverse impact a crisis can have on Latvia as a whole and on its education and skills system. Given the wide-ranging medium-term and long-term economic and societal repercussions of COVID-19, Latvia could benefit from further consideration of the risks of these repercussions for the effective implementation of the EDG. In order to better position itself to anticipate such a crisis in the future and to incorporate the potential impacts of such crisis into the design and implementation of future education policy, Latvia should consider conducting regular risk assessments.

Conducting resilience systems analysis

Resilience systems analysis is complementary to risk assessment. Once risks have been assessed through risk assessment methodologies, resilience systems analysis aims to identify ways to boost the resilience of individuals, households and communities, and countries to the risks they face. Resilience systems analysis seeks to answer questions such as where to invest time, skills and funds to empower at-risk people, helping them to better absorb shocks, adapt so that they become less exposed to shocks, or transform so that shocks no longer occur (OECD, 2014[71]).

Resilience is defined here as the ability of individuals, households, communities and countries to absorb and recover from shocks, whilst positively adapting and transforming their structures and means for living in the face of long-term stresses, change and uncertainty. (OECD, 2014[71]). For Latvia’s EDG, such a resilience systems analysis could consider the ability of Latvia’s education and skills system to absorb and recover from shocks, while positively adapting and transforming the structures and means for living in the face of long-term stresses, change and uncertainty.

Resilience systems analysis can support governments by identifying which components of the system are resilient and which are not, and the reasons why. It can also establish a shared vision among all relevant actors of what needs to be done to boost resilience in the system, and how to integrate these aspects into policies and strategies (OECD, 2014[71]).

Resilience systems analysis can be done through a variety of methodologies, for example:

- **Analysis of system parts**: This involves explaining how different risks affect the various parts of the system, and understanding where the system is resilient and where it is weak.
- **Resilience gap analysis**: This involves sharing a vision of the priority gaps in resilience both now and in the future.
- **Roadmap construction**: This involves developing a roadmap to boost resilience in the short, medium and long term.

Resilience systems analysis, and variations thereof, have been applied across OECD countries. For example, Sweden has used the resilience systems analysis framework in its development co-operation approach (Box 2.5), the results of which have informed its decision to prioritise vulnerable groups and regions that would be most affected by identified risks (OECD, 2017[72]).

As can be seen in many countries, the current COVID-19 crisis has exposed the vulnerabilities of Latvia’s education and skills system and its challenges in adapting to changing circumstances. As Latvia begins to move towards recovery it may consider conducting a resilience systems analysis to identify which parts of its education and skills system have been most affected and are most vulnerable to shocks. This would allow Latvia to prioritise those parts of the system with further support and thus strengthen the overall resilience of its education and skills system during and beyond the EDG.

Box 2.5. Country examples for strengthening strategic planning

Foresight approach in Canada

Policy Horizons Canada is the strategic foresight arm of the federal Government of Canada. It helps the Government of Canada develop future-oriented policy and programmes that are more robust and resilient in the face of disruptive change on the horizon. Policy Horizons Canada analyses the emerging policy landscape, the challenges that lie ahead, and the opportunities opening up. It engages in conversations with public servants and citizens about forward-looking research to inform its understanding and decision making, and builds foresight literacy and capacity across the public service. Policy Horizons reports to the Minister of Employment, Workforce Development and Disability Inclusion through the Deputy Minister of Employment and Social Development Canada.

Risk assessment approach in the Netherlands

The Netherlands conducts regular national risk assessments (NRA) to define priority risks that need preparation and capacity development. The NRA method is scenario-based, with risk scenarios assigned scores for their likelihood and impacts according to 10 criteria related to territorial, physical, economic and ecological safety, and social and political stability. An impact assessment allows for a determination of which capabilities are needed for each type of risk. While the NRA estimates are typically for a 5-year, and in some cases 20-year, period, analyses and capabilities can be reassessed frequently by expert groups according to new information or a new context. A report on the risks is sent each year to the parliament. It is also published on official websites and sent to stakeholders. The NRA is then used to assess capacity gaps and identify where capabilities should be reinforced.

Resilience systems analysis approach in Sweden

The resilience systems analysis (RSA) approach was implemented as part of Sweden's development work in seven countries between 2015 and 2016. The aim was to build a shared understanding of the main risks (conflict, natural disasters, disease, economic shocks, etc.) in a given context, as well as the existing capacities within those societies to cope with such risks. The analysis was then used to identify gaps in programming and develop a "roadmap" to boost resilience – namely to determine what should be done, by whom, and at which level of society. The RSA's focus on assets that help people and institutions to protect their well-being and remain resilient in the face of a wide range of risks and stresses helped to highlight where people are vulnerable and to better identify priorities for strengthening the assets of poor and marginalised groups, thereby improving their overall well-being as well as their resilience to shocks. In addition, the analysis identified how programming at national and subnational levels is connected to and impacts the most vulnerable communities and households.

Source: Government of Canada (2020[65]), *Policy Horizons Canada*, https://horizons.gc.ca/en/about-us/; OECD (2015[69]), *The Changing Face of Strategic Crisis Management*, OECD Reviews of Risk Management Policies, https://dx.doi.org/10.1787/9789264249127-en; OECD (2017[72]), *Resilience Systems Analysis: Learning and Recommendations*, www.oecd.org/dac/conflict-fragility-resilience/docs/SwedenLearning_Recommendationsreport.pdf.

Recommendations for strengthening strategic planning

Consider multiple possible future scenarios, anticipate possible changes in society and the economy, and explore their potential implications for education and skills policies in Latvia. Explore how multiple developments from other policy sectors (e.g. economy, labour market, health, technology) can intersect and interact with education and skills policies in unexpected ways, and may require adjustments to the EDG. Encourage openness about the assumptions behind analyses and create an opportunity to evaluate

the drivers of uncertainty in Latvia. An information system that collects and links data from diverse policy sectors, provides frequent updates, and supports the detection of emerging trends would be useful to inform implementation decisions of the EDG.

Assess the risks of the different possible future scenarios and identify the vulnerabilities in the current education and skills system in adapting to such changes. Identify ways to address the risks and prepare accordingly in EDG implementation. Make the results of risk assessments available for policy makers to inform decisions and allow them to make explicit trade-off and prioritisation decisions.

Conduct a resilience systems analysis to identify which parts of Latvia's education and skills system have been most affected by the recent COVID-19 crisis and are most vulnerable to future shocks. This would allow Latvia to prioritise those parts of the system with further support, strengthen the overall resilience of its education and skills system, and support at-risk groups during and beyond the EDG.

6. Summary and recommendations

Latvia's EDG is a strategic document that lays out what Latvia wants to achieve in the medium term in education and skills policies by describing the policy actions Latvia plans to implement to achieve its policy objectives. The benefits of a well-defined EDG include aligning policy actions with policy objectives, providing clarity about what needs to be done by whom and by when, communicating priorities, and holding all relevant actors accountable for implementing the policy actions and achieving the policy objectives.

The elements of an effective process for identifying policy actions for Latvia's EDG in education and skills policy include using a robust framework for selecting policy actions and engaging all relevant stakeholders in the process. A robust framework can facilitate the selection process by guiding involved actors to reflect carefully on the feasibility of the proposed actions and on the extent to which they advance the policy objectives of the EDG. The identification of policy actions and the implementation of the EDG require the engagement of relevant stakeholders as they possess important sectoral knowledge and valuable insights, and play an important role in the implementation of the policy actions. Tailored engagement strategies are needed to reflect the varying importance and commitment of different stakeholder groups to the success of the EDG.

A number of trends play an important role in shaping Latvia's skills needs and opportunities. Megatrends such as globalisation, technological progress, population ageing, migration, as well as the COVID-19 pandemic, are driving significant changes in skills needs in society and the economy, and are making it increasingly challenging for education and skills systems to adequately prepare individuals for the future. Given this context, the OECD provides guidance on the implications of this policy environment for the selection of policy actions that advance the objectives of the EDG.

In developing the EDG, Latvia based the proposed policy actions on the "OECD Skills Strategy Latvia: Assessment and Recommendations" report. These policy actions were developed based on input from a broad range of actors and an in-depth assessment of Latvia's education and skills system. Since the context has significantly changed since the launch of the recommendations and assessment report due to the unforeseen COVID-19 pandemic, this report provides further guidance and policy actions to help Latvia respond to the pressures that the pandemic has generated. These proposed policy actions should be further discussed in Latvia in order to determine to what extent they could be included in the EDG.

Latvia should also consider the suggestions for how to further develop and implement its EDG. It should include system level policy actions, allocate roles and responsibilities to actors for policy actions, set clear timelines for implementation, determine the amount and source of required funding, and strengthen strategic planning to better anticipate and plan for possible changes in the policy context. Further developing the EDG in this way would allow Latvia to more effectively implement the policy actions and ultimately achieve the policy objectives.

Table 2.12. Recommendations for further developing and implementing Latvia's EDG

Actions	Recommendations
1. Include policy actions at the system level	**Give consideration to policy actions that need to be taken at the system level in order to address challenges that affect the entire education and skills system and not just a specific level of education**. Policy actions at the system level include efforts to strengthen oversight for skills policy; to improve co-operation across different levels of government; to build an integrated monitoring and information system; and to increase, better target and share investments in lifelong learning.
2. Define responsibilities and timelines	**Identify the responsible actors for a policy action based on their capacity and disposition towards supporting the policy action and collaborating in its implementation**. In selecting the relevant actors for a specific policy action, consideration needs to be given to identifying actors who collectively have both sufficient capacity (e.g. funding, experience, expertise, networks) to implement the policy action and a favourable disposition towards supporting the policy action and collaborating in its implementation. **Create a timeline that distinguishes between short-term and long-term policy actions**. Such a timeline reflects the different time required to implement different policy actions, but also allows actors to track and demonstrate progress. The timelines should be determined by assessing the capacities of actors to implement the policy action, as this can influence how much time would be needed. If a single actor is responsible for multiple policy actions and has limited capacity for implementation, it may also help to sequence these actions over time.
3. Identify funding implications	**Estimate the financial resources required for each policy action**. The estimates should be informed by considering the complexity of the policy action, the required inputs for implementation and the ability of responsible actor(s) to effectively use the funding. In the context of the COVID-19 pandemic and a constrained budget, funding could be prioritised for higher priority policy actions, while lower priority policy actions could be eliminated or reduced in scope. **Identify for each policy action the party responsible for funding that action and assess the sustainability of the funding source.** Funding sources could come from government, employers, individuals and international partner organisations, or a combination thereof**.** Consider the sustainability of funding sources and confirm that the funding source is available for the entire duration of the planned policy action. Develop contingency plans to adapt the implementation of the EDG if there is a significant drop in funding.
4. Strengthen strategic planning	**Consider multiple possible future scenarios**, anticipate possible changes in society and the economy, and explore their potential implications for education and skills policies in Latvia. Explore how multiple developments from other policy sectors (e.g. economy, labour market, health, technology) can intersect and interact with education and skills policies in unexpected ways, and may require adjustments to implementation of the EDG. Encourage openness about the assumptions behind analyses and create an opportunity to evaluate the drivers of uncertainty in Latvia. **Assess the risks of the different possible future scenarios** and identify the vulnerabilities in the current education and skills system in adapting to such changes. Identify ways to address the risks and prepare accordingly in EDG implementation. Make the results of risk assessments available for policy makers to inform decisions and allow them to make explicit trade-off and prioritisation decisions. **Conduct a resilience systems analysis** to identify which parts of Latvia's education and skills system have been most affected by the recent COVID-19 crisis and are most vulnerable to future shocks. This would allow Latvia to prioritise those parts of the system with further support, strengthen the overall resilience of its education and skills system, and support at-risk groups during and beyond the EDG.

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Notes

[1] Market sentiment refers to the overall attitude of investors toward financial markets.

[2] The school as learning organisation model focuses the efforts of school leaders, teachers, support staff, parents, (local) policy makers and all others involved to realise different key dimensions in its schools: 1) developing a shared vision centred on the learning of all students; 2) creating and supporting continuous learning opportunities for all staff; 3) promoting team learning and collaboration among all staff; 4) establishing a culture of enquiry, innovation and exploration; 5) embedding systems for collecting and exchanging knowledge and learning; 6) learning with and from the external environment and larger system; and 7) modelling and growing learning leadership.

3 Guidance on improving Latvia's indicator system and selecting EDG indicators

An indicator system provides for effective measurement of progress in meeting policy objectives, thereby drawing attention to where and when remedial interventions may be required. This chapter provides guidance on improving Latvia's indicator system and selecting indicators for Latvia's Education Development Guidelines 2021-2027 (EDG). It presents elements of an effective process for selecting indicators, an assessment of Latvia's indicator system, and a list of potential indicators for the EDG. It also identifies five additional actions Latvia should take to improve its indicator system: 1) link databases for indicators; 2) improve quality indicator data; 3) benchmark indicators; 4) raise capacity to make use of indicators; and 5) improve dissemination of indicator data.

1. Introduction

A robust indicator system is one that provides accurate, reliable and timely information on all aspects of the education and skills system. Such a system is necessary for monitoring and evaluating whether reforms are having the desired impact (OECD, 2014[1]). The information gathered through an indicator system will allow Latvia to monitor and adapt the implementation of the policy actions in the EDG and therefore support progress towards achieving EDG policy objectives (see Chapter 2). The benefits of a robust indicator system include informing decisions made by all relevant actors, enabling smart investments and effective resource allocation, and promoting the accountability of all stakeholder groups to improve learning outcomes for all.

This chapter provides guidance on improving Latvia's indicator system and selecting relevant EDG indicators. It is organised as follows:

- Section 2 describes the elements of an effective process for selecting indicators for Latvia's EDG. It also features examples of key indicators found in effective indictor systems.
- Section 3 assesses Latvia's indicator system, provides an overview of the main indicator data sources and highlights important indicators that need to be developed.
- Section 4 presents a list of potential indicators for the EDG and an overview of further considerations for each indicator.
- Section 5 makes suggestions for how Latvia could strengthen its indicator system.
- Section 6 provides a summary of the chapter and its recommendations.

2. Elements of an effective process for selecting indicators

An indicator system for an education and skills system allows a country to assess whether it is achieving its objectives through information on the human and financial resources invested in skills, how the skills system operates and evolves, and the returns on investments in skills (OECD, 2018[2]). Such an indicator system is used to monitor, evaluate and guide the implementation of education and skills policies and strategies, such as Latvia's EDG.

This section identifies the key steps for selecting indicators:

1. Consider a comprehensive set of indicators.
2. Choose indicators that are based on high-quality data.
3. Choose indicators based on their fitness for use.
4. Prioritise and document indicators.

Consider a comprehensive set of indicators

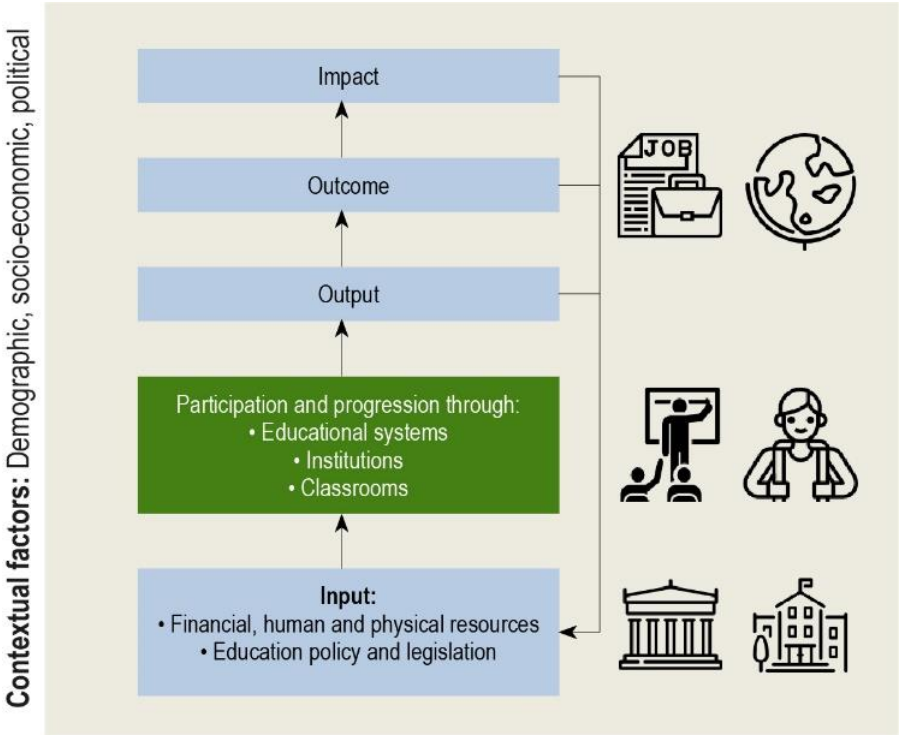
Having a comprehensive set of indicators is important, as different indicators measure different parts of the education and skills system. A diverse set of indicators allows policy makers to obtain a comprehensive picture of skills outcomes. Based on the information from the indicators, policy makers can assess the adequacy, effectiveness and efficiency of resources invested in education; the quality and equity of education opportunities and outcomes; and the effectiveness of education policy measures (OECD, 2018[2]).

Indicators are critical for strategies such as Latvia's EDG as they allow decision makers to steer education and skills policies based on the information provided by the indicator system. As shown in Figure 3.1, indicators can be categorised largely into four groups with the following framework:

1. Indicators of the inputs into the education and skills system.
2. Indicators of participation and progression within educational institutions.
3. Indicators of the outputs, outcomes and impacts of the education and skills system.
4. Indicators of the contextual factors that influence education and skills policy.

While descriptions, considerations and limitations of potential indicators are presented in this section, Section 4 discusses in greater detail which indicators could be relevant in what way for Latvia's EDG.

Figure 3.1. Overview of indicators in an education and skills system



Source: OECD, (2019[3]), *Education at a Glance 2019: OECD Indicators*, https://doi.org/10.1787/f8d7880d-en.

Indicators of the inputs into the education and skills system

Input indicators provide information on the policy levers that shape participation, progression, outputs and outcomes at each education level. Policy levers here refer to the resources invested in education, including financial, human (such as teachers and other school staff) or physical (such as buildings and infrastructure). Policy levers also include policy choices regarding the instructional setting of classrooms, pedagogical content and delivery of the curriculum. Indicators analyse the organisation of schools and education systems, including governance, autonomy and specific policies, to regulate participation of students in certain programmes. Table 3.1 provides an overview of key indicators with their descriptions, considerations and limitations. These represent the OECD's list of the key indicators most commonly used in education and skills systems across the OECD. In selecting indicators for its EDG, Latvia should ensure that it consults the considerations for and limitations of each one.

