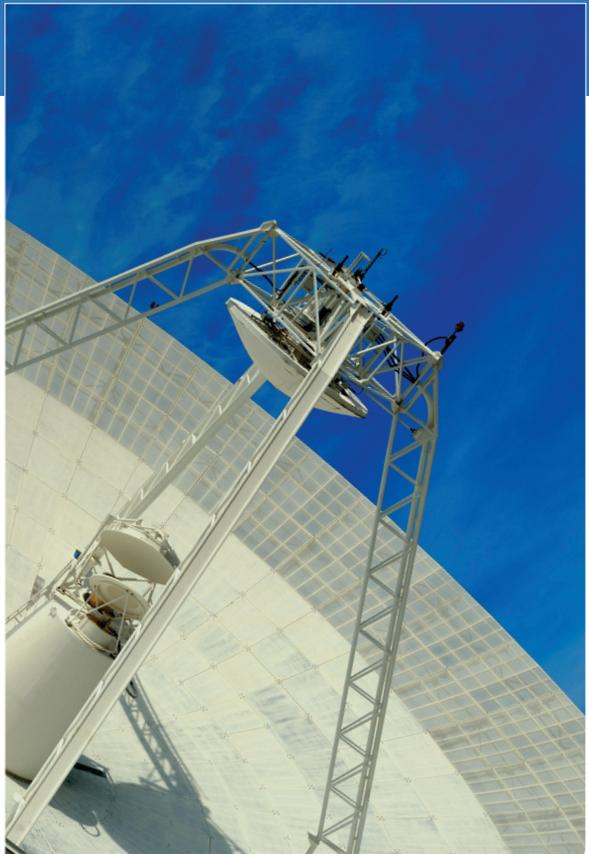


# OECD INTERNATIONAL FUTURES PROGRAMMES

Building Partnerships for Progress





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#### ▶▶ OECD Member countries

AUSTRALIA, AUSTRIA, BELGIUM, CANADA, CZECH REPUBLIC, DENMARK,  
FINLAND, FRANCE, GERMANY, GREECE, HUNGARY, ICELAND, IRELAND, ITALY,  
JAPAN, KOREA, LUXEMBOURG, MEXICO, NETHERLANDS,  
NEW ZEALAND, NORWAY, POLAND, PORTUGAL, SLOVAK REPUBLIC,  
SPAIN, SWEDEN, SWITZERLAND, TURKEY, UNITED KINGDOM, UNITED STATES.

# Taking on the future

*The IFP helps policy makers take the long view, confront their visions and concerns, and gain a real understanding of the issues at stake.*

Effective policy making and corporate management call for a critical but at the same time open-minded approach to the range of possible future developments, their implications, and the strategic decisions that may shape them. The problem is that in today's complex and uncertain world, any sort of valid assessment of future trends is a formidable challenge. Economic, social and technological forces are combining to drive change along at great speed, and a growing deluge of information is making it increasingly hard to discern the key factors affecting the long term.

The OECD International Futures Programme (IFP) is designed to help policy makers in government and business come to grips with this challenge. IFP events offer a platform where policy makers can freely confront their visions and concerns about the future, seek the views of others, and engage in a stimulating dialogue, all of which lead to a better understanding of the issues at stake. Established in 1990, the Programme operates within the OECD's Advisory Unit to the Secretary-General. It reports directly to the Secretary-General and is advised by an Informal Group of Ambassadors to the OECD.

The International Futures Programme offers a number of distinguishing features:

- *Improved* monitoring of the long-term economic and social horizon, with early warning on emerging domestic and international issues.
- *More* accurate pinpointing of major developments and possible trend breaks.
- *Greater* analytical appreciation of key long-term issues.
- *Better* dialogue and information-sharing to help set policy agendas and map strategy.

## Taking on the future

► The Programme consists of two interrelated elements:

**The OECD Forum for the Future** is a platform for informal, high-level meetings among senior policy makers from government, business, research and civil society. The aim is to test new ideas, develop fresh perspectives on problems and advance the understanding of strategic economic and social issues. The level and composition of attendance are geared in each case to the specific topic in question. This format allows ample time for in-depth, off-the-record discussion around the table. It also provides opportunities for informal contacts among participants.