Table 3.1. Overview of a selection of indicators of inputs into the education and skills system

Indicator	Description	Considerations and limitations
Expenditure on educational institutions per student	Adequacy or efficiency of education funding relative to key unit: student.	• Not all spending on instructional goods and services (e.g. textbooks and private tutoring) occurs within educational institutions. • At the tertiary level, students' living expenses and foregone earnings can also account for a significant proportion of the costs of education. • At the tertiary level, OECD countries may rank relatively high on this measure if a large proportion of their wealth is spent on educating a relatively small number of students.
Expenditure on educational institutions as a percentage of GDP	Wealth proportion (GDP) nations invest in educational institutions and the value placed on education in relation to ability to pay.	• Not all spending on instructional goods and services (e.g. textbooks and private tutoring) occurs within educational institutions. Excludes all expenditure outside educational institutions, even if publicly subsidised. • Expenditure on programmes not distributed by International Standard Classification of Education (ISCED) level are excluded from the calculation of total education expenditure.
Relative proportions of public, private and international expenditure on educational institutions	Cost sharing between participants in the education system and society as a whole.	• Tuition fees that the families of students enrolled in public educational institutions are paying to regional or local government rather than directly to educational institutions are excluded to avoid double counting as they are included under household payments to institutions. • Expenditure on servicing debts (i.e. payments of interest on the amount borrowed for educational purposes and repayments of the principal) is excluded from the calculation.
School headteacher and teacher salaries	Measures school headteacher and teacher salaries in public pre-primary, primary, lower and upper secondary institutions.	• Teachers' salaries per hour of net contact (teaching) time after 15 years of experience provides a measure of statutory salary relative to the number of hours per year that a full-time teacher teaches a group or class of students according to the formal policy in that country. • This does not adjust for the amount of time that teachers spend in various non-teaching activities. As the breakdown of teaching and non-teaching time varies considerably across OECD countries, statutory salaries per hour of net teaching time must be interpreted with caution.
Teacher gender distribution	Number of teachers in public and private institutions based on head counts, by gender and level of education.	• Further studies are needed to examine the impact of gender imbalances in the teaching profession on student achievement, student motivation and teacher retention, especially in countries where few men are attracted to the profession.
Average class size, student-teacher ratio	Student-teacher ratio provides information on the level of teaching resources available in a country, whereas class size measures the average number of students grouped together in classrooms.	• A lower student-teacher ratio does not necessarily mean that classes are smaller because of complicating factors such as cross-country differences in the length of the school year, the annual number of hours a student attends class, the annual time teachers are expected to spend teaching, the grouping of students within classes and the practice of team teaching. • A low ratio of students to teaching staff does not necessarily mean better access to teaching and educational support, and may simply be a symptom of ineffective use of human resources. • However, a very high ratio of students to teaching staff certainly suggests insufficient professional support for learning, particularly for students from disadvantaged backgrounds.
Instruction time	Minimum number of hours of instruction a school must offer.	• Data only cover compulsory education from the first year of primary education until the end of full-time compulsory education for all students. In grades where vocational and general programmes co-exist, it only refers to the general programmes. • It does not show the actual number of hours of instruction that students receive and does not cover learning outside of the formal classroom setting.

Source: OECD (2018[2]), *OECD Handbook for Internationally Comparative Education Statistics 2018: Concepts, Standards, Definitions and Classifications*, https://dx.doi.org/10.1787/9789264304444-en.

Indicators of participation and progression within educational institutions

Indicators of participation and progression within educational institutions assess the likelihood of students accessing, enrolling in and completing different levels of education, as well as the various pathways followed between types of programme and across education levels. Table 3.2 provides an overview of a selection of key indicators with their descriptions, considerations and limitations. These represent the OECD's list of the key indicators most commonly used in education and skills systems across the OECD.

In choosing indicators for its EDG, Latvia should ensure that it consults the considerations for and limitations of each one.

Table 3.2. Overview of a selection of indicators of participation and progression within educational institutions

Indicator	Description	Considerations and limitations
Enrolment rates from ECEC to tertiary education	Educational opportunities across levels.	• Enrolment data and population data must refer to the same time period, as differences in the reference dates between data can lead to errors in calculation and rates exceeding 100%. Student age used in the enrolment data usually refer to their age on the 1 January of the reference year.
Participation in adult learning	Participation in various learning activities	• The large variation in adult learning activities and participation rates across OECD countries at similar levels of economic development suggests significant differences in learning cultures, learning opportunities at work and adult education structures.
Expected years in education	Number of years an individual may expect to be in education, which covers enrolment in all forms of formal education and includes non-continuous and incomplete participation	• Expected years in education is calculated for the population aged 5 to 39 and estimates the number of years in which an individual is expected to be enrolled in an educational programme (either part time or full time) during those ages. This interpretation assumes that that the current patterns of enrolment will remain unchanged over time. • When comparing data on expected years of education across countries it must be kept in mind that neither the length of the school year nor the quality of education is necessarily the same in each country. In addition, unless specified, this indicator makes no distinction between full- and part-time study, and these are given equal weight in the calculation.
Share of repeaters and share of over-age students	Number of repeaters is closely linked to the number of over-age students, as the main reason for having a large share of over-age students is the accumulation of students who have repeated at least one year in one grade or another.	• The calculation of the share of over-age students is based on enrolment data by age and is indicative of the share of students who are likely to enter the next grade or International Standard Classification of Education level after a delay. • However, for some countries, any misalignment between the reference ages of the data on enrolment by age and the intended ages recorded in the ISCED mappings may result in an under- or over-estimation of the share of over-age students. For example, if students are allowed to enrol in a grade if they are 12 years old on 30 June 2015, but their enrolment is measured on 1 January 2016, it is likely that half of the students will have turned 13 by then and the share of over-age students is likely to be overestimated.
International students in tertiary education	International enrolment as a proportion of the total enrolment in the destination (host) country at tertiary level.	• There is a distinction between “international students” and “foreign students”. “International student” refers to students crossing borders for the specific purpose of studying, while “foreign students” are non-citizens enrolled at an institution of education outside their home country, but who have not necessarily crossed a border to study. • To distinguish between the two groups there needs to be measurements of student mobility. However, these depend to a large extent on country specific immigration legislation and constraints on data availability.
Graduation rate	Estimated percentage of an age cohort who are expected to graduate over their lifetime.	• It is not a measure of the proportion of graduates in a country at a specific time but a measure of the probability of someone in the country graduating in the long term, based on current graduation patterns. • Therefore, graduation rates are sensitive to any changes in education systems, such as the introduction of new programmes or variations in a programme’s duration, like those seen in many EU countries as a result of implementation of the Bologna Higher Education Reform Process. If the pattern of graduation is seen to be changing due to temporary education system changes, interpretation of the results can be difficult.
Completion rate	Percentage of students who graduate from a certain educational programme a given number of years after they entered, as a share of those who entered.	• Depending on data availability for the level of education of interest, the completion rate can be calculated using two methods: 1) the true cohort method follows individual students from entry into a programme until a specified number of years later. Completion is then calculated as the share of entrants who have graduated in that time frame; and 2) the cross cohort method calculates completion by dividing the number of graduates in a year by the number of new entrants to that programme a certain number of years before, when the number of years corresponds to the theoretical duration of the programme. • In countries where a significant share of students takes longer to graduate, cross cohort calculations will overestimate completion rates when compared to true cohort calculations, which have a more limited time frame.

Indicator	Description	Considerations and limitations
Out-of-school children	Number of children of official school age who are not enrolled in school, expressed as a percentage of the population of official school age children.	• The administrative data used in the calculation of the rate of out-of-school children are based on enrolment at a specific date, which can bias the results by either counting enrolled children who never attend school or by omitting those who enrol after the reference date for reporting enrolment data. Furthermore, children who drop out of school after the reference date are not counted as out of school. • Discrepancies between enrolment and population data from different sources can also result in over or underestimates of the rate. • The international comparability of this indicator can be affected by the use of different concepts of enrolment and out-of-school children across countries.

Note: ECEC stands for "early childhood education and care".
Source: OECD (2018[2]), *OECD Handbook for Internationally Comparative Education Statistics 2018: Concepts, Standards, Definitions and Classifications*, https://dx.doi.org/10.1787/9789264304444-en.

Indicators of the outputs, outcomes and impacts of the skills system

Indicators of the outputs, outcomes and impacts of the skills system analyse the characteristics of individuals exiting the system, such as their educational attainment. Outcome indicators examine the direct effect of the output of education systems, such as the employment and earning benefits of pursuing higher education. Impact indicators analyse the long-term indirect effect of the outcomes, such as knowledge and skills acquired, contributions to economic growth and societal well-being, and social cohesion and equity. Table 3.3 provides an overview of a selection of key indicators with their descriptions, considerations and limitations. These represent the OECD's list of the key indicators most commonly used in education and skills systems across the OECD. In choosing indicators for its EDG, Latvia should ensure that it consults the considerations for and limitations of each one.

Table 3.3. Overview of potential indicators of outputs, outcomes and impacts of the education and skills system

Indicator	Description	Considerations and limitations
Educational attainment of the population	Distribution of the population or subsets by the highest level of education attained.	• People with an unknown level of educational attainment are excluded from the calculation of the indicator. • Trends in educational attainment of the population are important for assessing expansion of the education system, but are difficult to measure. Changes in the International Standard Classification of Education (ISCED) classification in 1997 and 2011 have created breaks in the series.
Labour force participation	Employment rate for a particular age group, gender and level of educational attainment is equal to the percentage of people of that same age group, gender and level of educational attainment who are employed.	• Employment rates by level of education do not show a causal relationship between education and employment outcomes, but do help to estimate the likelihood of being employed or unemployed. • Employment according to International Labour Organisation refers to full-time or part-time employment based on a threshold definition of 30 usual hours on the worker's main job. Full-time workers are those who usually work 30 hours or more on their main job. Some countries may refer to all jobs instead of a worker's main job, or part time may refer to less than 35 hours per week instead of 30 hours.
Relative earnings advantage from education	Percentage of the mean annual earnings of an individual within a certain age group, gender and educational attainment relative to a baseline.	• While earnings data should be based on annual, full-year earnings, before tax and excluding earnings from self-employment, this is not the case for all countries, and therefore results should be interpreted with caution. • In countries reporting annual earnings, differences in the incidence of seasonal work among individuals with different levels of educational attainment will have a different effect on relative earnings than in countries reporting weekly or monthly earnings.

Indicator	Description	Considerations and limitations
Percentage of adults reporting that they are in good health	Percentage of adults reporting that they are in good health for a particular educational attainment level and/or numeracy or literacy proficiency level out of the total number of 25-64 year-olds with the same educational attainment and/or proficiency level.	• Cross-country variations in self-reported social outcomes and their associations with educational attainment need to be interpreted with care. This is because subjective measures may be affected by social and cultural factors, which can vary both within and across countries. • When interpreting the results and the differences between groups, special attention should be paid to the standard errors and the confidence interval. The statistical estimates are based on samples of adults, rather than the whole target population.

Source: OECD (2018[2]), *OECD Handbook for Internationally Comparative Education Statistics 2018: Concepts, Standards, Definitions and Classifications*, https://dx.doi.org/10.1787/9789264304444-en.

Indicators of the contextual factors that influence education policy

Policy levers typically have antecedents, which are external factors that define or constrain policy but that are not directly connected to the policy topic at hand. Demographic, socio-economic and political factors are all important characteristics to consider when interpreting indicators. The recent financial crisis, for example, had a significant impact on the level of public funds available for education. COVID-19 is likely to have a similar impact, given its secondary effects on economies.

The characteristics of the students themselves, such as their gender, age, socio-economic status or cultural background, are important contextual factors that influence the outcomes of education policy.

Analysis of the contextual factors and the interplay between them and the indicators on input, participation, progression, outputs, outcomes and impacts contribute to understanding a variety of policy perspectives. These include the level of quality and equity of skills outcomes and education opportunities; the adequacy, effectiveness and efficiency of resources invested in education; and the relevance of skills policy measures to improve skills outcomes. Table 3.4 provides an overview of a selection of key indicators with their descriptions, considerations and limitations. These represent the OECD's list of the key indicators most commonly used in education and skills systems across the OECD. In choosing indicators for its EDG, Latvia should ensure that it consults the considerations for and the limitations of each one.

Table 3.4. Overview of potential indicators of the contextual factors that influence education and skills policy

Indicator	Description	Considerations and limitations
Age	Age can refer to either theoretical or typical age.	• Theoretical ages refer to the ages as established by law and regulation for the entry and ending of a cycle of education. • Typical ages refer to the ages that normally correspond to the age at entry and ending of a cycle of education.
Gender parity index (GPI)	Ratio of the indicator value for female to the value for male.	• Indicator measures progress towards gender parity in education participation and/or learning opportunities available for girls in relation to those available for boys. • This index does not show whether improvement or regression is due to the performance of one of the gender groups (boys or girls). Interpretation of the GPI requires trend analysis of the underlying indicators.
Location parity index (LPI)	Ratio of rural to urban values of a given indicator.	• An LPI equal to 1 indicates parity between rural and urban. In general, a value less than 1 indicates disparity in favour of those living in urban areas and a value greater than 1 indicates disparity in favour of those living in rural areas. • However, the interpretation is different for indicators that should ideally approach 0% (e.g. repetition rate, drop-out rate, out-of-school rate). In these cases, an LPI of less than 1 indicates disparity in favour of those living in rural areas and a value greater than 1 indicates disparity in favour of those living in urban areas.

Indicator	Description	Considerations and limitations
Wealth parity index (WPI)	Poorest quintile value and richest quintile value of the given indicator.	• A WPI equal to 1 indicates parity between the poorest and richest household quintiles. In general, a value less than 1 indicates disparity in favour of the richest households and a value greater than 1 indicates disparity in favour of the poorest households. • However, the interpretation is different for indicators that should ideally approach 0% (e.g. repetition rate, drop-out rate, out-of-school rate). In these cases, a WPI of less than 1 indicates disparity in favour of the poorest households and a value greater than 1 indicates disparity in favour of the richest households.
Language spoken at home	Percentage of students whose first or home language is the language of instruction.	• A high value indicates a large number of primary pupils are being taught in a language in which they are proficient, thus making it easier for them to adapt to the school learning environment.
Disability	Percentage of students who have ever attended school.	• Various surveys use different types of question to identify students with a disability. The definitions can be inconsistent and ambiguous, which makes international comparison difficult.

Source: OECD (2018[2]), *OECD Handbook for Internationally Comparative Education Statistics 2018: Concepts, Standards, Definitions and Classifications*, https://dx.doi.org/10.1787/9789264304444-en; UIS (2020[4]), *Education and Disability: Analysis of Data from 49 Countries*, http://uis.unesco.org/sites/default/files/documents/ip49-education-disability-2018-en.pdf.

Choose indicators that are based on high-quality data

Choosing the right indicators to be included in a strategic document such as the EDG is critical to the success of a strategy. In addition to ensuring the relevance of the indicators to the selected policy objectives and policy actions, it is important to ensure that they are quality indicators. The quality of an indicator is determined by the data on which they are based and their characteristics. To facilitate the prioritisation process for selecting indicators, a quality framework can be used.

Applying a quality framework for indicator data and indicators

The OECD has developed a framework and guidelines for OECD statistical activities that provides useful guidance on the main dimensions of quality indicator data. Within this framework, quality itself is defined as "fitness for use" in terms of user needs. Table 3.5 lists the OECD's seven dimensions of indicator data quality, with the addition of cost-efficiency. Although cost-efficiency itself is not a dimension of indicator data quality, it should be considered throughout the assessment of any indicator data source and indicator development.

Table 3.5. OECD quality guidelines for indicator data

Relevance	The relevance of data products is a qualitative assessment of the value contributed by these data. Do the data address the purposes for which they were designed? Are processes in place to consult users, monitor the relevance and utility of existing statistics in meeting their needs, and to consider emerging needs and priorities?
Accuracy	The accuracy of data products is the degree to which the data correctly estimate or describe the quantities or characteristics they are designed to measure. For example, are source data, intermediate results and statistical outputs regularly assessed and validated?
Credibility	The credibility of data products refers to the confidence that users place in those products based simply on their image of the data producer, i.e. the brand image. For example, is there external pressure to include data of quality that may not match standards?
Timeliness	The timeliness of data products reflects the length of time between their availability and the event or phenomenon they describe, but considered in the context of the time period that permits the information to be of value and still acted upon. For example, are users informed in advance of release dates and can the data still be acted upon?
Accessibility	The accessibility of data products reflects how readily the data can be located and accessed from relevant data holdings. For example, are data available through a number of different dissemination channels?
Interpretability	The interpretability of data products reflects the ease with which the user may understand and properly use and analyse the data. This includes the presence/relevance of metadata. For example, are similar statistics from different areas fully explained to avoid confusing users?

Coherence	The coherence of data products reflects the degree to which they are logically connected and mutually consistent. For example, are statistics from different sources and periodicities comparable and reconcilable?
Cost-efficiency	The cost-efficiency with which the product is produced is a measure of the costs and provider burden relative to the output. For example, can statistical activity be produced more efficiently with the same quality?

Source: Fletcher (2012[5]), *Statistics Directorate: Quality Framework and Guidelines for OECD Statistical Activities*, www.oecd.org/sdd/qualityframeworkforoecdstatisticalactivities.htm.

The quality dimensions listed in Table 3.5 are relevant for assessing indicator data sources. However, some additional dimensions must be taken into account when specifically assessing the quality of indicators. One of the common frameworks used to assess the quality of indicators is the S.M.A.R.T framework, which stands for **S**pecific, **M**easurable, **A**ttributable/Actionable, **R**elevant and **T**imely

The last two characteristics (relevant and timely) are also listed in Table 3.5 and are common to assessing both the quality of the raw data and the indicators. The other three characteristics (specific, measurable and attributable/actionable) are particularly important for the development of indicators, and are described in more detail below:

- **Specific**: All of the terms which comprise an indicator must be carefully defined. Even seemingly clear concepts such as “schools” and “students” can be interpreted differently and have an impact on the data collection. For example, an indicator such as “share of higher education students enrolled in a mobility or exchange programme” needs to specify what is meant by enrolled (formal programmes only? Is there a minimum programme duration?). It is also important to clarify what is meant by “mobility or exchange programmes” (degree mobility or credit mobility?). A good starting point for defining concepts could be to examine internationally agreed definitions and adapt them as necessary (see (OECD, 2017[6])). Moreover, the indicator should be specific in terms of the most appropriate level of disaggregation.
- **Measurable**: The indicator should have the capacity to be counted, measured, analysed or tested.
- **Attributable/actionable**: The indicator should allow targeted stakeholder groups to act on their results. This means that the indicator must be designed/selected and it should be kept in mind how the relevant stakeholders might be able to act on it.