**OECD Futures Projects** are focused, multidisciplinary research and policy analyses on special future-oriented themes, often as spin-offs from Forum for the Future Conferences or previous Futures Projects. These involve both governments and the private sector, and span a period lasting eighteen months to two years. Futures Projects are a useful vehicle for getting issues onto the agenda, especially in cases where there is no appropriate OECD Committee or Directorate to address the specific theme, or where the interdisciplinary nature of the theme does not lend itself easily to treatment by a single or even several Directorates.

*The Steering Group for the 2003 conference on the Commercialisation of Space and the Development of Space and Infrastructure.*

The meetings generate widely distributed, translated and cited publications that capture the essence of the proceedings and bring together the background papers into single volumes (see page 20), while the projects lead to the publication of substantial, highly influential reports containing

policy recommendations for policy makers in government and the corporate sector alike.

The IFP is only partially financed through the ordinary budget of the OECD. A major part of its funding is based on voluntary contributions from the *Partners of the International Futures Programme*, government departments and agencies, corporations, foundations and institutes that help shape the Programme's policy agenda. ‹‹





# Back to the future

*To date, the IFP has organised 22 events – conferences, workshops and projects.*

## Achievements to date: a selection

**T**he **Future of Money** explored the interrelationship between the possible emergence of new, virtual forms of money and credit, and technological, economic and social change. Digital money could pave the way to an efficient economy – or lead to monopoly, inequality and crime. Policy implications were assessed, including the need for regulatory change. The conference was hosted by the Luxembourg Government, the Luxembourg Bankers' Association (ABBL) and the Luxembourg Federation of the Professionals of the Financial Sector (PROFIL).

**21st Century Governance: Power in the Global Knowledge Economy and Society** confirmed the gradual shift away from traditional, hierarchical command-and-control systems within societies. That shift is partly inviting, partly compelling citizens to become more involved in decision making that impinges on their economic, social and environmental circumstances. This is likely to be accompanied by a major overhaul of governance structures and processes everywhere. The conference was hosted by the Norddeutsche Landesbank Nord/LB, Hannover.

**21st Century Social Dynamics: Towards the Creative Society** concluded that growing diversity within and among societies could, if well managed, lead to greater creativity and innovation, stimulating economic and technological dynamism. At the same time, polarisation – which frequently accompanies the emergence of new social orders – could heighten tension or conflicts. Policy choices will be the determining factor in minimising the friction and establishing sustainable social foundations. The conference was hosted by the Bankgesellschaft Berlin. ▶

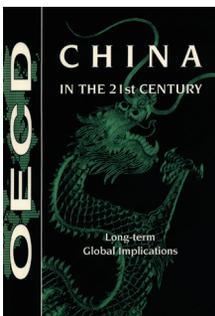
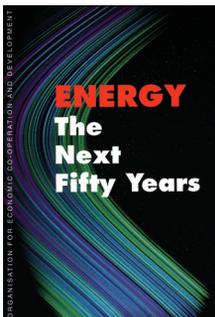
## Back to the future

► **21st Century Economic Dynamism: Anatomy of a Long Boom** focused on powerful forces of change that could bring on a long, sustained economic boom in the next decades. These include more knowledge-intensive economic activities that could give rise to huge gains in productivity; continuing global and regional integration; and a fast-growing environmental awareness that could greatly accelerate the shift to new, less resource-intensive production and consumption patterns. The conference was hosted by the DG Bank Deutsche Genossenschaftsbank AG, Frankfurt.

**Energy: The Next Fifty Years** looked at endeavours to set world energy on a sustainable footing. By 2050 a highly diversified mix of conventional and new fuels may be in use, and unprecedented levels of energy efficiency in transport systems, housing and other infrastructures will likely have been attained. Participants at this meeting underscored, however, that the shift toward sustainable energy use will take decades to achieve, and decision makers must act now to begin to shape a sustainable energy future for the 21st century. The conference was held in co-operation with the International Energy Agency (IEA).

**21st Century Technologies: Balancing Economic, Social and Environmental Implications** looked at trends across a wide range of technologies, such as IT, biotechnology, energy technology and new materials. Participants concluded that the next few decades hold the prospect of remarkable progress in pervasive technologies that are likely to have a profound effect on how we live, learn, work and spend our leisure time. Policy will be crucial in using them wisely. The conference was hosted by the Westdeutsche Landesbank (WestLB), Düsseldorf.

**China in the 21st Century: Long-Term Global Implications** explored important future repercussions of the country's emergence as a major player on the world economic scene. The prevailing view was that while China's economy will continue to register high rates of growth in the coming decade, a range of problems will need addressing – e.g. relating to labour markets, state-owned enterprises, infrastructure and the environment. China's integration into the world economy opens up the prospect of both a massive new growth pole and the major task of embedding China firmly in multilateral agreements and institutional frameworks. «

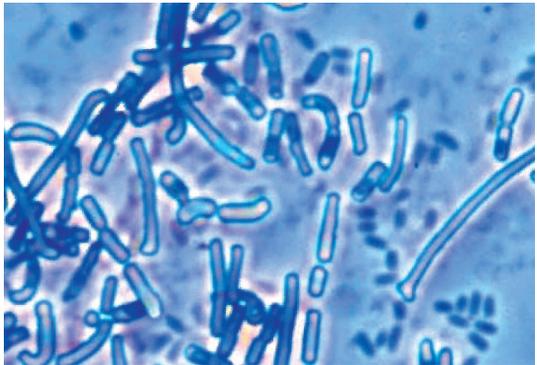


## Special Focus

# Major risks and security issues

**T**errorism, natural disasters, disruption of global supply chains, organised crime, computer viruses – all these have played a role in raising people's awareness of the risks they face in today's world. How well are countries prepared for major hazards? What more could they do to prepare for "the worst", should it happen? And are they ready for the aftermath? The IFP has been examining these urgent questions in its recent groundbreaking work on the dual subjects of Risk and Security.

The very nature of risk has changed in recent years, along with society's capacity to deal with it. A recent interdisciplinary project initiated by the IFP produced an influential publication assessing *Emerging Risks in the 21st Century: An Agenda for Action*. Special emphasis was placed on potential disruptions to vulnerable vital systems such as health services, transport, energy, food and water supplies, and information and telecommunications. What policies are needed to ensure that risk management tools contribute effectively to the prevention of serious disruptions and the mitigation of disaster's consequences? The report contains a comprehensive set of recommendations for government and the private sector for better managing these systemic risks.



And after a harmful event has occurred, then what? How can recovery be secured, and trust restored? Another recent IFP report, available as a publication, offers lessons learned in dealing with large-scale disasters, based on observation of past events and analysis of their similarities. Apart from immediate clean-up, relief and recovery operations, there are the indirect costs and less obvious ramifications such as budgetary impacts, loss of revenue for businesses and higher insurance premiums. Governments can and must be better prepared to mitigate these and other economic ►



## Back to the future

► and social impacts. Public trust and investor confidence must be strengthened through credible communication and effective action. The private sector needs to be engaged as government's partner in prevention and preparedness as well as in response and recovery. And the global implications of harmful events make international co-operation all the more necessary.

In response to these and other risks, a \$100 billion market for security goods and services has emerged in recent years, fed by growing demand from governments, businesses and private households. New identification and surveillance technologies such as biometrics and radio frequency ID are coming on stream, and satellite-based monitoring is set to play an ever greater role. At the end of 2003 the IFP held a conference on The Security Economy that explored the drivers behind this rising demand, the likely future directions of the accommodating technology, and the tough, inevitable questions concerning the trade-offs. Are higher levels of security compatible with economic efficiency? What about the impact of increased surveillance on privacy and other democratic liberties?