For the EDG, Latvia should ensure that all selected indicators are based on data that fulfil the quality criteria outlined above and that are also specific, measurable and attributable/actionable. Having such indicators will ensure that progress in implementing the policy actions and achieving the policy objectives can be sufficiently measured, monitored and evaluated.

Consider indicators based on their fitness for use

Besides considering the quality aspect of an indicator, it is also necessary to consider other aspects of indicators that have a bearing on their fitness for use, including the possibility of disaggregation (e.g. by different subgroups), international comparability, level of analysis (e.g. student, school, municipality, national), whether they are a single or composite indicator, and whether they are based on quantitative or qualitative data.

Availability of disaggregation

Indicator disaggregation can provide important information on different subpopulations. The most appropriate disaggregation depends on the context, but some of the most common subpopulations that should be explored are gender, location (urban vs. rural), immigrant background and socio-economic background. Indicator disaggregation is the main channel through which policies and strategies can evaluate the issue of equity.

Disaggregation can also help hold stakeholders to greater account. If a given outcome is being measured at the school level, school principals may feel more engaged in the process and the community may find it easier to hold them accountable for the results.

The ability to disaggregate an indicator is closely linked to the data source. Administrative data tend to contain fewer disaggregation opportunities than sample surveys or assessments. Disaggregation of sample surveys, however, may run into issues of small sample size, representativeness of the subpopulation and reliability. Surveys and assessments may also be costly.

International comparability

Although the international comparability of indicators is not essential, and is certainly not necessary or feasible for all indicators, it may be interesting to consider comparability for at least a subset of indicators. Being able to compare education systems across borders can bring new perspectives and aid in the identification of good practices. The added benefit of an international perspective may be worth minor adjustments to some indicators to facilitate comparability.

Not every national indicator lends itself to international comparability, which often implies a loss of precision when compared to national indicators. Moreover, not every topic has well defined internationally accepted definitions of concepts. For example, it is very challenging to collect internationally comparable data on special needs education because of the different national definitions of “disability”. However, this important area must be monitored nationally.

In addition to international comparability, it may be relevant to assess indicators’ coherence with already established and approved indicators at the international level, such as the Sustainable Development Goals (SDG) and EU-level indicators and targets.

Level of analysis

The level of aggregation of indicators must take into account both data availability and the policy relevance of measuring the indicator at that level. There are no particular advantages or disadvantages to a specific level of analysis, but it is important to ensure that the indicator is being measured and reported at the appropriate level. Many features of education systems have varying impacts at different levels of the system.

For example, at the level of students within a classroom, the relationship between student achievement and class size may be negative if students in small classes benefit from improved interactions with teachers. At the class or school level, however, weaker or disadvantaged students are often intentionally grouped and placed in smaller classes so that they receive more individual attention. At the school level, therefore, the observed relationship between class size and student achievement is often positive, suggesting that students in larger classes perform better than students in smaller classes. At higher levels of aggregation, the relationship between student achievement and class size is further confounded by the socio-economic intake of individual schools, or by factors relating to the learning culture in different regions.

Trends

Comparisons across time are at the core of education monitoring exercises. However, ensuring education statistics are comparable over time is often a challenge. Changes in the coverage of the data collection or in the methodology adopted might compromise the interpretability of results (OECD, 2017[6]).

The following are some of the important steps to ensure that trend data are comparable and reliable:

- Each data collection exercise should be accompanied by detailed metadata that describes the concepts, definitions and methods used. This will ensure that all future data collection exercises will follow the same methods and will allow for the detection of any changes.

- Trend data should be revised and re-collected whenever there has been a change in coverage or methodology. It is advisable that trend data be revised yearly to ensure that any adjustments to previous data have been considered in the most current data collection.
- If a change in methodology or coverage is detected and there is no possibility of recollecting/recalculating past data there must be clear documentation of breaks in time series to avoid comparisons between the two periods (before and after the change).

Composite indicators

A composite indicator is formed when individual indicators are compiled into a single index, based on an underlying model of the multi-dimensional concept being measured. A composite indicator is meant to measure multi-dimensional concepts that cannot be captured by a single indicator. Ideally, a composite indicator should be based on a theoretical framework/definition that allows individual indicators/variables to be selected, combined and weighted in a manner that reflects the dimensions or structure of the phenomena being measured (OECD, 2008[7]).

The main advantage of composite indicators is that they are able to summarise complex or multi-dimensional issues and provide an easier way to communicate with the general audience. Their communication power makes them particularly useful for advocacy purposes, giving policy makers one figure/target on which to focus.

However, there are some shortcomings with composite indicators, for example they may invite stakeholders to draw simplistic conclusions, and they provide less “actionable” information as a change in a composite indicator could have been caused by a change in any of the sub-indicators or even a combination of changes across indicators. Composite indicators may even disguise failings and/or successes in some parts of the system. In more complex and overarching composite indicators there is also a risk that they ignore dimensions of performance that are not measurable.

Although composite indicators may be useful for advocacy purposes, for the reasons above they have a limited use in monitoring a country’s education strategy or priorities.

Quantitative and qualitative indicators

Although most indicators used for monitoring purposes will be quantitative, qualitative data can provide useful information to help policy makers better understand and contextualise findings.

This is especially true when the goal is to monitor the existence or application of a policy. For example, one of the SDG 4 indicators tries to measure the “extent to which explicit formula-based policies reallocate education resources to disadvantaged populations”. Given the complexity of this topic there is an important question regarding how it can best be measured, i.e. using a quantitative index (see above on composite indicators) or a qualitative rating (from “no policy” to “fully developed mechanism”).

Some indicators may also be best served by a combination of quantitative and qualitative data. In the school-funding example presented above, it may be useful to assess both the existence of such policies and their main characteristics (e.g. what is the programme’s reach? How is the targeting done? Does the policy involve direct funding or resource provision?).

Another qualitative indicator in the SDG agenda measures the “extent to which (i) global citizenship education and (ii) education for sustainable development, including gender equality and human rights, are mainstreamed at all levels in: (a) national education policies (b) curricula (c) teacher education and (d) student assessments”. The current aim is for countries to monitor this indicator through self-reporting to the UNESCO’s 1974 Recommendation concerning Education for International Understanding, Co-operation and Peace Education relating to Human Rights and Fundamental Freedoms, which occurs

every four years. However, there has been a push to require the inclusion of evidence (laws, regulations) to increase the reliability of this qualitative data collection.

Prioritise and document indicators

Once a potential list of indicators is selected based on the quality of the data and their fitness for use, indicators should be finalised based on their ability to measure progress in implementing the policy actions and achieving the policy objectives. For this purpose it can be helpful to use a logical framework (see Chapter 2) that identifies the link between all policy objectives and policy actions and can be further extended to include the relevant indicators. In this way it is possible to clearly see whether all policy objectives and policy actions are covered by indicators. Each policy objective should have at least one to three indicator(s), which are typically output or outcome indicators. Each policy action should have at least one output indicator (Vági and Rimkute, 2018[8]). Impact-level indicators may also be used to regularly measure the wider impact of the EDG on the skills system and broader context they aim to affect. Impact indicators are best measured through impact assessment during the evaluation.

After selecting relevant indicators there may still be indicator gaps for certain policy actions. Some potential indicator gaps for each level of education are presented in Section 3. Although existing indicators could suffice for most policy actions, there may be cases where no existing relevant indicator can be used. In such cases, sufficient budget should be set aside to cover the cost of designing a methodology and/or collecting the necessary data to create such indicators.

Once the final list of indicators has been confirmed, indicators should be well documented. This can be done by developing indicator profiles, also referred to as an indicator passport or indicator technical notes, which provide detailed information about each indicator to ensure that they are robust and reliable (Vági and Rimkute, 2018[8]). The purpose is to clarify the definition, interpretation, scope and methodology for calculating each indicator. This fosters agreement among all involved actors about what is measured, how it is measured, and by whom. In general, the following information can be useful to include in indicator profiles:

- Title of indicator.
- Link to policy objectives and policy actions.
- Brief definition of indicator.
- Data source, collection method and collection frequency.
- Name of institution(s) in charge of collecting the required data.
- Methodology of calculation of indicator values (as a formula where necessary).
- Indicator baseline, mid-term and final target values.
- Anticipated difficulty of data collection and possible solutions.
- Performance trend information for previous years.

Once the indicator profiles have been created, this information should be made publicly available to help increase the credibility and transparency of the EDG. The OECD/EU SIGMA initiative has produced a template of what this could look like in practice.[1] The indicator profiles support the EDG by helping relevant actors and the general public to understand the indicators and the performance they are measuring. For monitoring and evaluation purposes, the indicator profiles clarify performance information and allow for an assessment of performance against specific targets.

As Latvia prioritises indicators for its EDG it is important to ensure that there are not too many indicators. If one indicator is sufficient to measure a particular policy action, then there is no need to have a second indicator for the same purpose. Indicators are costly to measure in terms of time and resources, and having too many can make it more difficult to report on them clearly. At the same time, it is important to have a sufficient number of indicators to measure progress towards achieving the EDG's policy objectives.

3. Assessment of Latvia's indicator system

Based on the lessons learned from Latvia's previous EDG 2014-2020 and other international best practices, Latvia should consider improving and adapting its indicator system for the new EDG 2021-2027.

This section provides an overview of Latvia's available indicator data sources, which are already available for Latvia to use for its EDG. It also assesses Latvia's current indicator system and highlights specific missing indicators that Latvia should consider for its EDG. Where available, relevant country examples have also been included.

Available indicator data sources

The main data sources for indicators in Latvia are the State Education Information System (SEIS), the State Education Quality Service (SEQS), the State Examinations System (SES), international surveys, and a graduate tracking system. The responsible authority and coverage across levels of education are presented in Table 3.6.

Table 3.6. Overview of Latvia indicator data sources

Database/system	Responsible authority	Coverage: Formal education (ISCED 1-8)	Coverage: Adult education and training (formal and non-formal)
Databases			
State Education Information System (SEIS) database (www.viis.lv)	Ministry of Education and Science	Register of students and graduates with detailed information on education acquired.	Register of students and graduates of formal education; register of individuals who acquired qualification through recognition of non-formal education.
Unemployment Accounting and Registered Vacancy Information System (BURVIS)	Ministry of Welfare (Employment State Agency)	No.	Register of unemployed; contains information on courses the individual has attended.
Information system for the project SO 8.4.1 "Improvement of professional competence of employed persons"	Ministry of Education and Science (State Education Development Agency, SEDA)	No.	Database contains information on all participants and their attended courses.
Surveys			
Labour Force Survey, quarterly	Central Statistical Bureau (CSB) Latvia	Yes.	Yes.
Adult Education Survey, 5-yearly (2016)	CSB Latvia	Yes.	Yes.
Continuing Vocational Training Survey, 5-yearly (2015)	CSB Latvia	No.	Yes.
Programme for the International Assessment of Adult Competencies (OECD PIAAC) (from 2021)	Ministry of Education and Science in co-operation with University of Latvia	No.	Yes.
Graduate tracking			
Register of Students and Graduates of Higher Education	CSB Latvia, the State Revenue Service and the State Employment Agency	Yes.	Yes.

The State Education Information System (SEIS), established in 2009, provides information on educational institutions, licensed and accredited educational programmes, students, teachers, education documents, and national statistics. The SEIS is composed of the Educational Institution Register, the Teacher Register, the Educational Programmes Register, the State Unified Database of Children of

Mandatory Education Age, and the Academic Staff Register. The system provides users with comprehensive information about students, including children in early childhood education and care (ECEC), teaching staff, and the performance rating of teachers (OECD, 2016[9]). In addition to administrative data, the database system contains information from organisational self-assessment reports. Data on the accreditation and licensing of educational institutions are also available. As part of the educational quality monitoring and the SEIS improvement project, work is underway to improve the usability of this data.

The **State Education Quality Service (SEQS)** collects information on compulsory school age children who are out of school. The Office of Citizenship and Migration Affairs reports to the SEQS four times a year on data relating to children of compulsory school age (i.e. 5 to 18 years of age). The SEQS monitors school enrolment by comparing this data with the information in SEIS, which is provided by school principals. It is a municipal responsibility in Latvia to ensure that all school age children are attending school and, with the participation of relevant municipal services, to identify why compulsory age children are out of school. Based on this data, SEQS provides an annual review on the number of out-of-school children and the underlying reasons.

The **State Examinations System (SES)** is operated by the National Centre for Education (NCE) under the Ministry of Education and Science. The SES contains information about the state exams in general education programmes, including information about centralised exams in foreign languages which are substituted with international foreign language tests, such as the Test of English as a Foreign Language. The SES also includes information about state exams in professional education programmes. It contains data on individuals who need to take state exams, educational institutions where the state exams take place, teachers who supervise and evaluate the exams, the results of state exams, and certificates issued for general secondary and basic education. Data in the SES system are entered by educational institutions and the NCE. Data on individuals who need to take the state exams, and teachers engaged in this process, are fed into the SES from Latvia's SEIS. Once the state exams are evaluated, the results are transferred to the SEIS and the state services portal Latvia.lv, through which individuals can apply for admission to tertiary education institutions in Latvia.

International surveys, such as the Labour Force Survey (LFS), provide annual information on adult learning. The LFS has several benefits, including a large sample size and regular implementation across the calendar year. Questions on adult learning in this survey cover the area of education, the purpose of education, the duration of educational activities, and whether the educational activities took place as part of paid employment. Although the LFS provides rich information, the analysis performed with these data is limited. Other survey data, such as the Adult Education Survey and the Continuing Vocational Training Survey, provide more detailed information on adult learning. However, these data are available only every five years. Latvia is participating in the second cycle of the OECD's Survey of Adult Skills, a product of the Programme for the International Assessment of Adult Competencies (PIAAC), which measures the key cognitive and workplace skills of individuals (aged between 16 and 65 years) and is expected to publish results in 2023.

Latvia is introducing a **graduate tracking system** that covers vocational education and training (VET) and higher education. Under an European Structural Fund project called "Establishment of a system for monitoring education quality" there is ongoing work to develop a centralised VET graduate tracking system by the end of 2020. Until this system comes into effect, VET institutions will continue to collect graduate data via annual surveys conducted within three months of graduation. These surveys include information on whether graduates find employment in line with their specialisation, continue education within the same specialisation, continue education within a different specialisation, work in a sector different from the specialisation undertaken (without information about the specific sector), work abroad, etc. VET institutions submit these data to the Ministry of Education and Science.

The Register of Students and Graduates of Higher Education, introduced in 2017, tracks the employment of higher education degree holders aggregated by study programme and higher education institution. Information from the databases of the Central Statistical Bureau (CSB), the State Revenue Service and the State Employment Agency (SEA) feed into the register. It is planned that aggregated data from the Register of Students and Graduates will become publicly available with information on each cohort of graduates remaining available for a period of 10 years. When operational, the graduate registers for VET and higher education will contain individual-level data about graduates' employment status; field of work and salary; education institution, study programme and degree-related information; and demographic characteristics. The register will be administered by the SEIS, with individual education institutions importing data on their graduates. The SEIS will share these data with the CSB, which will process and prepare statistical reports.

Important indicators that are missing and need to be developed

The missing indicators are presented below based on whether they relate to: 1) inputs; 2) participation and progression; 3) outputs, outcomes and impacts; and 4) contextual factors. An assessment of the missing indicators in Latvia, implications for Latvia's EDG and relevant country examples are also presented. These specific missing indicators were emphasised during consultations that the OECD had in Latvia with government officials and stakeholders.

Missing indicators of inputs into the skills system

Funding is one of the most critical inputs into an education and skills system; however, the Latvian government currently lacks sufficiently detailed information on funding for lifelong learning by municipalities, employers and individuals to track this with relevant indicators. There is no centralised system for monitoring municipal expenditure on education and training beyond state transfers. This is partly due to municipalities' reservations, and at times reluctance, to share detailed educational expenditure at the school level. Firms, which typically record expenditure on in-house or external training for employees in their own accounting systems, are not required to report this particular expenditure to the State Revenue Service as a separate item. Many individuals report their education and training expenditure to the State Revenue Service in their annual tax returns to receive a personal income tax deduction; however, reported expenditure on education and training is currently conflated with other expenditure, such as health and childcare. Thus, the current accounting and tax reporting standards do not support the aggregation of skills expenditure data from municipalities, employers and individuals.

Detailed information on lifelong learning expenditure from various sources would enable Latvia to develop relevant indicators and identify how municipalities, employers and individuals are investing in lifelong learning, and whether there are any significant differences by socio-economic criteria. In cases where there is a significant difference, the national government may step in and target funding to the municipalities, employers or individuals at a socio-economic disadvantage.

If Latvia wants to develop detailed indicators on lifelong learning expenditure for the EDG it could consider introducing some changes that would make it easier for expenditure data to be collected from municipalities, employers and individuals. For municipalities, Latvia could consider legal changes that make it mandatory for municipalities to make available this expenditure information. A similar requirement was introduced in Chile, which made data collection on expenditure easier and promoted transparency (Box 3.1). Similarly, firms and individuals could be requested to report their education and training expenditure to the State Revenue Service as a separate item. This would give Latvia a comprehensive view of lifelong learning expenditure and, based on that, help it identify where there may be greater funding gaps and make strategic funding decisions accordingly.

Box 3.1. Country example for developing indicators on inputs into the skills system

Legal measure to make expenditure information public (Chile)

In Chile, the 2007 Law on Transparency and Access to Public Information was introduced that made it mandatory for all branches of government, from the national to the local level, across all ministries, and including companies that are at least 50% owned by the government, to publish and make available to the public up-to-date information on expenditure using public funds. This information includes salaries and subsidies that education institutions across the country are receiving. The law also created a Council on Transparency, which is an autonomous public entity with members appointed by the President of Chile with the approval of the Senate. The council is in charge of receiving and processing all requests for information, preparing statistics, and providing information and training to public officials about the application of the law.

Source: Library of Congress (2020[10]), *Chile: Law and Transparency*, www.loc.gov/law/foreign-news/article/chile-law-on-transparency/.

Missing indicators of participation and progression within educational institutions

While a wide range of indicators on participation and progression exist, there are some missing indicators that Latvia could address for its EDG.

First, in terms of participation in general education, one important concern in Latvia is how to measure out-of-school children and interpret the data collected on them. Currently, data on children of compulsory education age who are not registered in any educational institution are collected by the SEQS as an indicator and published every year. In the previous 2014-2020 EDG, the baseline value for out-of-school children was 5.4%, while the aspirational mid-term value for 2017 was 4.4% and the aspirational final value for 2020 was 3%. However, during the mid-term evaluations of the 2014-2020 EDG the actual values for this indicator were 6.6% for 2017 and 6% for 2018. Thus, instead of the out-of-school children rate going down, which was the aim of the previous EDG, it went up. The interpretation has been that the rate increased due to families emigrating with their children and the current data system not being able to differentiate between children who are out of school due to emigration or due to drop-out.