The IFP is continuing this important work with its Futures Project on Risk Management Policies in Selected OECD Countries and the Frascati Conference on Biosecurity, described in Ongoing & Planned Activities.◀◀



# The way ahead

## Ongoing and planned activities

*Over the next two or three decades, which sectors of activity could boost economic performance? What developments could help? What threatens to hinder?*

Over the coming years, the OECD International Futures Programme will be putting its long experience in forward-looking, multidisciplinary activity to work in helping governments and the business community sustain and invigorate economic growth and development.

Long-term growth prospects for the world economy now appear decidedly mixed. While a good number of emerging economies are expected to perform well, the outlook for many OECD countries is generally quite modest. Projections suggest moderate rates of economic growth for the period to 2015, and a further slowdown in the years following linked to the impact of ageing populations. If OECD countries are to effectively meet the many challenges they face – soaring pension and health costs, mounting public deficits, high levels of unemployment, burgeoning infrastructure problems and growing security commitments – then strong economic performance will be required to help generate the necessary resources.

The IFP's programme of work for the coming period envisages three activity clusters.

The first is to identify and examine leading-edge and emerging sectors of economic activity that have the potential to boost economic performance in the OECD area over the next 10-15 years – the space industry and related applications, the bio-based economy, the security and surveillance sector, and entertainment & media. The Programme will also be assessing the potential barriers to these sectors' expansion, and recommending policies to enhance the conditions for their favourable longer-term development. More ►

► sectors may be added as the Programme evolves. The second involves analysing broader contemporary developments that will have a major bearing on economic growth worldwide over the longer term, and proposing measures to enhance their role in underpinning stronger global economic performance. Currently under review, for example, are the prospects for closer economic co-operation in Asia; financing world infrastructure needs; and the global mobility of people and skills. The list may well expand.

The third is to identify and assess potential threats and impediments to the vital systems on which economies depend, and to put forward recommendations on how these might be addressed. Two activities of this nature are under way or planned: country reviews of risk management policies in the OECD area, and the threat from inadequate bio-security.

A common thread running through nearly all of these themes is the changing nature of the roles played by public sector and private actors alike. ‹‹

## Asia-Pacific regional integration: prospects and scenarios for the future

**R**egional integration has long been on the agenda of the Asia Pacific countries, but the process has been slower there than in Europe or North America. And addressing this question has become more urgent with the emergence of serious imbalances within the region.

Migratory flows within Asia, for example, will be critical to the region's continued prosperity, yet current migration rates are low and a number of obstacles block further liberalisation of labour movement across borders. Varying health standards in the region may pose a threat to health and economic progress, as exemplified by recent outbreaks of SARS and avian influenza. Energy demand in Asia will outpace world demand, calling for

massive investments in energy infrastructure. Yet funding difficulties seem inevitable, given the high degree of regional co-operation required to raise and channel the finance to where it is needed, build the necessary trans-border infrastructures, and find solutions to regional environmental questions.

These and other issues call for more effective institutional mechanisms for international dialogue and policy improvements in the region. In intensifying regional co-operation, it is important that broader, global considerations be borne in mind as well, to ensure that regional solutions do not undermine increasingly important multilateral efforts in those same fields.

The IFP, in co-operation with the Bob Hawke Prime Ministerial Centre, Australia, is publishing a report on this subject that will offer a basis for informed debate about the main integration issues facing the Asia-Pacific region. What, for example, is the state of play in regional co-operation on trade, investment, transport and communications? What international arrangements are in place governing education, health and the environment? What is the current framework for handling migration issues? What are the prospects for improving co-operation in the region on the establishment of vital energy infrastructures? «



## Space: the next 30 years

In the past four decades space has been more than just a showroom where nations can demonstrate their technical proficiency. Man has come to depend on space. Satellite-based weather and emergency services already save lives. Tens of millions of homes have access to satellite television or telephone, even in the remotest areas. An increasing number of people rely on space-based positioning and navigation systems. And the scope for civilian space applications is likely to increase in the years to come. ►



## The way ahead

► But how long can the trend continue? Just how commercially viable will it prove to develop further applications? What further space infrastructure is necessary? Launch costs remain high. Space activities, even fairly well developed ones, are not only expensive but also high-risk – as shown by cost overruns, unfulfilled promises, and disasters such as the loss of the space shuttle Columbia. As a result, both industry and the financial community hesitate to embark on developing promising applications, and governments face tough questions and tougher choices. Exactly how much benefit does society reap from space ventures? How much effort should be devoted to space, and how will that effort be funded? What roles are to be played by public and private actors?



Realising the potential that space may offer calls for an institutional and regulatory environment that fully takes account of the sector's expanding commercial component, while at the same time ensuring that the necessary space infrastructure is developed – notably for those applications that have strong public good characteristics. The current thinking among many experts is that the frameworks currently in place will not be able to meet those needs.

At the OECD a two-year Futures Project on space is under way to help find answers to these questions by reaching a better understanding of the issues at stake and the solutions that could be applied nationally and internationally. Areas analysed for application potential include communications (telemedicine, multimedia entertainment), earth observation and disaster management, navigation and positioning (location-based services, traffic monitoring and control) and space tourism. Only when they are fully aware of all the challenges and opportunities involved will governments have a real picture of what space can contribute to solving the world's economic, environmental and social problems.

The first interim report is currently available and the final report with conclusions and recommendations is scheduled for publication in 2005. ‹‹

## Assessing emerging risks through country reviews

**M**ega-terrorist” attacks, new infectious diseases, earthquake devastation... A host of large-scale, extremely costly disasters have struck various parts of the world over the last decade. And the indications are that some types of catastrophic event, as well as all the attendant costs, look set to increase in the future. Complex interactions between such factors as climate change, migration, geopolitical developments and technological advances are changing the nature of conventional risks and giving rise to new forms. Major vital systems – technological, infrastructural, ecological, etc. – could be severely, perhaps even irreversibly damaged by a single natural or human-caused event. Such huge systemic risks call for a systemic response.

Many OECD countries are concerned that their capacity to cope with “mega-risks” is inadequate in some important respects. As an innovative response to those concerns, the IFP is proposing to conduct reviews of Member countries’ risk management systems on a voluntary basis, in order to examine their effectiveness and provide guidance on possible improvements. These country-specific reviews, which will serve as a platform for exchanging information, experience and best practices, are part of a follow-up to previous work ►



► on Emerging Systemic Risks. In 2003, the IFP produced a groundbreaking report that examined the forces driving risk and the challenges in assessing, preparing for and responding to conventional and newly emerging hazards (see page 20).

Within the context of the OECD Futures Project on Risk Management in selected OECD countries, case studies will concentrate on a range of threats and vulnerabilities that could prove critical to society. Thus they are likely to address such themes as ongoing vulnerability assessments for critical infrastructures, security and reliability of power supply systems, prevention of disasters triggered by natural hazards such as floods, and public/private management of large-scale accidents. The country reviews comprise a three-stage programme. Phase One will establish the participants and scope, and identify the appropriate issues and measurement criteria. Phase Two will see review teams spending agreed periods in the host countries to observe, collect data, and prepare evaluation reports and policy recommendations. The project culminates in Phase Three: a cross-country, analytical synthesis report that will draw together the lessons learned. ‹‹

## Biosecurity: preventing abuse of research and resources in the biosciences

**R**apid advances in the biological sciences greatly contribute to the improvement of human welfare. They also constitute a very real potential for harm, as they could be misused to produce dangerous agents and toxins. It is urgently important to maintain a healthy research environment, ensuring responsible oversight of dual-use research within the scientific communities, industry and government bodies.

The IFP is holding a high-level international meeting in Frascati, Italy to explore ways of avoiding potential abuse of research and resources in bioscience. High-ranking government officials and academics will tackle many aspects of the open access versus security dilemma, with a view to shedding light on key questions and future options.