If Latvia wants to continue to monitor this indicator in the new EDG it will therefore be important to clearly identify why children are out of school. The SEQS updates information in the SEIS about children not registered at any educational institution in Latvia four times a year. Municipalities are required to report in the SEIS the reasons why children are not enrolled in school. According to these data, reasons were identified for 93% of out-of-school children, thereby enabling differentiation between children out of school due to drop-out or due to emigration. However, as there remains around 7% of out-of-school children for whom no data are available on their reasons for leaving school, the SEQS has asked municipalities to increase their efforts in identifying the reasons for children being out of school, which would help to improve the currently used indicator for out-of-school children in Latvia.

As a complementary measure, Latvia could consider creating an academic index instrument that combines data from academic factors impacting school success, such as absence, discipline, and assessment scores, to create a new indicator. Such an academic index could allow Latvia to identify at an early stage which students are at risk of dropping out. In Maryland, United States, such an academic index has been developed and used. The index puts students into high risk, medium risk and low risk groups based on their absence, discipline and assessment score patterns (see Box 3.2). Having such a tool would allow Latvia to introduce targeted support measures for at-risk students early on and prevent drop-out. The information on students at risk of dropping out could also be used in combination with the data on out-of-school children to cross-reference and check whether any of the out-of-school children had

previously been at risk of dropping out. In such cases, these out-of-school children are more likely to have left school due to drop out rather than for other reasons, such as emigration.

Second, in terms of progression, further improvements could be made to monitor students' progression throughout the education system. Student progression could be enhanced by using a number of different data sources. Besides basic student background information and student reports, Latvia could also consider using national assessments to track student progression. Currently, national assessments play an important role at the end of secondary education when students take the upper secondary school graduation exams. The assessment results are then used by the National Centre for Education to analyse the distribution of students and their results by gender, school location and type of school. However, beyond the assessment results at the end of compulsory education, the various assessment results during the entire education trajectory of a student could be useful as an indicator for monitoring a student's progression. This would provide complementary information that would allow for early detection of potential learning difficulties and targeted support for those in need (OECD, 2016[9]).

For its EDG, Latvia could consider using the student assessment data for an indicator to track students throughout their entire education trajectory, as has been done in Maryland, United States, where students' statewide assessment data has been used to track their progression. Maryland has also used a tool called SchoolNet to cultivate a data-driven culture and to encourage teachers and principals to use data to improve their practices. This tool facilitates teachers in creating, sharing and using formative assessments to track students' progress on a continuous basis. The results of these formative assessments are used by teachers to learn from one another, to improve their teaching, to identify students in need and to provide those students with targeted support (Box 3.2). Formative assessments, which are used for monitoring student learning on an ongoing basis and provide more immediate feedback, complement summative assessments such as national student assessments, which are typically at the end of the school year and are used for determining whether a student progresses to the next grade. For the EDG, Latvia could consider using both the national student assessment results (summative assessments) and encouraging regular assessments (formative assessments) for an indicator to track and support students' progression through the education system.

Box 3.2. Country examples of indicators on participation and progression within educational institutions

Tracking students at risk of dropping out in Maryland (United States)

Cecil County, Maryland**,** uses a sophisticated information system that combines demographic student data with instructional data to track student learning by various disaggregated demographics (e.g. gender, ethnicity). The system also employs an academic index that pulls data from academic factors that may impact success in school, such as absence, discipline and assessment scores. In addition to tracking general class performance, the index is a predictive tool that identifies students at risk of dropping out of school. It is calculated on the basis of cut-off points, with additional points being assigned the more a student is at risk of dropping out due to worrying trends, such as more frequent absences, disciplinary issues and low assessment scores. Students with 4 or more points fall into the "high risk of drop-out" group and are displayed in blue. They would be in most need of support. Students with 2-3 points are in the "medium risk of drop-out" group and are displayed in orange. This would require continuous monitoring, but may require less support than the high-risk group. Students with 0-1 point are low risk and are displayed in green. This system allows teachers to gain greater insight into the classroom, and supervisors and policy makers can benefit from aggregate data.

Tracking student progression with student assessment information in Maryland (United States)

In Kent Country, Maryland, the school system uses student assessment information to track student progression. Besides using the recurring high-stakes state level assessment results, the school system has also encouraged the use of formative assessments, which are more frequent mini-assessments and have the purpose of providing teachers with timely feedback to improve their teaching. This approach was implemented with software called SchoolNet, which is a product under the Pearson-owned PowerSchool student information system. SchoolNet combines student information with instructional data and allows teachers to create, store and share their own formative assessments. The school system also rolled out the professional learning community model, which promotes collaborative learning among teachers working together around assessment data to help them identify student needs and provide targeted support.

Source: Husein, A.H. (2017[11]), *Data for Learning: Building a Smart Education Data System*, https://openknowledge.worldbank.org/handle/10986/28336.

Missing indicators of the outputs, outcomes and impacts of the skills system

Availability of indicators on the outputs, outcomes and impacts of the education system varies across levels of education. For example, at the ECEC level, indicators on outcomes could be developed to measure the quality of ECEC. The previous EDG 2014-2020 had only one ECEC indicator, which was on participation and was defined as the "share of children between the age of four and the age for starting compulsory primary education participating in pre-school education". The baseline value for this indicator was 92.7% in 2011 and the target value was 95% by 2020. Based on the mid-term evaluations, the target was already achieved in 2016 (95.5%) and even exceeded in 2017 (96.3%) (Latvian Ministry of Education and Science, 2019[12]). This is encouraging progress. However, there remains uncertainty about the quality of ECEC provision, which is essential to ensure that the benefits of ECEC participation materialise (OECD, 2011[13]). Currently, there are no indicators that track the quality of ECEC. This is due to a lack of a national assessment instrument and external evaluations to monitor child development (OECD, 2019[14]).

For the new EDG 2021-2027, Latvia could consider developing an ECEC quality indicator based on a national assessment instrument. A national agency such as the SEQS could be given responsibility for regularly evaluating the quality of ECEC institutions. This would support efforts to maintain quality standards in ECEC institutions once they have received their license for operation (OECD, 2019[14]). An example of such an assessment instrument is the Early Development Index used in Ontario, Canada to measure the quality of ECEC (Box 3.3). Such an instrument enables the assessment of how well children develop relative to other children based on their physical health, well-being, social competence, emotional maturity, language and cognitive skills, communication skills, and general knowledge. Information like this could allow Latvia to identify which ECEC institutions would need additional support if a disproportionally large number of children in these institutions are not doing well relative to other children. Efforts like these would help Latvia to promote equity and give all children the opportunity for a quality education early on.

Box 3.3. Case example of developing indicators on the outputs, outcomes and impacts of the education system

Early Development Index in Ontario (Canada)

Ontario, Canada developed the Early Development Index (EDI) to measure ECEC quality in terms of outcome indicators in five areas: 1) physical health and well-being; 2) social competence; 3) emotional maturity; 4) language and cognitive skills (school-based); and 5) communication skills and general knowledge. The results of the EDI allow local authorities, communities or providers to assess how local children are developing relative to other children (OECD, 2016[9]). So far, the EDI has been piloted or applied at various levels of government and for research purposes in countries across the globe, such as the United States, the United Kingdom, Germany, Italy, Norway, Estonia, Australia and Taiwan.

Source: OECD (2019[14]), *OECD Skills Strategy Latvia: Assessment and Recommendations*, https://doi.org/10.1787/74fe3bf8-en.

Missing indicators on contextual factors

Information on contextual factors is available to some extent across levels of education in Latvia. For example, data on ECEC students from the CBS allows for the identification of the number of preschools and children enrolled in preschools in the nine largest cities and in five regions covering rural areas and smaller towns. Information is also provided on the age of preschool children and the language of instruction in preschools.

In general education, national assessments provide information on the average achievement and the degree of achievement variability by subject and gender of students, school location by level of urbanisation, and the type of school such as state secondary and mainstream. In higher education, data are available on the prior education of students, gender, full-time or part-time enrolment, place of residence, and age.

While this is useful contextual information, the challenge is that the contextual indicators used for each education level are not always used consistently. Consistent definitions and methodologies of measuring contextual information would make it possible to analyse how education access and outcomes may vary across the education trajectory of students.

Specific contextual information would allow Latvia to develop indicators to monitor equity issues for specific groups, including students with culturally diverse backgrounds and students with special needs.

For students with culturally diverse backgrounds, language spoken at home is a common indicator used across OECD countries to identify students in need of additional instructional support (Schleicher, 2019[15]). Information about home language would allow Latvia to identify students who may need additional support to cope with an education provided in a language different from their home language. As Latvia seeks to transition gradually to a position where education in all general subjects at the upper secondary level is taught in Latvian by 2022/23, students whose home language is not Latvian may face challenges (OECD, 2019[14]). This affects children from ethnically diverse families, many of whom are attending ethnic minority language schools at the primary to lower secondary level. However, it may also include returning Latvian families from the diaspora who may speak another language at home due to their prolonged stay abroad, or because one of the parents has a non-Latvian background. There is currently no indicator to identify students whose home language is not Latvian, which makes it difficult to monitor their progression.

Moving forward with the EDG 2021-2027, Latvia may consider collecting information on the language spoken by students at home. In the Flemish Community (Belgium), the language spoken at home is used as one of the indicators to determine the socio-economic disadvantages of students. Information from this indicator is used to guide compensatory policies that target additional grants and allocate teaching staff to schools with a relatively larger share of those students (Box 3.4).

More contextual information could also be collected on students with special needs. These students can be divided into two groups: those who require additional instructional needs, such as speech therapists, psychologists and social pedagogues; and those who have been diagnosed with mental and physical disabilities. In Latvia, students with special needs from both groups can attend special schools (which specialise in certain types of disabilities), special classes in a mainstream school or mainstream classes (OECD, 2016[9]). Although data on students with additional instructional needs have been available, one of the challenges in the previous EDG was the accessibility of data to track the number of students with disabilities. Due to regulatory barriers it was not possible to collect information in the SEIS on students with disabilities who are attending general education, vocational education and higher education institutions (Latvian Ministry of Education and Science, 2019[12]).

If Latvia wants to monitor more closely students with special needs in the new EDG, regulatory changes are needed to ensure that parents cannot hide their children's diagnosis and to authorise the SEIS to collect data on students with disabilities. The doctor's diagnosis should be directly transmitted to schools and the SEIS. This would also require authorisation of the National Health and Work Capacity Review Medical Board (Latvian Ministry of Education and Science, 2019[12]). The ability to track students with disabilities in general education, vocational education and higher education would allow Latvia to target specific support measures for them, as well as monitor their progress and their outcomes (e.g. well-being). Latvia could consider the case in the United States, where legal measures have made the collection of data on students with disabilities mandatory for the Department of Education, and annual reports on students with disabilities are made available (Box 3.4).

Box 3.4. Country example on developing indicators on contextual factors

Tracking students' home language in the Flemish Community (Belgium)

To help schools meet the needs of students from diverse backgrounds, the operating grant for schools is weighted for socio-economic status using four different indicators, including language spoken at home. The operating grant is intended to cover the running costs of a school, which include administrative and utility costs, as well as a number of fixed costs in programme delivery. In the case of primary education, this additional support represents about 14% of the total operating grant and will rise to 15.5%. For secondary schools, the corresponding figures are 10% rising to 11%. The language spoken at a student's home also plays a role in the allocation of staff resources in primary education as it is one of the three socio-economic status indicators considered. The socio-economic status weights enable remedial classes to be run, classes to be split, and teachers to be released for a range of pedagogical and support activities. In these ways, the Flemish authorities are seeking to balance school choice and autonomy with equity.

Legal measure to make the collection of data on students with disabilities mandatory (United States)

The 1975 Individuals with Disabilities Education Act mandates the provision of a free and appropriate public school education for eligible students aged 3 to 21. Eligible students are those identified by a team of professionals as having a disability that adversely affects academic performance and as being in need of special education and related services. The law requires the U.S. Department of Education to collect data on students with disabilities and to submit specific reports to Congress on the progress made towards the provision of a free, appropriate public education to all children with disabilities and the provision of early intervention services to infants and toddlers with disabilities.

Source: OECD (2015[16]) *Country Background Report of the Flemish Community of Belgium*, OECD Review of School Resources, www.oecd.org/edu/school/schoolresourcesreview.htm; US Department of Education (2020[17]), *Individuals with Disabilities Education Act*, https://sites.ed.gov/idea/data/.

4. Potential indicators for the EDG

This section describes the process through which indicators were identified for Latvia's EDG and presents potential indicators for inclusion in the EDG. The discussions about which indicators to use were informed by the steps for selecting indicators presented in Section 2, and the available indicator data sources and gaps presented in Section 3.

A Strategy Development Workshop to discuss potential indicators was held in Riga in February 2020. The workshop was held over two days and convened indicator experts from various Latvian ministries and government agencies on the first day, as well as stakeholders from schools, municipalities, business, academia, and civil society on the second day. The aim of the workshop was to identify together a set of indicators that could be relevant for Latvia's EDG.

Discussions were held in five working groups covering five levels of education: ECEC, general education, VET, higher education and adult learning. The division of working groups by level of education allowed for a more technical discussion of indicators specific to these levels, and helped to avoid repetition and redundancies. Furthermore, participants were often experts in a specific level of education and so the discussion was able to benefit from their education-level specific expertise.

In preparation for the workshop, the OECD examined extensively the data sources for indicators available to the Latvian government from national and international sources and compiled a list of 181 possible indicators (Box 3.5). This list was presented on the first day to the indicator experts who reviewed them and identified those they thought most relevant for Latvia's EDG. Participants were also encouraged to propose new indicators, where necessary. The OECD facilitated discussions and asked participants to use the SMART quality framework (see Section 2) when considering any potential indicator. Participants also had to identify which of the four policy objectives of the EDG the indicator would link to. The four policy objectives[2] were: 1) teaching and academic excellence; 2) accessible and quality education for everyone; 3) future skills for future society; and 4) sustainable education systems and effective resource management. At the end of the day, each of the five working groups prioritised and discussed in-depth between 10 and 12 potential indicators for each level of education, ending up with a total of 54 indicators.

The results of the first day were presented on the second day to a larger group of stakeholders to collect feedback on the extent to which they agreed with the potential indicators, and whether they had any concerns or would suggest any modifications or new indicators. Based on their feedback, the potential list of indicators was further revised. Many of the potential indicators were adopted in Latvia's EDG.

Potential benchmark values for the indicators were also briefly discussed during the workshop. However, due to time limitations it was not possible to cover these extensively, and so specific benchmark numbers are not featured in this chapter. However, Section 5 makes some practical suggestions for setting benchmarks for indicators.

Box 3.5. Indicator sources used for the Strategy Development Workshop

The OECD extensively reviewed the available indicators from national and international sources to compile a list of potential indicators to consider during the Strategy Development Workshop held in Latvia in February 2020. The three main sources for potential indicators included:

Indicators from the previous EDG for 2014-2020. As the new EDG 2021-2027 builds on the efforts of the previous EDG, consideration should be given to continuing the indicators that proved to be effective and meaningful in the previous EDG. At the time of the workshop, the OECD had access to the list of indicators and their values from the medium-term evaluation of the previous EDG. These were also shared with workshop participants which allowed them to compare the benchmark levels of the previous EDG indicators and the actual attained levels from the medium-term evaluation. Some of the previous EDG indicators were well formulated but could not be used due to a lack of data to track them. These were flagged to participants so that they could also consider them and discuss what data sources it would take to potentially operationalise these indicators for the next EDG.

Indicators from the "Education Quality Monitoring System Development and Implementation" project. This project supports the development of an education quality monitoring system that includes indicators on student achievement at the national level and other indicators describing education institutions, such as examination results, accreditation, licensing and teacher performance assessment. The project is implemented by the Ministry of Education and Science, other education agencies (NCE, SEQS, SEDA and Akadēmiskās Informācijas centrs), Civitta Ltd (an external contractor) and the Centre for Higher Education Policy Studies of the University of Twente, which is a research institute. The project has identified possible indicators to be used for quality monitoring activities in education and has provided detailed information on data sources, frequency of measurement, granularity, reference levels of education and methodology for calculation. Relevant indicators from this project were included in the workshop to ensure consistency between the indicators developed in this project and those included in the EDG.

Source: Civitta (forthcoming[18]), Report on education quality monitoring system and tools.

Indicators used internationally. These indicators were used to encourage participants to consider indicators that would be comparable internationally. Such indicators allow Latvia to follow European and international standards and practices in monitoring targets in education and skills policies. The main international indicator data sources included were the OECD "Education at a Glance" indicators (OECD, 2019[3]), the Programme for International Student Assessment (PISA) indicators (OECD, 2019[19]), the Teaching and Learning International Survey (TALIS) indicators on teachers (OECD, 2019[20]), the indicators from the strategic framework for European Cooperation in Education and Training (ET 2020), and the Sustainable Development Goals indicators.

Source: OECD (2019[3]), *Education at a Glance 2019: OECD Indicators*, https://doi.org/10.1787/f8d7880d-en; OECD (2019[19]), *PISA 2018 Results (Volume I): What Students Know and Can Do*, https://dx.doi.org/10.1787/5f07c754-en; OECD (2019[20]), *TALIS 2018 Results (Volume I): Teachers and School Leaders as Lifelong Learners*, https://dx.doi.org/10.1787/1d0bc92a-en.

The list of indicators discussed by workshop participants is presented by level of education below. A summary of the discussion with participants and additional guidance from the OECD is provided for each indicator. The indicators presented in the tables should not be taken as a final list, but rather as a work in progress, and in most cases in need for further refinement, as shown in the participants' comments and OECD reflections. For some indicators, participants or the OECD have made suggestions for revision or for using alternative indicators, which Latvia may wish to consider. The tables only provide a high-level summary of the discussed indicators. Readers wanting more detail should consult the OECD Strategy Development Workshop Summary Note (OECD, 2020[21]).

For each indicator the source (Box 3.5) is indicated with: (P) previous EDG 2014-2020; (M) monitoring project; (I) International; or (N) New. All indicators are also mapped to one or more single or multiple policy objective: 1) teaching and academic excellence; 2) accessible and quality education for everyone; 3) future skills for future society; and 4) sustainable education systems and effective resource management.

Early childhood education and care

Table 3.7. Overview of the potential list of indicators for early childhood education and care

Indicators discussed by participants during the two-day workshop in Latvia.