The roundtable discussion will be organised in five sessions. The first

explores the risks and opportunities of biological research, including possible misuse. The second emphasises the importance of open research systems with responsible access to resources, and the balance to be struck between openness and caution. The third reviews current governmental and non-governmental arrangements for governance of bioscience research, and attempts to draw lessons concerning directions in future oversight. The fourth looks at possibilities of assuring responsible conduct through voluntary arrangements among stakeholders. The final session will draw conclusions concerning the adequacy of formal and informal tools to manage the threat posed, and possible next steps to create greater awareness of the issues. ‹‹



## The bio-based economy: its longer-term future and potential impacts

Recent advances in the life sciences are making a reality of the prediction that this will be the century of biotechnology. A wide range of R&D activities are maturing at a remarkably rapid pace. New treatments and drugs, genetically modified foods, biologically controlled production processes, new materials, biologically based computing – 20 or 30 years from now, these and many other applications may well become part of our everyday lives, improving health, the environment, and industrial, agricultural and energy production. They could affect our societies as profoundly as information technologies have already done.

What's more, biotechnological techniques, materials and devices may – especially if they converge with other technologies such as IT, bioinformatics and nanotechnologies – transform the way a whole host of products are designed, manufactured and used. That transformation of industry and consumption may provide significant opportunities for sustainable growth in both developed and developing ►



## The way ahead

▶ countries. It could also lead to far-reaching changes in economic activity and society, as well as to some complex policy challenges.

An IFP workshop will be assessing just how pervasive and widespread biotechnological applications are likely to be, the prospects for convergence over the next two to three decades, the likely impact on the economy, and the implications for policy. ◀◀

## The future of the entertainment and media sector

### ▶▶ THE GLOBAL ENTERTAINMENT & MEDIA MARKET:

Experts expect television distribution to grow by 6% per annum, to around \$207 billion by 2007. That same year, the entertainment & media market is expected to reach a value of \$1.4 trillion.

Valued at over one trillion USD a year; entertainment & media is the fastest-growing sector in many OECD economies. It is also one of the most turbulent. Disruptive new technologies, notably the digitalisation of content and the development of broadband access, are offering new ways to produce and deliver content, and are calling into question existing business models. There will be competition from new players coming from the hardware and software industries. Intellectual property rights (IPR) will undoubtedly be a major arena for diverging interests, and not just between consumers and copyright owners: personal video recorders (PRVs) are being challenged by media companies as a threat to their right to sell copies of shows on other formats such as DVDs. Market access is another thorny question: governments may be called on to protect local markets (or ideologies) against foreign influence, but by doing so they might expose themselves to sanctions under free trade agreements.

The IFP is planning a preliminary conference to explore the possibility of setting up a major Futures Project that would bring together competing interests in a non-confrontational setting – content suppliers, service providers, technology developers, regulators, and consumer-citizen representatives.

In a sector that will probably be marked more by conflict than convergence, much will be decided by government policy. And many technological, economic and policy conflicts will need to be resolved over the next five to ten years to take advantage of the enormous potential that is forecast for the decades that follow. ◀◀

# The mobile society and the future of international migration

The phenomenon of migration has recently been receiving increased attention in OECD countries, along with its contributing factors – internal conflicts, war, environmental stress, continuing globalisation, regional economic integration, falling transport costs, sharp differentials in wage and salary levels, and the longer-term implications of ageing. The share of foreign-born citizens in the population of many developed countries is growing, along with the prospect of further large-scale movements of people from the less to the more prosperous economies in the years ahead.

Migration is already a priority activity in the OECD's work programme. Activities are under way in various Directorates relating to immigration and its impact on, *inter alia*, labour markets, economic development and cross-border flows of highly skilled workers.

As a complement to this politically sensitive work, the IFP is designing a project that aims to provide a long-term perspective on international movements of people over the next two to three decades, and to place those prospects in the broader context of their implications for the economy and society. What scale of economic benefits are such movements likely to generate? Will pressures on labour markets be significantly greater than today? How large are "reverse" immigration flows likely to be? Will the expected increase in social diversity in OECD countries prove a blessing or a burden for creativity and innovation? Will it be possible to address delicate areas such as potential challenges to social cohesion? <<

## ▶▶ MIGRATION FLOWS AND STOCKS

An estimated one out of every 35 persons worldwide is an international migrant.