No.	Indicators (Source/policy objective)	Participants' comments	OECD guidance
ECEC.1	Proportion of teachers involved in professional development (PD) activities. (%) of the total number of teachers by type of activity (including special needs) (P.1,2,4)	• Break down this indicator by activities (entrepreneurial spirit, financial literacy, leadership, ICT, foreign languages, special needs children, talented children, recognising at-risk groups). • Make available also at the national and school level.	• Break down also by rural/urban area. • Consider barriers to participation and quality of PD activities. • Track the share of teachers who report being in need of PD and the self-reported needs (e.g. ICT, special needs children, non-native speakers).
ECEC.2.	Ratio of students to full-time equivalent teachers (teachers only and teachers plus assistants) (P.2)	• Distinguish between only teachers and all staff (teachers plus assistants). • Consider for school, municipal and national level.	• Define clearly what is meant by assistants and differentiate from nannies. • Count students in full-time equivalence as many may be attending part time.
ECEC.3	Ratio of actual teachers' salaries to earnings for full-time, full-year adult workers with tertiary education by education level (I.1,4)	• Measure full-time equivalence to make comparable. • Measure hourly wages as teachers may have different working hours. • Disaggregate by level of education as this indicator applies across all levels.	• Consider which data sources to use; sample sizes of the surveys could be biased. If possible, use national data sources such as those from administrative register. • Measure how this indicator changes based on teachers' experience levels. • Break down indicator by male/female.
ECEC.4	Proportion of principals who have level 4 or level 5 compared to all evaluated principals, using the new qualification framework for principals (M.1)	• Ensure that in the evaluation of principals the framework is applied consistently. • Consider how to use this framework if the evaluation of principals usually only takes place every six years. • Consider a qualitative indicator of measuring principal quality, rather than this quantitative indicator. • Track also measures (e.g. training) that raise the capacity of principles.	• Consider alternative data sources if principal evaluation data are only available every six years. • Explore availability of alternative data on ECEC principals, such as level of work experience, highest educational attainment, formal training, other types of professional development, self-reported need for training. • Consider participating in the OECD Starting Strong TALIS Survey for more data on ECEC principals.
ECEC.5	Proportion of teachers below the age of 29 (I.1)	• Apply to all levels of education.	• Break down by urban/rural area, ratio of teachers to the population by age group, and the proportion of young graduates in the field of education.

ECEC.6	Proportion of teachers who are satisfied with their job (I.1,2)	• Consider that culturally in Latvia people may be more likely to report that they are dissatisfied with work. • Track this at school, municipal and national level.	• Consider how this indicator could be applied at the ECEC level. • Use job satisfaction data and analyse how it relates to other measures (e.g. teacher participation in formal or informal induction, teacher self-efficacy).
ECEC.7	Special needs and learning difficulties of children diagnosed at an early age to make timely prevention and adjustment work (P. 2)	• Consider that the process of diagnosing a student with special needs can take several years. • Use nuanced categories to distinguish "at risk", "in the process of diagnosis" and "on course to be recognised as special needs". • Determine who should conduct diagnosis. If teachers they need to be trained.	• Clarify what is meant by "special needs" and who would be covered, as internationally it can refer in some cases to children only with physical disabilities, while in other cases it covers children more broadly with learning difficulties. Choosing a definition would have implications regarding with which countries and to what extent the measurement of this indicator would allow Latvia to make comparisons.
ECEC.8	Share of special needs students among children in schools who participate in some activities with other children (P.2)	• Consider this indicator as a measure of inclusiveness. • Clarify what type of activities (e.g. leisure, learning) should be taken into consideration.	• Ensure that once there is a clear definition of the activities measured by this indicator that everyone involved in tracking has the same understanding. • Consider the cost of creating this indicator as it does not yet exist.
ECEC.9	Proportion of schools with access to adapted infrastructure and materials for students with disabilities (I.2)	• Clarify the definition of "accessibility" (e.g. accessibility of infrastructure or learning material). • Consider that there may be different levels of accessibility (e.g. full, partial).	• Disaggregate this indicator by national and municipal level. • Consider the cost of increasing accessibility.
ECEC.10	Proportion of mandatory education age children not registered in any educational institution (%) (P.2)	• Consider the difficulties of municipalities in tracking children not registered in any educational institution (e.g. children registered in one municipality and attending preschool in another). • Explore possibility of having a national database on ECEC attendance that collects data from municipalities for cross-checking and quality control. • Improve collaboration between Ministry of Education and Science and Ministry of Welfare.	• Have municipalities also collect data on the specific reasons why a child is not registered in any educational institution. • Consider what resources municipalities would need to collect and provide reliable and quality data on this issue.
ECEC.11	Share of children between 4 years old and the age for starting compulsory primary education participating in early childhood education. (I.2)	• Consider the likely changes to the new European education monitoring framework indicators, which would include "share of children between 3 years old and the age for starting compulsory primary education participating in early childhood education".	• Use this indicator to benchmark performance with European and international peers as it is widely used internationally.
ECEC.12	Enrolment rates of 3-year-olds in ECEC (I.2.)	• Use this indicator at the national level.	• Track enrolment rates also for children younger than 3 years.

Note: Sources are indicated as follows: (P) previous EDG 2014-2020; (M) monitoring project; (I) International; or (N) New. All indicators are also mapped to one or more single or multiple policy objective: 1) teaching and academic excellence; 2) accessible and quality education for everyone; 3) future skills for future society; and 4) sustainable education systems and effective resource management.

General education

Table 3.8. Overview of the potential list of indicators for general education

Indicators discussed by participants during the two-day workshop in Latvia.

No.	Indicators (Source/policy objective)	Participants' comments	OECD guidance
GE.1	Share of low and high achievers in PISA (P.1,2)	• Improve coherence between this international and the national assessment measures. • Consider also measuring learning outcomes at an earlier stage. • Use data to analyse outcomes at school level.	• Consider the different purposes of PISA and national assessments. • Analyse how differences in learning outcomes are related to equity concerns (e.g. socio-economic background, gender). The PISA socio-economic index could be useful for this.
GE.2.	Percentage of digital teaching resources out of total teaching resources (P.1,3)	• Clarify whether indicator on digital resources should measure availability (input), use (process) or skills (outcome). • Consider that more digital resources does not automatically lead to better learning outcomes. To avoid such misinterpretation it may be more useful to set a minimum level of digital resources and measure whether this level has been met or not. • Develop a separate indicator on the digital skills of students as resources by themselves do not guarantee such skills.	• Consider that it may be challenging to define and measure "total teaching resources". • Define clearly what digital teaching resources are covered in this indicator. If the indicator wants to measure the availability of digital teaching it may suffice to count the number of digital devices (e.g. computers, tablets, smart boards) per student. If there was a minimum standard, the indicator could then be tracked with a yes/no option.
GE.3	Ratio of students to support personnel (psychologist, speech therapist, special educator, teacher of social pedagogy) (P.2)	• Consider the challenges of interpreting this indicator without taking into account differences in demand across schools, municipalities, levels of education and even across the different specialties needed. It's difficult to determine the target ratio given these differences. • Set a different "minimum" ratio for each type of personnel and for each level of education. • Calculate indicator separately at school and municipality level (e.g. one psychologist may be available full-time at the municipality level, but only two hours a day in a given school).	• Use work time instead of number of support personnel as many are working part time. Estimate the number of hours (not the number of people) available to each student. • Calculate and benchmark this indicator separately per speciality and level of education (e.g. a speech therapist should be present in all pre-primary schools, but not necessarily in all general education schools). • Consider special needs education separately as the expected ratio and the demand for specialties are likely to differ considerably.
GE.4	Proportion of children involved in non-formal and interest-related activities (P.2)	• Determine what activities are counted (e.g. at school/in community, publicly or privately funded). • Define indicator as "share of students in at least one activity" in order to avoid double counting, as students are likely to be involved in multiple activities.	• Determine what data source would be used for this indicator. • Consider using household survey data to avoid double-counting and collect information by socio-economic background.
GE.5	Average wages of education workers compared to average wages in country (P.1,4)	• Consider the differences in the legal working time (30h) of teachers versus other workers (40h) in the country when comparing salaries across professions.	• Consider alternative indicators: 1) actual salaries relative to earnings of full-time, full-year similarly educated workers. This covers the direct comparison between similar employees working in different field. 2) Teachers' actual salaries relative to earnings for full-time, full-year workers with tertiary education. This compares teachers' salaries to the highest average salaries (in terms of educational attainment) in the country. The relative value of each indicator depends on Latvia's composition of teachers' educational attainment and data sample size.

No.	Indicators (Source/policy objective)	Participants' comments	OECD guidance
GE.6	Ratio of students to full-time equivalent teachers (P.2)	• Clarify who is included (e.g. teachers, teaching assistants, other support staff). • Calculate at school level to reflect the availability of teachers to students, especially as teachers may work part time in several schools. If the indicator were calculated at the municipal level, one teacher who works part time in two different schools would count as a one full teacher in full-time equivalent units. However, that teacher is only available for half the time in each school. The aggregation of this indicator to the municipal and national levels should be an average of the school-level results.	• Count students as full-time equivalent to make comparable. • Consider using the internationally agreed definition of a teacher (OECD, 2017[6]).
GE.7	Proportion of students who graduate (percentage of students who enter and complete an upper secondary vocational programme) (M.2)	• Measure this indicator with true cohort methodology, which means following individual students through the use of student registries. • Determine how to deal with students who leave the country.	• Consider two different time frames: 1) the theoretical duration of the programme in which students are entered; and 2) the theoretical duration plus two years (upper secondary) or three years (tertiary). The additional time frame is important in order to consider delays in completion, although the number of years of delay may be adjusted to the national context.
GE.8	Proportion of students who continue at the next level after graduation (M.3)	• Determine how to deal with students who go abroad. Some are taken into consideration when they request public funding. • Measure at the end of lower secondary education (percentage of students who move on to upper secondary) and at the end of upper secondary education (percentage of students who move on to tertiary education).	• Interpret the indicator as a measure of the proportion of students who choose to pursue further studies. • Disaggregate the indicator by the share of students who graduate from lower secondary and continue in general vs. vocational upper secondary programmes, and the share of students who graduate from general vs. vocational upper secondary programmes and continue to tertiary education.
GE.9	Share of full-time equivalent teachers out of total (M.1,4)	• Consider that many part-time teachers, often in specific subjects, may not have a full workload, even when working in only one school. • Establish a minimum level (e.g. at least 40% of full-time teachers) and have the indicator be a yes/no option in meeting the minimum requirement.	• Consider the purpose of the indicator. If the goal of the indicator is to assess teachers' working conditions in terms of contract type (full time vs. part time) it may be useful to develop an indicator that combines the share of teachers who work part time with the share among that cohort who choose to work part time. This information is collected by the OECD TALIS Survey.
GE.10	Percentage of students experiencing bullying, corporal punishment, harassment, violence, sexual discrimination and abuse in PISA (I.2)	• Compare the answers to this question from students, teachers, principals and parents in order to assess patterns of over- or under-reporting. • Collect information regularly and for younger students as well.	• Develop a module with specific questions that can be added to any existing or future student survey. Schools can then adopt this module and run their own student surveys to monitor this indicator more closely. • Provide capacity building or detailed instructions to ensure that the results of the survey undertaken by schools are reliable and representative.

No.	Indicators (Source/policy objective)	Participants' comments	OECD guidance
GE.11	Index of students' sense of belonging (I.2)	• Define clearly "sense of belonging" and consider widening the concept to a broader sense of "well-being". • Collect this data regularly at the school level.	• Develop a national standardised student/household survey to collect this information or develop a module with specific questions that can be added to any existing or future student surveys. • Consider using a single indicator (share of students reporting feeling comfortable, safe, belonging in school), rather than an index to improve interpretability.

Note: Sources are indicated as follows: (P) previous EDG 2014-2020; (M) monitoring project; (I) International; or (N) New. All indicators are also mapped to one or more single or multiple policy objective: 1) teaching and academic excellence; 2) accessible and quality education for everyone; 3) future skills for future society; and 4) sustainable education systems and effective resource management.

Vocational education and training

Table 3.9. Overview of the potential list of indicators for vocational education and training

Indicators discussed by participants during the two-day workshop in Latvia.

No.	Indicators (Source/policy objective)	Participants' comments	OECD guidance
VET.1	Proportion of students in general and vocational education at the secondary education stage (P.2,3,4)	• Compare with alternative indicator "participation rates in VET programmes among the population in the relevant age", which measures VET participation of the total age group population, including those not in employment, education or training (NEET) and young workers. While the proposed indicator measures the division between general education and VET programmes, the alternative indicator measures the share of the population gaining technical skills through VET.	• Consider purpose of indicator. If the purpose is to assess the attractiveness of VET programmes, indicator "share of lower secondary graduates who enrol in VET vs. general upper secondary education" could be more useful. This indicator only looks at first-year upper secondary students and will thus reflect changes in the attractiveness of VET programmes more quickly than the current indicator that looks at the entire population of secondary students.
VET.2	Proportion of students continuing education after graduation (M.3)	• Clarify the distinction of what "continuing education" entails. Technical colleges are considered a continuation of VET schools at a higher level. Ensure that this indicator also covers such transition and not only transition to universities.	• Consider how to set a target for this indicator, as it is not clear what the desired improvement in the proportion of students continuing their studies should be for Latvia. Targets should be set based on realistic assumptions and available data involving all relevant stakeholders.
VET.3	Proportion of graduates who secured employment in the field of their studies (M.2,3)	• Clarify what "employment in the field of their studies" means. Without clear mapping of which studies relate to which fields there could be mismeasurements. • Consider that some VET programmes allow graduates to find employment in different sectors (e.g. IT technicians), which may not be a negative outcome. Indicator needs to be flexible.	• Consider complementary indicator "employment rate of recent VET graduates". The definition of recent graduates can be adapted depending on data availability, sample size, etc. usually ranging from one to five years after graduation and should be harmonised with the monitoring of the same indicator for higher education. • Consider using information on the earnings of recent graduates through labour force surveys for the labour market outcomes of VET.

No.	Indicators (Source/policy objective)	Participants' comments	OECD guidance
VET.4	Share of students in work-based programmes (I.3)	• Clarify the definition of work-based learning used here in relation to international definitions, which range between 10% and 75% of the curriculum as school-based and the remaining work-based. As all students in upper secondary education in Latvia are enrolled in combined school- and work-based programmes, using the international definition would mean that all students are in work-based programmes.	• Use a more granular and nationally applicable definition of work-based programme that allows for distinguishing between apprenticeship (which could be measured with this indicator) and practical training (offered in all of Latvia's VET programmes). • Explore how other countries where all VET programmes are combined school- and work-based programmes measure this aspect, e.g. Ireland and Hungary.
VET.5	Students who have received support to reduce early school leaving (M.2)	• Implement and expand coverage of PuMPuRS project that provides this support, which would then provide data. • Explore how to measure the quality of support provided to students. • Design indicator as ratio of students who receive support over the total population of students at risk of exclusion. • Clarify the type of support included and the definition of students at risk of exclusion.	• Consider alternative indicator "ratio of student population to support personnel" in case data from PuMPuRS does not provide full coverage of all schools. • Consider establishing a VET tracking system to gather more data on students who leave school early and the reasons for doing so.
VET.6	Drop-out rates (I.2)	• Consider using this indicator as a complementary indicator to VET.5.	• Consider covering this with completion rates using the true cohort methodology, which makes it easily possible to determine the share of students who leave the system without graduating.
VET.7	Percentage of students who enter an upper secondary vocational programme and complete it within the theoretical duration (I.2)	• Clarify the duration of the programme and consider differences between programmes and their increasingly modular structure.	• Use true cohort methodology to measure the distribution of students' outcomes by the end of the theoretical duration of each type of programme. • Calculate using two different time frames: 1) by the theoretical duration of the programme in which students entered; and 2) by the theoretical duration plus two years (upper secondary) or three years (tertiary). The additional time frame takes into account delays in completion (number of years of delay may be adjusted to the national context). Track students who transfer to different programmes (i.e. from general to vocational) so that they are not counted as drop-outs.
VET.8	Proportion of teachers who are under the age of 29 (M.1)	• Consider that the age in this indicator is too low and should be revised with a higher age. • Consider alternative indicators to measure attractiveness of teaching profession (e.g. number of teachers who after joining stay for at least five years).	• Consider this indicator only at the national level as at the school level this could lead to an unintended pressure to favour young over older teacher candidates.
VET.9	Proportion of field specialists in teacher positions (M.1,3)	• Define the characteristics of field specialists. • Communicate clearly what these characteristics are with the larger public.	• Consider the purpose of the indicator. If the purpose is to assess the prevalence of field specialists in VET teaching positions it could be calculated as the "share of VET teachers who are field specialists over the total number of VET teachers". This would provide relevant information regarding the VET teaching force and the quality of VET programmes.

No.	Indicators (Source/policy objective)	Participants' comments	OECD guidance
VET.10	Quality of teacher professional life (teachers' job satisfaction) (I.1)	• Identify a way to consistently measure quality perceptions across the country. • Communicate clearly what these quality criteria are.	• Embed this indicator in a well-developed monitoring system of teachers and ensure that quality criteria are clearly understood. • Consider adopting the OECD TALIS definition and methodology for measuring teacher job satisfaction.
VET.11	Annual expenditure per student by level of education (I.4)	• Specify what expenditures are covered (e.g. public/private spending).	• Track expenditure disaggregated across municipalities to identify whether all VET institutions are receiving sufficient support.

Note: Sources are indicated as follows: (P) previous EDG 2014-2020; (M) monitoring project; (I) International; or (N) New. All indicators are also mapped to one or more single or multiple policy objective: 1) teaching and academic excellence; 2) accessible and quality education for everyone; 3) future skills for future society; and 4) sustainable education systems and effective resource management.

Higher education

Table 3.10. Overview of the potential list of indicators for higher education

Indicators discussed by participants during the two-day workshop in Latvia.

No.	Indicators (Source/policy objective)	Participants' comments	OECD guidance
HE.1	Higher education (HE) graduates aged 30-34 (% of population) (P.2)	• Increase the age range in order to better capture better the benefits of HE. • Measure alternatively the proportion of high school diploma holders (20-30 years) who continue with higher education.	• Use this indicator to compare with other countries, as this indicator is used internationally.
HE.2.	Graduates ISCED 5-8 in seven thematic areas (N, %) (P.3)	• Consider emphasising science, technology, engineering and mathematics (STEM) or science, technology, engineering, arts and mathematics (STEAM) rather than all seven thematic areas. This would highlight a policy priority. • Consider how to measure higher education outcomes holistically in the context of the School 2030 curriculum reform in secondary education.	• Use the international classification of fields of education (ISCED-F 2013) to ensure comparability with other countries. • Monitor the distribution of higher education graduates among all fields, while also monitoring the share of graduates in the STEM or STEAM fields if particularly relevant for the new EDG.
HE.3	Graduates' main employment by categories 1, 2, 3 according to the professions' classification (%) (M.2)	• Consider that employment categories 1, 2, 3 do not include self-employed people. However, this group should also be tracked. • Consider limiting the age range for graduates (e.g. 25-35 years). • Consider that measuring mismatch by field of study is not very useful as more people are working outside their field of study. • Consider alternative measure of mismatch of "HE graduates working in a profession according to their level of their education".	• Consider the purpose of indicator. If the purpose is to assess the alignment between higher education institutions and the labour market, a better-suited indicator may be "share of recent graduates who are employed, by category level". The definition of recent graduates can be adapted depending on data availability, sample size, etc., usually ranging from one to five years after graduation. • Consider alternative to profession categories, such as the use of the Statistical Classification of Economic Activities in the European Community (i.e. NACE codes). • Consider also using earnings of recent graduates through labour force surveys to assess the transition between higher education and the labour market.

No.	Indicators (Source/policy objective)	Participants' comments	OECD guidance
HE.4	State budget expenditure per student (average euro per year) (M.2,3)	• Consider that this indicator by itself does not provide information on the rate of investment in higher education nor how effectively this funding is used. • Determine what an aspirational level of state budget funding per student is to improve the interpretability. • Consider making it internationally comparable by adjusting for purchasing power parity (PPP). • Consider alternative indicators "percentage of the state budget spent on higher education" or "proportion of state budget funded study places of the total of all study places".	• Track also expenditure per student by other sources (e.g. household spending) besides government. The data are currently available and included in the "expenditure per student in higher education" in the "Education at a Glance" publication (OECD, 2019[3]).
HE.5	Spending on higher education, % of GDP (M.2,4)	• Measure also public spending on higher education as a proportion of GDP. • Consider alternative indicator "higher education expenditure as a percentage of the state budget", which would be more precise in describing the investment in higher education from tax revenues.	• Monitor this indicator, but consider that it is less actionable than the previous HE.4 indicator. It can vary considerably depending on economic cycles and cannot be interpreted as a measure of available resources. In international comparisons, developing countries with lower GDP per capita tend to have considerably higher values for spending as a percentage of GDP, even if this does not imply more resources are reaching the students.
HE.6	Full-time equivalent academic staff in relation to the total number of academic staff employed by higher education institutions, % (M.1,4)	• Consider that academic staff often have multiple separate contracts (e.g. academic, administrative and research related tasks) for a single position. This may make it challenging to gather the data. • Consider how to interpret the information and whether the intention of incentivising higher education institutions to consolidate multiple contracts of academic staff into a single contract would actually occur.	• Consider using this indicator to identify prevalence of part-time contracts, as a high share of part-time contracts can impact turnover, well-being, workload, etc. • Define clearly what "academic staff" refers to. For example, should doctoral students who also lecture be counted? • Consult OECD INES working Party and NESLI network, as there is an on-going project to classify and define academic staff in higher education.
HE.7	Age of academic staff, average (M.4)	• Consider the proportion of academic staff younger than 35 years of age among the total of academic staff, rather than just looking at the average age. This would provide information about the relative proportion across age cohorts.	• Monitor this indicator at the national level rather than at the institutional level to avoid favouring young over older teacher candidates. • Use this indicator to measure the attractiveness of the profession and retention policies.
HE.8	International students in Latvia (N, % of students total) (P.2,4)	• Distinguish between international exchange students and international students who study to acquire a degree in Latvia. • Consider alternative indicator measuring "proportion of international students in relation to all students".	• Consider using this indicator for international comparison as it is also published annually in the "Education at a Glance" publication (OECD, 2019[3]).
HE.9	Students from Latvia studying abroad (N, % of students in Latvia) (P.2)	• Distinguish between students from Latvia studying abroad as exchange students and those who study to acquire a degree abroad. • Consider collecting information on the type of degree and field of study that Latvians pursue.	• Consider "Education at a Glance" (OECD, 2019[3]) data, which takes into account all countries' submissions and allows for the number (and share) of Latvians who go abroad to be calculated.

No.	Indicators (Source/policy objective)	Participants' comments	OECD guidance
HE.10	Academic staff participating in academic mobility (%) (P.1,2)	• Consider defining clearly what is meant by "mobility" (e.g. seminars, lectures, keynote speeches, conference attendance). • Consider the additional administrative burden in collecting this information.	• Consider also the duration of mobility activities. • Consider who would be counted as "academic staff". For example, if doctoral students are counted as academic staff (as in some countries), would exchange programmes be counted? If that is the case, there could be double counting as doctoral students could be counted in HE.9 and here in HE.10.

Note: Sources are indicated as follows: (P) previous EDG 2014-2020; (M) monitoring project; (I) International; or (N) New. All indicators are also mapped to one or more single or multiple policy objective: 1) teaching and academic excellence; 2) accessible and quality education for everyone; 3) future skills for future society; and 4) sustainable education systems and effective resource management.

Adult learning

Table 3.11. Overview of the potential list of indicators for adult learning

Indicators discussed by participants during the two-day workshop in Latvia

No.	Indicators (Source/policy objective)	Participants' comments	OECD guidance
AL.1	Share of adult education staff participating in professional development (PD) (P.1,4)	• Consider the challenge of defining "adult education staff", as a variety of education staff across education levels provide adult education. This makes it difficult to count them. • Consider that the type of PD activity differs greatly across level of education. • Consider the alternative option of tracking teachers in general education and VET who have participated in PD in pedagogical approaches specifically for adult students (i.e. andragogy).	• Consider that this indicator by itself would not guarantee that adult education teaching staff will be automatically better at teaching. Thus, consider a complementary indicator on "usefulness of the skills acquired during PD activities" (similar to one of the OECD TALIS survey questions). • Disaggregate participation in PD by content, duration and mode (in person vs. online) to provide a complete picture of the types of training these professionals are undertaking.
AL.2.	Share of adults participating in adult learning due to received guidance/support (P.3,4)	• Consider the wide range of guidance/support activities that adults can receive (e.g. guidance on career and learning opportunities, public awareness raising campaigns, offline or online informational material, assessment of skills through tests, skills audits or interviews). • Consider asking adults who receive guidance, for example in EU funded projects, whether the guidance has led to participation in adult learning or not.	• Disaggregate the indicator further to distinguish between different types of guidance and support, as one may be highly effective while others may not. For example, in the adult education survey there are a number of questions that break down the types of guidance and support activities and what form it took (e.g. face-to-face, interaction through internet, phone). • Consider financial support separately from other types of support or guidance.
AL.3	Proportion of adults (25-64) involved in education (%) (P.4)	• Have a sub-indicator on the 25-64 age group and another on those aged 64+, as many senior citizens want and need to participate in adult learning. • Track the total number of adult learners across all education levels (e.g. general education, VET, higher education).	• Consider also the level of intensity of adult learning to get a more holistic picture. • Distinguish between different forms of adult learning (formal, non-formal, informal). • Distinguish between adult learning that is job-related and that undertaken for personal reasons.

No.	Indicators (Source/policy objective)	Participants' comments	OECD guidance
AL.4	Number of adults receiving professional qualifications outside formal education through the validation process (P.4)	• Track not only validation that leads to a full qualification, but also validation for partial recognition, as recent efforts have sought to provide modular adult learning programmes for which participants receive partial recognition. • Collect data according to level of education: for VET the Education Quality Centres, for HE the Academic Information Centres, and for all other levels the National Centre for Education.	• Consider the challenges of interpreting the indicator. If the number is decreasing it could be that fewer adults have participated in the validation process in total, or the same number of adults has participated but fewer were able to pass the validation process for a variety of reasons (e.g. ineligibility). A share would be easier to interpret, but it may be challenging to identify the total number of adults who participated in adult learning outside the formal system and are eligible for the validation process. • Consider tracking whether the qualifications gained through this process are sufficiently understood by stakeholders (e.g. employers).
AL.5	Proportion of youth and adults with ICT skills by type of skill (I.3)	• Consider tracking this indicator also by level of skill, which can be constructed with the type of skill: basic (e.g. copying files or folders or using copy and paste tools); standard (e.g. installing or configuring software or using basic formulae on spreadsheets); and advanced (e.g. using specialist language to write computer programmes).	• Use this indicator to compare internationally as it is the SDG 4.4.1. indicator.
AL.6	Proportion of full-time support staff for adult learning per inhabitants in municipality (N.1)	• Emphasise the need for having at least 1 adult learning staff member in each municipality who would be responsible for increasing the adult learning provision. • Consider the implications of the territorial reform and how the size of the consolidated municipalities might change.	• Measure this indicator in full-time equivalents instead of full-time staff to avoid double-counting in cases where municipalities share full-time staff members for adult learning. • Consider tracking staff selected, trained and supported to fulfil their functions, as the presence of a full-time staff member by itself is unlikely to improve adult learning provision.
AL.7	Existence of a roadmap for adult learning in each municipality (N.4)	• Clarify who would create a roadmap that gathers information on all the different local adult learning opportunities and shows the possible adult learning pathways, as well as how to participate and their relative merits. • Consider giving the association of municipalities the responsibility to co-ordinate efforts to create a roadmap across different municipalities.	• Consider the practical implications of such a roadmap, whether it would be online or offline, who would finance it, how it could be regularly updated, how the information could be tailored to the background profile of end-users, etc. • Consider how to measure the quality of information provided in the roadmap and whether it is actually being used by adult learners.
AL.8	Share of funding for adult learning by source (e.g. government, enterprise, individual (N.4)	• Consider this indicator to track the level of co-operation between various actors in the provision of adult learning.	• Clarify what is considered here as "adult learning" (formal, non-formal, informal). • Determine what counts as financial contribution to adult learning (e.g. direct/indirect costs) and how this information would be collected. • Consider initially tracking share of funding for formal adult education programmes by source, as data collection for non-formal adult education would require more development work.

No.	Indicators (Source/policy objective)	Participants' comments	OECD guidance
AL.9	Share of adult learning programmes licensed and monitored with national quality standards (N.2,4)	• Decide whether this would apply to non-formal education courses or only a sub-section (e.g. hobby/interest courses versus job-relevant courses). • Consider either: 1) giving newly formed regional governments in the territorial reform the responsibility of licensing and monitoring adult learning programmes in municipalities; or 2) introducing a new regulation making it mandatory to adhere to national quality standards, introducing accountability mechanisms, and providing support to municipalities to ensure adherence to quality standards for non-formal adult education courses in their municipalities.	• Consider which adult learning programmes would be covered by the national quality standards.
AL.10	Share of adults who report being motivated to participate in adult learning (N.2)	• Distinguish between adults who: 1) participated in adult education and would have liked to participate more; 2) participated in adult education and do not want to participate more; 3) did not participate in adult education, but would have liked to; and 4) did not participate in adult education and do not want to participate more.	• Consider a complementary indicator for tracking motivation in terms of whether an individual has looked for information on adult learning or not. The assumption is that if someone has looked for information they already have a certain level of motivation to participate in adult learning.

Note: Sources are indicated as follows: (P) previous EDG 2014-2020; (M) monitoring project; (I) International; or (N) New. All indicators are also mapped to one or more single or multiple policy objective: 1) teaching and academic excellence; 2) accessible and quality education for everyone; 3) future skills for future society; and 4) sustainable education systems and effective resource management.

5. Suggestions for how Latvia could strengthen its indicator system

This section presents five actions that Latvia could take to improve the indicator system for its EDG: 1) link indicator databases; 2) improve the quality of indicator data; 3) benchmark indicators; 4) raise capacity to make use of indicator data; and 5) improve dissemination of indicator data. Each of these opportunities is discussed with relevant information on Latvia, practical suggestions of what could be done, relevant country examples and specific recommendations.

Action 1. Link indicator databases

The indicator data system should be strengthened by linking various databases. The relevant information for an indicator system is often dispersed across various databases without direct links. This applies, for example, to databases from different ministries and institutions, such as the State Education Information System (SEIS), the Unemployment Accounting and Registered Vacancy Information System, and the databases of specific EU funded projects (e.g. SO 8.4.1 "Improvement of professional competence of employed persons"). The reason for not being able to link them is that the databases have been set up for different purposes and are administered and overseen by different ministries or institutions. By linking these databases it would be possible to get a comprehensive picture of lifelong learning in Latvia.

Without such a link there will continue to be significant challenges when trying to request access to specific data from another database. There are considerable administrative efforts required for those requesting and those providing data. While the administrative efforts can sometimes be a simple additional enquiry, it often involves an extensive data request process. For example, there is a lengthy administrative process for employees at the Ministry of Education and Science to receive any data from the SEIS that is not provided through their standard template. Data requests between different levels of government can stall because of the perceived administrative burden. The Ministry of Education and Science cannot require

municipalities to engage in data collection on certain aspects of education which are municipal responsibilities and funded from municipal resources. Municipalities can decline a data request if they argue that it imposes an additional administrative burden. Under the current educational data governance system, even if this municipal level data is a relevant indicator to measure educational development, access to this data is not guaranteed. The issue of data access, especially involving individual level data, needs to be viewed in light of The General Data Protection Regulation 2016/679 implementation (Latvijas Vēstnesis, 2018[22]). There may even be additional administrative issues to overcome regarding data access due to an incomplete understanding in public administration and the wider public of how this regulation should be applied, particularly in cases of research into education and social sciences for an academic or public policy purpose. This underscores the importance of linking databases, which would considerably facilitate the monitoring and evaluation of the new EDG.

Some efforts to link databases are already underway. For example, the SEIS is currently being updated by strengthening its system alignment with other information systems and intensifying data exchange, for example with the State Revenue Service, to improve the tracking of students. There were also linking efforts at the higher education level during the previous EDG with the creation of a single higher education information system that gathers data from registers of academic and scientific staff, student diplomas and accreditation needs.

The further linking of databases in Latvia would be useful. Databases such as the SEIS, the Unemployment Accounting and Registered Vacancy Information System, and the information system of EU funded projects (e.g. SO 8.4.1) should be linked using data matching techniques or unique identifiers at all stages of lifelong learning.

A common approach when linking databases has been the introduction of a unique identification (UID) system that uses a unique ID for each individual and allows their data to be linked across various databases. The unique ID could be based on birth registers, biometrics, or other forms of identification (e.g. chip-based ID card with photograph). Such a UID system allows policy makers to track students' progression throughout and beyond the skills system, making tracer studies possible and providing insights into the policy outcomes. This approach provides information on the relationship between the different actors and services, as well as offering efficiency gains and simplifying administrative management.

Enabling factors to support the linking of databases through a unique identification system include:

- **Legal and regulatory framework**: This involves enabling the implementation of a UID system, determining the types of information that can be tracked and the uses of the UID system, ensuring privacy and data rights, and guarding against data abuse, discrimination and surveillance.
- **Assessment of existing UID systems**: This involves reviewing whether other existing UID systems (e.g. birth registers) could be expanded to link with education and leveraging existing technological and infrastructure capacities.
- **Technological capabilities and compatibility**: This involves saving data in a secure database; using electronic, digital or biometric data; and using application programming interfaces to link various databases.
- **Finances**: This involves supporting the identification system infrastructure and streamlining the process.
- **Data protection**: This involves ensuring that the responsible use of data is safeguarded without infringing on individual rights for privacy.

If Latvia wants to link various databases for its EDG it should consider developing and introducing a UID system, which has been implemented successfully in various countries across the world. For example, in Florida, United States, a unique student ID allows the linking of school data from kindergarten to high school in the K12 data system, the Florida college system and the workforce development information system. This makes it possible to track students as they progress through the education system and

transition into the workforce, and allows policy makers evaluate the effectiveness of various initiatives and adapt their approach accordingly. The system increases accountability and simplifies reporting across the whole system. Similarly in Estonia, the Estonian Education Information System uses a civil registration system combined with a digital system that issues a chip-based ID card. This applies to every citizen, including students. The system collects comprehensive academic data including grades and assessment scores, but also provides an overview of the teaching plan for individual lessons and homework assignments. It also incorporates information on individual teachers and provides detailed attendance records. Parents have access to their child's records and can be notified by text message if their child misses a class. All aspects of academia are captured through the website, and students are tracked throughout their academic career (Box 3.6). Introducing such a unique identification system in Latvia would require the resources to build the infrastructure and set up the system. However, this may be a worthwhile investment to improve the indicator system.

Box 3.6. Case studies for linking indicator databases

Unique student ID in the Florida Longitudinal Data system (United States)

In Florida, every student is issued with a unique tracking number, which is applied throughout their entire academic career within the state, including tertiary education. Florida is one of the country's pioneers in collecting and tracking student level data, with the oldest longitudinal data system in the country dating back to 1995. In 2014, the Florida Department of Education served nearly 2.7 million students, 4 200 public schools, 28 colleges, 192 000 teachers, 47 000 college professors and administrators, and 321 000 full-time staff throughout the state. The state-wide longitudinal data system tracks 2.7 million students across different education agencies and stores data in a centralised database. The database's architecture was set up in 2003 and upgraded and enhanced around ten years later. One of the most important improvements was the introduction of a more efficient UID system that uses a common, state-wide UID as opposed to a local UID that has a cumbersome and inefficient process for tracking student movement. Florida has established funding mechanisms that will maintain the system after the initial federal grants expire. This was supported by a strong commitment from politicians who created the appropriate state legislation to make sustainability possible. The matching of grants and ongoing funding ensure the long-term viability of the system.

Unique student ID in the Estonian Education Information System (Estonia)

The Estonian Education Information System (EHIS) is a database that brings together information related to education using a unique personal identifier for each individual. The database stores details about educational institutions, students, teachers and lecturers, graduation documents, study materials and curricula. Detailed information on general education levels across the population from school to university is available on request. An Estonian ID card is needed to access the EHIS database. It is used by many different Estonian agencies, such as the Ministry of Education and Research, educational institutions, local authorities, the Estonian Student Union, and the Estonian Health Insurance Fund. From EHIS data it is possible to get a quick and easy overview of the main indicators of general education institutions. The most common use of the EHIS system is for students who can apply to universities by simply transferring their details.

Source: Husein, A.H. (2017[11]), *Data for Learning: Building a Smart Education Data System*, https://openknowledge.worldbank.org/handle/10986/28336/.