## The way ahead

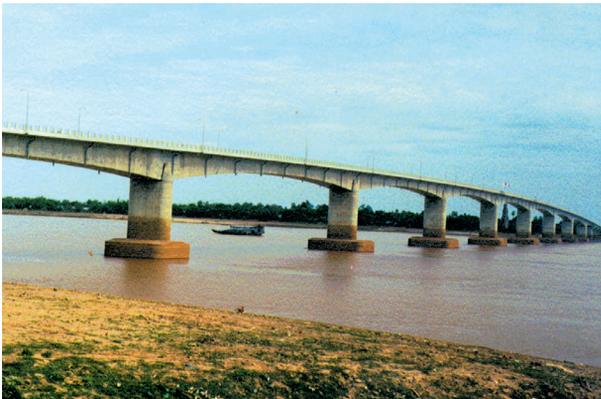
### ▶▶ GLOBAL PROJECTIONS

Funds needed for investments over the next 30 years in energy infrastructure alone are estimated at \$16 trillion. That figure is far higher if other sectors are included.

## Global infrastructure needs: prospects and implications for public and private actors

While the world's infrastructure needs continue to grow, the resources required to finance such investments are failing to keep pace. The result will be a widening gap in the coming decades between necessary and actual levels of investment. In OECD countries there is tremendous pressure to replace, renew and maintain ageing infrastructures. Yet incidents such as the recent power shortages in North America, Italy and Sweden in fact look set to increase. In non-OECD countries, demographic developments combined with growing economic, social and environmental aspirations are likely to generate massive infrastructural needs in the areas of energy, water, transport and communications. But there have been significant declines recently in development aid as well as in foreign direct investment, and current modes of project financing such as build-operate-transfer (BOT) and concessions no longer appear to work successfully. So where will the money for these huge investments come from? Who will carry out the projects? What sort of new financing mechanisms will be required? Clearly, resolving the bottlenecks in raising the funds and implementing the projects will take innovative solutions.

The IFP is embarking on a major project on global infrastructural needs.



The OECD's vast policy experience across the full range of infrastructure sectors concerned, combined with the IFP's own expertise in conducting long-term policy work on complex issues, can contribute to a forward-looking analysis of these problems and of the remedies required to fully realise the benefits of upgrading and creating sound infrastructure.◀◀

## The International Futures Programme Team

The IFP is a small core team of professionals acting as a Secretariat within the OECD.

The Team works with over 50 senior in-house and outside professionals and experts worldwide.

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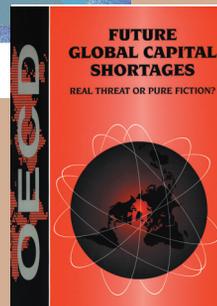
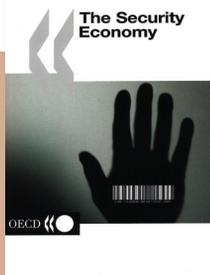
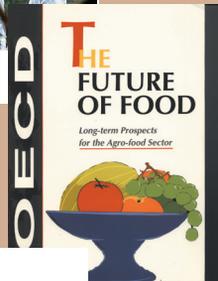
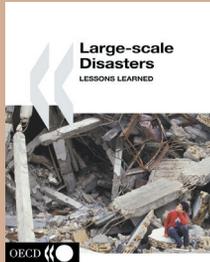
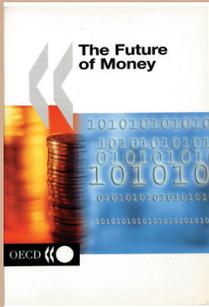


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# Publications of The OECD International Futures Programme



All publications are also available in French, and can be ordered online at [www.SourceOECD.org](http://www.SourceOECD.org)