Recommendation for linking indicator databases

Facilitate data exchanges between indicator databases through a unique identification number for each individual that allows data on this individual to be linked across various databases. Such a unique identification number system allows policy makers to track students' progression throughout and beyond the education and skills system, making tracer studies possible and providing insights into EDG relevant policy outcomes.The unique ID could be based on birth registers, biometrics, or other forms of identification (e.g. chip-based ID card with photograph). Consideration should be given to linking Latvia's various administrative databases where information relevant to education and skills policy can be found. These include the State Education Information System, the Unemployment Accounting and Registered Vacancy Information System, and databases of EU funded projects (e.g. SO 8.4.1 "Improvement of professional competence of employed persons"). Such efforts might require a legal and regulatory framework that makes the implementation of a unique identification number system possible, determines the types of information that can be tracked, ensures privacy and data rights, and guards against data abuse. There are also requirements for technological capabilities and compatibilities so that personal data can be saved in a secure database and application programming interfaces are available to link the various databases. The financial cost in setting up the infrastructure and streamlining the process must also be considered. While there are substantial initial resource requirements to introduce such a system, it could be a long-term investment for Latvia and support the implementation of the EDG with comprehensive information.

Action 2. Improve the quality of indicator data

One of the key elements of a robust indicator system is high-quality data for the indicators to ensure that policy makers can make informed decisions. The quality is determined by how the data are collected, saved, produced and used. Data should be accurate, secure and timely (Husein, 2017[11]), and data gaps should be identified and addressed.

There are currently some concerns about data quality in Latvia. For example, the exact number of school leaders, teachers and other educators (e.g. teachers' assistants, speech therapists, psychologists, methodologists) is unknown and there is limited information about them (E-Klase, 2015[23]; OECD, 2017[24]). Latvia's SEIS collects, generates and stores information on education institutions, programmes and staff, from ECEC to higher education, but there are concerns regarding the accuracy and reliability of the data (OECD, 2016[9]). On occasion, data drawn from the system has been found to be outdated, conflicting with other data sources or simply flawed. It is difficult to determine the number of teachers because the same teacher can work in several schools, and the reported data only records information about a teacher's workload. Part of the reason for this situation may be a lack of clarity in definitions and the scope of data collections.

One of the underlying issues that affects the quality of indicators is the lack of a shared understanding of what should be measured and how it should be measured. This issue is less apparent for compulsory education where data reporting is mandatory and there are clearly defined data categories. However, where data reporting is not a mandatory requirement, data quality often becomes problematic. This problem is most acute in adult learning. Most data used nationally is acquired through surveys, and there is no system-wide approach for regular reporting on adult learning and no nationally applied definition of what should be viewed as adult learning for data reporting. Given that adult learning can occur in formal education, non-formal education and informal learning, data reporting on adult learning is complex, and it is not clear what type of adult learning the relevant institutions should report on. Schools offering adult education programmes provide some data, as do municipalities; however, there is no agreement on how to collect and aggregate these data. Thus, the SEIS currently does not provide data on participation in non-formal adult education. A more comprehensive view of adult learning is usually obtained through specific studies commissioned at the national level, but these are only periodic.

Data quality issues are important not only for monitoring national policies, but also for international monitoring purposes, such as in the context of the EU or the SDG 4 agenda. The quality of data needs to be in line with international quality standards to allow for meaningful benchmarking and promote peer learning.

As the policy context for education changes continuously (see Chapter 2), the indicator system for monitoring the education and skills system needs to also be adapted over time so that it does not become outdated or irrelevant. An adaptable indicator system should periodically review the available data and identify whether they are still relevant for emerging data requirements. This may require the data to be aggregated or disaggregated in new ways and for additional functionalities (e.g. new reported data) or new categories (e.g. particular groups of students) to be added (Husein, 2017[11]).

Factors that can help improve the quality of data include:

- **Clear concepts and definitions**: These inform a commonly applied methodology for data collection, as well as the use of statistical techniques and interpretation of data results.
- **Validation process**: This establishes feedback loops into the data management process (whether paper based or digital) to improve data quality.
- **Integrity**: This promotes the transparency of the data management process and ethical standards.
- **Resources**: These provide sufficient financial, technological, institutional and human resources to the statistical agency responsible for the data collection and interpretation to carry out its task.

International good practice for improving data quality is to adopt digital technologies that improve the consistency, reliability and timeliness of data being collected, managed and used. The advantage of using such digital technologies is that they simplify the data collection process, allow for various verification feedback loops, and can be easily adapted as the policy context changes and new data needs arise. Digital technologies can be applied in various parts of the indicator system and cover data collection software, school information systems, database management systems and data analytics applications (Table 3.12). When digital solutions are adopted at the national level and implemented across levels of government, as well as by stakeholders, they can strengthen the overall governance of the indicator system.

Table 3.12. Overview of technology solutions for improving the quality of data sources

	Functionality examples	Software examples
Data collection software	• Allows users to enter, edit, tabulate and disseminate data. • Allows users to design a data collection questionnaire or survey. • Provides advanced functions and handles complex surveys and censuses. • Allows data collection with mobile devices and replaces paper-based data collection. • Allows manipulation and validation of data before starting the data analysis process.	Census and Survey Processing System, Open Data Kit, FHI 360's Mobile Suite, Blaise
School information systems	• Allow schools to manage various aspects of running a school, including modules to register students, document grades and assessment scores, track student and teacher attendance, and record finances and other aspects of school management. • Track students, enabling teachers and parents to closely monitor academic progress. • Provide staff performance evaluation tools and record staff training and employment details. • Allow schools to directly feed data into regional or national systems, providing live data to policy and decision makers and eliminating the extra step of filling out forms specifically for data reporting purposes. • Provide access to students, parents, teachers, and regional and national policy.	Alma, Class365, Edsby, Eduflex, Edvance School Management Software, Engage, Focus School Software, Gradelink, LINQ, MySchool, PowerSchool, PraxiSchool, Project Fedena, OpenSIS Community, SAFSMS, SchoolPRO2, Capita, Sentral Education, OpenEMIS, Open Solutions for Education

	Functionality examples	Software examples
Database management systems	• Organise data using a set of tables with a number of relationships between the different tables. • Allow users to enter data in any order then reassemble the data in an infinite number of ways without having to physically reorganise the tables themselves.	Oracle, MySQL, Microsoft SQL Server, DB2, Microsoft Access, MariaDB, PostgreSQL, SQLITE, Firebird, MongoDB, Cassandra, Elasticsearch, and VoltDB.
Data analytics applications	• Manipulate large amounts of data distributed across different systems. • Offer advanced predictive modeling. • Disseminate data effectively through visualisation and provide artificial and visual intelligence focusing on deep learning. • Allow the government to track how education stakeholders make use of their websites.	R, Orange, RapidMiner, Dataiku Data Science Studio (DSS), Anaconda, H2O, Piwik

Source: Adapted from Husein, A.H. (2017[11]), *Data for Learning: Building a Smart Education Data System*, https://openknowledge.worldbank.org/handle/10986/28336.

To address indicator data quality challenges, Latvia is developing a monitoring system for educational quality assessment, with an education monitoring project expected to be completed by the end of 2023. One of the deliverables of this project is the development of clear definitions of key terms such as "educational quality" and explanations of how these will be measured with benchmarks for 2024 and 2027. These measures and benchmarks will also be included in the EDG 2021-2027.

With the development of the monitoring system, Latvia should also consider improving the quality of its indicator system by strengthening validation processes to ensure quality. For example, in North Carolina (United States), the Department of Instruction validates data and conducts annual data auditing of the data collection system (Box 3.7). Latvia could also use various digital technologies in parts of the indicator system to support the regular monitoring process and ensure higher levels of accuracy, reliability and timeliness of data.

Box 3.7. Country example for improving the quality of indicator data

Data validation process in North Carolina (United States)

North Carolina has implemented a strict data validation policy for all public schools. In order to ensure high-quality data, the data collected must go through a data auditing and a data profiling process. The Department of Instruction has responsibility for verifying data quality, and each data collection system undergoes an annual auditing process. Most importantly, data provided by the Data Management Group will not be accepted into the authoritative data process without passing a data validation process. The validated data are then fed into the Uniform Education Reporting System. The benefit of such a system is that all the data are in one place and in the correct format, allowing for the seamless flow of data into a data dashboard that displays real-time metrics, such as teacher pay, student background information and number of seats in a classroom. This also saves staff capacity as data requests from government officials and other stakeholders are processed much more efficiently.

Source: Husein, A.H. (2017[11]), *Data for Learning: Building a Smart Education Data System*, https://openknowledge.worldbank.org/handle/10986/28336; Sorrells, A. (2019[25]), *EdExplainer: Education data systems in North Carolina*, www.ednc.org/edexplainer-education-data-systems-in-north-carolina/.

Recommendation for improving the quality of indicator data

Improve data validation processes by conducting regular quality checks of the data collection system and adopting digital technologies. Regular data collection quality checks based on transparent and clear standards ensure that consistent concepts, definitions and methodologies are applied in the data

collection so that data from various sources are compatible and can be aggregated. The quality checks can provide a regular feedback loop between data collection and data management processes so that any discrepancies and inconsistencies are quickly identified and addressed. The statistical agency responsible for data collection and management should be provided with sufficient financial and human resources to carry out these tasks. Latvia should explore adopting various digital technologies to improve the consistency, reliability and timeliness of data being collected, managed and used. Such technologies simplify the data collection process, facilitate the validation feedback loops, and can be easily adapted as the policy context changes and new data needs arise. Digital technologies can be applied in various parts of the indicator system and cover data collection software, school information systems, database management systems and data analytics applications. By improving the quality of indicator data, measuring progress in the implementation of the EDG becomes more reliable, and EDG-related policy decisions are enhanced.

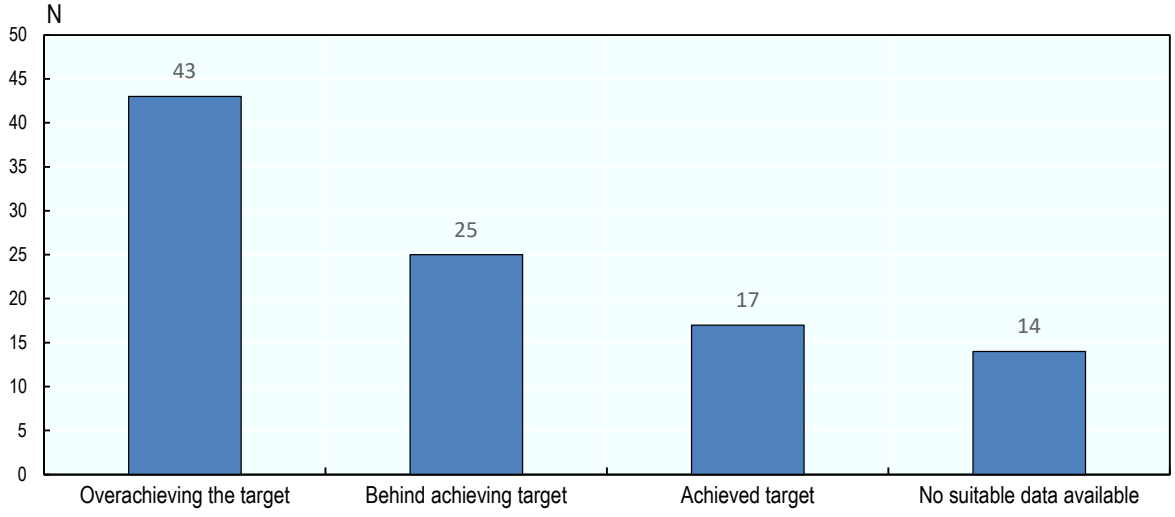
Action 3. Benchmark indicators

Once the indicators have been selected it is important to set the relevant benchmarks against which performance in the implementation of the policy actions and the achievement of the policy objectives can be monitored and evaluated. Benchmarks help hold all relevant actors accountable and provide a clear goal to strive for by quantifying what is expected.

Latvia's previous EDG 2014-2020 included baseline values, mid-term benchmarks and final year benchmarks. The mid-term evaluation of the previous EDG 2014-2020 was released in 2019. Comparing the evaluated mid-term values with the target values of the mid-term benchmarks reveals Latvia's performance so far (Figure 3.2). Among the 99 indicators, the target was exceeded for 43 indicators, met for 17, and not met for 25. For the remaining 14 indicators, no suitable data were available.

Figure 3.2. Overview of Latvia's EDG benchmarks in the mid-term evaluation

Number of benchmark values that were overachieved, behind in achieving, achieved, and lacking due to no suitable data being available



Source: Adapted from Latvian Ministry of Education and Science (2019[12]), *Mid-term Evaluation of Education and Development Goals 2014-2020*.

StatLink https://doi.org/10.1787/888934177081

In cases where the mid-term target value has been exceeded, this could mean that the target was set too low or that more than necessary resources were invested. For example, for the indicator "educational institutions use the eTwinning platform for co-operation with other European schools as a percentage of the total number of educational institutions", the target mid-term value was 16%, while the evaluated mid-term value was 67%. When the mid-term value is far below the target, this could mean that the target was too ambitious and/or that insufficient resources and efforts were invested, or that other external circumstances made it difficult to achieve. For example, for the indicator "proportion of teachers involved in professional development activities as a percentage of the total number of teachers", the target mid-term value was 50%, while the evaluated mid-term value was 30%. For the indicators that were on target, many were framed as yes/no options, particularly those related to certain regulatory changes (e.g. state examinations) or the establishment of institutions (e.g. National Agency for Higher Education Quality Evaluation). For some indicators that did not have suitable data for the mid-term evaluation, the main reasons included a lack of updated data, no available data source and regulatory barriers (e.g. inhibiting collection of information on students with disabilities).

There were also a number of indicators with benchmark values that were difficult to understand and interpret. For example, the indicator "the number of teachers working with adults who have received support to learn Latvian as a second and foreign language" had a baseline value of 116 (2013), a mid-term value of 70 and a target value of 90. The evaluated mid-term value was 104. Similarly, for the indicator "public expenditure on education in the year as a percentage of GDP" the baseline value was 4.9% (2013), the mid-term value 3.7% and the target value 5%. The evaluated mid-term value was 5.3%. For both indicators, the mid-term value first goes down and the target value goes up again. Without further context, it is difficult to understand why these values have been set as they were and how to interpret the mid-term value.

For selecting benchmark values for the new EDG 2021-2027, Latvia should consider using the SMART framework introduced in Section 2, which is also relevant for benchmarks. A quality benchmark is **s**pecific, **m**easurable, **a**chievable, **r**ealistic and **t**imely. In particular, if Latvia wants to include again any of the 14 indicators for which there was no suitable data source available in the mid-term evaluation, a careful review should determine whether a new data source could be found before including the indicator.

Moreover, Latvia should consider the following aspects when setting education benchmarks:

Level or rate of progress

- Benchmarks can either correspond to a specific level (e.g. 90% secondary education completion rate) or to a rate of progress (e.g. double the completion rate in secondary education). This choice may be conceptual in nature, i.e. all children should be in school. However, there is a more practical issue of different starting points for different stakeholders.

Differentiation by target group

- Differentiating benchmarks by target group is important for countries to assess performance towards achieving equity objectives. If different subpopulations begin from very different starting points, is it relevant or reasonable to set the same target for everyone? Using the same target for everyone can make it unrealistic for some and not sufficiently ambitious for others. At the same time, it may be politically desirable to hold similar expectations for everyone, regardless of their background. This question is relevant for both level and progress indicators, as advantaged groups are more likely to reach level targets, but less likely to reach progress targets.
- A compromise may be to set a final overall target for the whole population, but with different contributions from each subpopulation. For example, the country may set a national target, but expect that advantaged and disadvantaged regions contribute differently to this national target, according to their means and starting points.

Quantitative or qualitative measures

- Quantitative benchmarks can often be seen as “dry” and almost antithetical to the concepts of holistic education and well-rounded students. It is important, therefore, to collect additional qualitative and descriptive information that can help obtain a fuller picture.

The process of setting benchmarks requires finding a balance between the desirable and the feasible. If the benchmarks are unbalanced, with a significant share of indicators ending up with values significantly exceeding or falling below the target, this could mean that resources are not effectively allocated. For example, some portion of the resources used to achieve exceeded targets might have been better spent achieving missed targets. At the same time, since an exceeded target may also mean that the target was set too low in the first place, it should be carefully reviewed and adjusted as needed.

There are a number of criteria that can be considered when setting benchmarks (Table 3.13). These include the extent to which the benchmark is a priority for the government, the peer average for the indicator, the available resources for achieving the benchmark, relevant international performance standards and past trends.

Table 3.13. Criteria for selecting benchmarks

Benchmark criteria	Guiding questions
Priorities of the government	Has the objective to be measured been declared as a priority by the government? Is there public pressure to substantially improve performance? If the objectives have been given a high priority or public pressure is strong, then the target could be set higher than what would be arrived at through a straight extrapolation of past trends.
Peer average	What is the level of performance of other similar countries, and how must the country’s performance be improved if it is to become a comparative front-runner? If there is a big gap between the peers, then the strategy may set a more ambitious target to decrease or eliminate the gaps.
Available resources	What is it possible to achieve using current resources, and should resources be reallocated? If the achievement of a target is directly linked to financial resources, the target should take into account the projected necessary funding.
International performance standards	Are there any benchmarks established by international organisations for measuring the expected performance of the given aspect in the skills system?
Past trends	What is the performance trend for the last several years (e.g. three, five or more years) and what are the reasons behind any ups and downs in performance? What is the size and tendency of annual increase or decrease? This aspect has particular importance, as substantial additional resources and efforts are usually required to bring about improvements where long-standing performance levels are entrenched.

Source: Vági, P. and E. Rimkute (2018[8]), "Toolkit for the preparation, implementation, monitoring, reporting and evaluation of public administration reform and sector strategies: Guidance for SIGMA partners", *SIGMA Papers*, No. 57, https://dx.doi.org/10.1787/37e212e6-en.

Once the criteria for selecting the benchmark has been decided, it is necessary to identify the base value. Ideally, the current value would be available; however, in cases where no data are available due to the creation of a new indicator it may be necessary to collect new data and calculate the base value from that. If the indicator is qualitative in nature, such as assessing whether a skills council has been established, the base value would be 0.

In order to set the target for the indicators, Latvia should consider the five criteria presented in Table 3.13. An indicator target should be ambitious enough to be inspirational and mobilise action, but not so unrealistic as to demotivate actors. Trend data can be useful when available as it allows for the estimation of a realistic target. Setting a mid-term target value involves identifying the base and target value and calculating the mid-term value between the two. If based on historical trend data, and the rate of improvement has not been linear, adjustments to the mid-term value could be made. In some cases, perhaps based on available resources or for political reasons, the mid-term value could be set more ambitiously or more cautiously.

It is also important to determine the frequency of the benchmarks. The indicators for the EDG should usually have a mid-term value and a final year target value. This applies in particular to the outcome indicators, which can then be used during monitoring and evaluation to determine whether the EDG has achieved the overall policy objectives. However, since these two values are a number of years apart, and the results of the mid-term evaluation are usually only available towards the end of the EDG (i.e. mid-term evaluation results of the EDG 2014-2020 were available in 2019), it may be useful to also have annual targets for important indicators. This would provide more frequent feedback and enable the implementation of policy actions to be adapted before it is too late to correct. In uncertain times, with COVID-19 making it difficult to predict changes in the policy context for the foreseeable future, more frequent feedback may be needed to facilitate making adjustments to policy actions in the EDG. At the same time, more frequent data collection is labour intensive and comes at a cost. The potential benefits and costs should thus be carefully weighed before making a decision about the frequency of targets.

Recommendations for benchmarking indicators

Set the target value to be sufficiently ambitious to inspire and mobilise action, but not so unrealistic as to demotivate actors. Target values should be chosen based on criteria such as government priorities, peer average, available resources, international performance standards and past trends. If any indicators from the previous EDG are being used for the new EDG, their benchmark values should be reviewed in relation to the evaluated mid-term values in order to determine a realistic benchmark target in the new EDG.

Consider adopting annual targets for some indicators. Complementary to the mid-term and final year target values, Latvia could consider annual targets for some important indicators. This would provide more frequent feedback on progress towards the achievement of objectives and, by extension, highlight where corrective action may need to be taken to achieve those targets. In uncertain times, with COVID-19 making it difficult to predict the policy context for the foreseeable future, more frequent feedback may facilitate making adjustments to the EDG. At the same time, more frequent data collection is labour intensive and comes at a cost. The potential benefits and costs should thus be weighed carefully.

Action 4. Raise capacity to make use of indicator data

Once indicator data have been collected, users need to have sufficient capacity to utilise these data. The sheer number of indicators that can be tracked, and the amount of data they represent, can be overwhelming for data users.

Interpreting indicators to inform public policy decisions requires a nuanced understanding of what the indicators measure and the limitations. Without this understanding, indicators can be misinterpreted or go unused.

The misinterpretation of an indicator occurs when the goal of the indicator is not properly understood. For example, an indicator might measure the number of courses in which more than 10% of classes have been cancelled. If would be a misinterpretation of the goal of this indicator to accept as a success classes in which the cancellation rate is below the 10% threshold.

The non-use of an indicator occurs when an indicator produces data that are vague and difficult to act upon, such as an indicator that tracks the average test scores of students. If the indicator was also available in disaggregated form and showed variations by demographic group it could inform a policy targeted at specific student groups. However, without these details the indicator may not be useful for policy making.

In order for indicator data to be used in policy development, some basic statistical knowledge is required. For example, when analysing relationships between two variables, causality must not be inferred from correlation. It may be possible that one variable occurs with the other (i.e. correlation), without one

necessarily causing the other (i.e. causation). This has important implications for how data can be interpreted and what limitations there may be when applying data analysis to policy development.

Factors that impact the capacity to use indicators effectively include:

- **Culture in government of using data for decision making**: This involves prioritising data in decision making and policy making, and encouraging transparency and openness in data sharing and data usage.
- **Prioritisation of indicators**: This involves identifying the key indicators that are most relevant for the medium- and long-term goals and vision of the education system, which makes them easier to follow and use.
- **Capacity of users to interpret data**: This involves understanding the nuances and limitations of indicators and identifying which are most appropriate for the policies considered.

A number of national and international indicators are available but not fully used. For example, the National Centre for Education gathers and analyses the results of the centralised exam at the end of upper secondary education each year. It prepares annual statistical reports that describe students' achievements and results, as well as trends and correlations among the variables. Some information, such as for specific subjects like English, mathematics and Latvian language, are also provided at the school level. Stakeholder organisations pay a lot of attention to the annual results. However, despite increased interest in the findings from the general public, the exam results were not included as indicators in the previous EDG 2014-2020. For the new EDG, Latvia could consider using this indicator, which would allow it to monitor education outcomes on an annual basis.

Certain international indicators should also be used more. Latvia participates in a number of different international assessment surveys, such as PISA, the Trends in International Mathematics and Science Study (TIMSS), the Progress in International Reading Literacy Study (PIRLS), and soon the Survey of Adult Skills (PIAAC), all of which can be used to create indicators. Some of the data from these surveys have already been used in indicators in the previous EDG 2014-2020, for example students with low/high learning outcomes in literacy, mathematics and natural sciences (PISA); 15-year-old students who suffered from any type of violence several times a month (PISA); and 4-year-old pre-school children who suffered from any type of violence once a month (PIRLS). These surveys can be used as the basis for many other potentially relevant indicators in Latvia's new EDG 2021-2027. Some examples of these are presented in Section 4.

Latvia has some initiatives that seek to improve the capacity of government officials to use indicators, but these have limitations. Some municipalities have implemented projects, supported by European Structural Funds, to develop their administrative capacity to collect and use indicator data. However, due to the limited amount of available funding, this type of support is not available for all municipalities. One approach adopted by government to overcome capacity constraints has been to seek external expert advice, such as inviting academics to join working groups. However, the government lacks the financial capacity to regularly commission input from the academic community. Consequently, expert engagement is typically given voluntarily without remuneration (Anda Terauda, Auers and Jahn, 2018[26]), which means that it is not always easy for governments to obtain the expert advice they need. More broadly, existing research activities have been highly reliant on European Structural Funds, which is not financially sustainable in the long term as the European Commission's priorities could change. Educational research is undertaken by a small number of individuals and institutes, which limits the overall capacity for Latvia to analyse and interpret indicator information.

For the new EDG, Latvia should consider supporting independent research institutions to expand their research and evaluation capacity to interpret indicator data for decision making. These could be national bodies with specialist expertise in the area, or Latvia's universities. Latvia could consider the example of

the Chilean Center for Research in the Ministry of Education (Box 3.8), which has been designated to lead and co-ordinate efforts in using indicator information in education.

Box 3.8. Strengthening capacity to make use of indicators

Center for Research in the Ministry of Education (Chile)

The Center for Research in the Ministry of Education co-ordinates the information gathered from various government agencies to disseminate timely and quality education information. It supports the process of collection, validation, processing and integration of databases; conducts impact evaluations; and publishes reports on official statistics. The links to datasets are published on the centre's website and are accompanied by the e-mail addresses of staff who can be contacted for enquiries. In addition to these data sources, the official database incorporates information from the National Demographic Census and the National Household Surveys, which collect information on the average years of schooling of the adult population. The centre also provides training for other Ministry of Education staff on how to use indicator information for policy making. The Center for Research comprises an interdisciplinary team of professionals organised in seven units by function and level of education: Statistics, Evaluation, Early Childhood Education, School Education (primary and secondary), Higher Education, Research Promotion and Cabinet Support. There are currently 35 professionals at the centre, including multiple trained statisticians and statistical engineers. The centre is also responsible for hosting the Chilean launch of international publications on indicators, such as the annual OECD "Education at a Glance" publication.

Source: Husein, A.H. (2017[11]), *Data for Learning: Building a Smart Education Data System*, https://openknowledge.worldbank.org/handle/10986/28336.

Recommendation for raising capacity to make use of indicator data

Support research institutions to provide capacity in fully using the available national and international indicators. These research institutions should support the implementation of the EDG by tracking relevant indicators and analysing progress in implementing the policy actions and achieving the policy objectives. These research institutions should analyse the information generated by indicators and regularly publish reports that explain how it can inform and guide the implementation of the EDG policy actions. They should have multidisciplinary teams of experts with statistical and evaluation backgrounds, as well as expertise across education levels. These teams could provide training to other government officials in the Ministry of Education and Science, related agencies and municipalities in how to use information generated by indicators so that the information is used with the nuances and limitations of indicators in mind, and so the most appropriate indicators are used for the policies considered. These research institutions should promote a culture that prioritises data in decision making and policy making, as well as encourages transparency and openness in data sharing and data usage.

Action 5. Improve the dissemination of indicator data

The regular dissemination of indicator information can help increase accountability and the visibility of policy actions. When disseminating indicator information it is important to identify the audience and adjust the messaging and presentation (including visualisations) accordingly. In Latvia, audiences include the Ministry of Education and Science, other ministries and government organisations, local government, schools, teachers, parents, students, research institutes, national non-governmental organisations, and international organisations. Due to the vast differences in the needs, interests and ability to interpret data of users, it may even be necessary to develop different products for different audiences.

Enabling factors for the effective dissemination of indicator information include:

- **Dissemination strategy**: This involves co-ordinating the efforts of sharing indicator information with various relevant actors.
- **Multiple dissemination channels**: This involves making indicator information available through multiple channels, such as websites, mobile apps, reports, brochures and newsletters.
- **Availability of disaggregated data**: This involves allowing users to access the information most relevant to them (e.g. a particular school for parents).
- **Frequency of dissemination:** This involves making the information available according to the needs of the respective audience.

In Latvia, the dissemination of indicator data information occurs through a variety of platforms. There are a large number of websites that provide information to users based on indicator information. For example, information on the demand for different professions in the labour market is available through the State Employment Agency's website, where individuals can access information on short-term trends in the demand for different professions, by region and in the country overall. Another development is a project implemented by the Ministry of Economics, in collaboration with the State Employment Agency, which aims to create a user-friendly platform to communicate medium-term and long-term labour market forecasts. It is planned that this platform will also eventually incorporate information on short-term labour market demand (OECD, 2019[14]).

In order for the forecast information generated by indicators to inform the educational decisions of a lay person, this information could be better disseminated and tailored to the specific needs of the end user. Currently, results are primarily distributed in the form of reports with technical descriptions, which is unlikely to meet the needs of the lay person who may find it more useful to access the information in an interactive online format that uses easy to understand language. Limited dissemination channels have led to a lack of awareness about changes in the labour market and a lack of discussion about labour market trends and future skills needs. The forecasts have also not been used to develop policy at the sectoral level. A two-year study on improving Latvia's labour market forecasting system found a lack of co-operation between government and stakeholders on interpreting the results of existing forecasts (AC Konsultacijas, 2019[27]). Latvia lacks a user-friendly online platform for different user groups to access the results to inform decision making or conduct research and analysis. The results of these exercises are also not integrated with information on related education and training programmes.

For its EDG, Latvia could consider improving its dissemination infrastructure so that the information being collected also gets effectively disseminated to the end users. A relevant country example is the Job Bank platform in Canada, run by Employment and Social Development Canada, and Denmark's Education Guide (Box 3.9). These platforms are user-friendly as they are easily accessible in their presentation and language. They are being used by students, parents, guidance counsellors, employers and other government officials.

Box 3.9. Country examples for disseminating indicator information

Disseminating indicator information through the platform Job Bank (Canada)

Employment and Social Development Canada centralises the dissemination of labour market information and skills assessment on a single platform called Job Bank. The platform is available as an interactive website and in mobile version. It helps to connect Canadians with available jobs by providing information on employment opportunities throughout the country. It also allows users to explore fields of study and how well graduates of particular programmes are doing on the job market. Users can take quizzes to have their personality and interests assessed and be matched with suitable career options.

For hiring firms, the platform provides lists of potential candidates that match the job requirements. The platform also conducts trends analysis by exploring job outlooks for a given occupation or location, comparing wages between occupations and different parts of the country, and featuring latest reports about the job market.

Source: Government of Canada (2020[28]), Job Bank, https://www.jobbank.gc.ca/aboutus.

Denmark's comprehensive portal for learning and careers counselling services

Denmark's Education Guide is the national information and guidance portal for adults and young learners. The sub-portal on lifelong education and training provides information on choices for adults from different educational backgrounds. The sub-portal on jobs and careers provides information on the Danish labour market, trades, industries and sectors, and current employment opportunities. The Ask a Counsellor sub-portal offers a number of ways to get in contact with someone who can provide customised guidance on education and jobs. The service is available every day, including weekends. Users can choose the communication channel that best suits them, either via email or in real-time via chat or telephone.

Source: OECD (2018[29]), *Skills Strategy Implementation Guidance for Slovenia: Improving the Governance of Adult Learning*, https://dx.doi.org/10.1787/9789264308459-en.

Recommendations for improving the dissemination of indicator data

Improve the dissemination of information generated by indicators through an accessible and user-friendly platform that serves a wide audience of users. In order for information, such as that generated by the forecast indicators and other indicators of the EDG, to inform decisions, it should be well disseminated via a platform accessible through a variety of channels (e.g. website, mobile). The information should be up-to-date, user-friendly and easily accessible in its presentation and language. The platform should centralise information on skills needs and available learning opportunities, as well as career guidance services and funding support. The information should be available in disaggregated format so that it can be tailored to the specific needs of various users, such as students, parents, guidance counsellors, employers and other government officials. The platform information should be part of a larger dissemination strategy that seeks to foster a continuous discussion about future skills needs and progress in the implementation of the EDG between the government and stakeholders.

6. Summary and recommendations

Latvia's EDG needs to be accompanied by a robust indicator system to monitor implementation progress. Such a system for education and skills policies provides reliable, accurate and timely information on the human and financial resources invested in skills, how education and skills systems operate and evolve, and the returns on investments in skills.

An effective process for selecting EDG indicators should facilitate the consideration of a comprehensive set of high-quality indicators and help to prioritise indicators on the basis of their ability to assess progress towards the achievement of the objectives and policy actions of the EDG. It is important find the right number of indicators, as too many can be costly and administratively burdensome, and too few may not allow for a comprehensive assessment of progress towards achieving the policy objectives.

An assessment of Latvia's current indicator system reveals gaps in Latvia's ability to measure progress towards the achievement of its objectives. For example, indicators could be developed to track funding for lifelong learning, distinguish between drop-outs due to emigration and for other reasons, monitor student

progression through education, measure the quality of ECEC, and provide additional background information on students, such as their home language and disability status. Developing these indicators would allow Latvia to identify whether all students are sufficiently supported and have the opportunity to develop their skills.

This chapter has presented a list of potential indicators for the EDG and an overview of further considerations taken during the development of Latvia's EDG. The OECD, together with government and stakeholder representatives, reviewed a total of 181 possible indicators and afterwards prioritised and discussed in-depth between 10-12 potential indicators across each of the five levels of education,[3] resulting in a total of 54 potential indicators for Latvia's EDG.

Latvia should consider the suggestions for how to improve its indicator system for the EDG. These improvements include linking the various databases with a unique identification number, implementing a strong data validation process, setting ambitious yet realistic benchmark targets, designating a research institution to fully use the information generated by indicators, and disseminating information generated by the indicators through a user-friendly platform serving a wide audience of users. Improving the indicator system in these ways would allow Latvia to make more effective use of the information generated by the indicators to guide the EDG implementation process.

Table 3.14. Recommendations for strengthening Latvia's indicator system for the EDG

Actions	Recommendations
1. Link indicator databases	**Facilitate data exchanges between indicator databases through a unique identification number for each individual, which allows data on this individual to be linked across various databases.** Consideration should be given to linking Latvia's various administrative databases where information relevant to education and skills policy can be found. These include the State Education Information System, the Unemployment Accounting and Registered Vacancy Information System, as well as databases of EU funded projects (e.g. Information system for the professional competence project (SO 8.4.1)), among others.
2. Improve the quality of indicator data	**Strengthen data validation processes by conducting regular quality checks of the data collection system and adopting digital technologies**. Regular data collection quality checks based on transparent and clear standards should ensure that consistent concepts, definitions and methodologies are applied in the data collection. Adopting various digital technologies such as data collection software, school information systems, database management systems and data analytics applications should be explored for more accuracy, reliability and timeliness of data.
3. Benchmark indicators	**Set the target value to be sufficiently ambitious to inspire and mobilise action, but not so unrealistic as to demotivate actors.** Target values should be chosen based on criteria such as government priorities, peer average, available resources, international performance standards and past trends. If any indicators from the previous EDG are being used for the new EDG, their benchmark values should be reviewed in relation to the evaluated mid-term values to determine a realistic benchmark target in the new EDG. **Consider adopting annual targets for some indicators.** Complementary to the mid-term and final year target values, Latvia may also consider annual targets for some important indicators. This would provide more frequent feedback on progress towards the achievement of objectives and highlight where corrective action may need to be taken to achieve those targets. At the same time, more frequent data collection is labour intensive and comes at a cost. The potential benefits and costs should thus be weighed carefully.
4. Raise capacity to make use of indicator data	**Support research institutions to provide capacity in fully using the available national and international indicators.** The research institutions should analyse progress in implementing the EDG and regularly publish reports informing and guiding implementation. They should provide training to other government officials on how to use information generated by indicators so that the most appropriate indicators are used for the policies considered and so that the information is used with the nuances and limitations of indicators in mind.
5. Improve the dissemination of indicator data	**Improve the dissemination of information generated by the indicators through a user-friendly platform serving a wide audience of users**. The platform should be accessible through a variety of channels (e.g. website, mobile) and provide up-to-date information in plain language. The platform should centralise information on skills needs and available learning opportunities, career guidance services and funding support. The information should be available in disaggregated format so that it can be tailored to the specific needs of various users.

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Notes

[1] www.sigmaweb.org/publications/SIGMA-Strategy-Toolkit-Annex-2-Indicators.docx.

[2] The four policy objectives discussed during the Strategy Development Workshop were draft versions. They have since been further developed, as reflected in Chapter 2.

[3] Five levels of education: 1) early childhood education and care; 2) general education; 3) vocational education and training; 4) higher education; and 5) adult learning.

Annex A. Engagement

The National Skills Strategy Implementation Guidance project involved ongoing oversight and input from the National Project Team, which was co-ordinated by the Latvian Ministry of Education and Science and composed of experts from various other ministries and organisations, as outlined in the table below.

Three missions were organised between October 2019 and February 2020, with workshops, focus groups and bilateral meetings.

Table A A.1. The National Project Team

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OECD Skills Studies

OECD Skills Strategy Implementation Guidance for Latvia

DEVELOPING LATVIA'S EDUCATION DEVELOPMENT GUIDELINES 2021-2027

In order to pave the path to future success, Latvia has developed its Education Development Guidelines 2021-2027, which identifies key policy initiatives that are critical for skills development. The Guidelines outline how Latvia will equip its citizens with skills to flourish in work and in society. Evidence on the strengths and weaknesses of Latvia's education and skills systems has informed the prioritisation of relevant policies in the Guidelines. A wide range of Latvian actors across ministries, levels of government, education and training providers, employers, trade unions, the non-profit sector and learners have been involved in the development of the Guidelines, demonstrating their commitment to work together to implement these initiatives.

Looking to the future, more can be done to position Latvia to successfully implement the policy priorities and reach the targets encompassed by the Guidelines. As the COVID-19 crisis has reminded us, the future is uncertain and therefore all plans must be designed to be responsive and adaptable to overcome future challenges and seize future opportunities.

Building on the OECD Skills Strategy Assessment and Recommendations phase, the Implementation Guidance phase has supported Latvia in the development of the Education Development Guidelines 2021-2027 by providing guidance on selecting policy actions, improving Latvia's indicator system, and selecting performance indicators.

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