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Ensuring sustainable energy for all

This issues note provides background information on the need to shift towards cleaner, more efficient energy to achieve the new Sustainable Development Goals through progress on energy access and sustainability and addressing the key challenges to ensuring sustainable energy for all. It is based on and includes excerpts from the OECD paper “Enabling Investment in Sustainable Energy Infrastructure” (www.oecd.org/dac/POST-2015%20sustainable%20energy.pdf).

Key Issues for discussion:

- How can development co-operation best mobilise financial resources (domestic, private sector) to ensure sustainable energy for all?
- How can providers of development co-operation help improve poor people’s access to energy?

Why focus on sustainable energy in the post-2015 agenda?

Achieving universal energy access is essential to meeting the new Sustainable Development Goals. Access to energy is central to human well-being and a major factor in poverty reduction. Although energy was not explicitly featured in the Millennium Development Goals (MDGs), access to sustainable and reliable energy is critical to achieving them.

A main challenge in the post-2015 agenda is to ensure that transformational changes occur in both developing and developed countries. It is particularly important in the energy sector. High-, middle- and low-income countries will need to take action to transition towards low-carbon development in electricity generation and energy end use. Without further policy action, current trends suggest global energy CO₂ emissions will most probably lead the world towards a 3–6°C temperature increase by 2100. This would have serious environmental consequences, including more frequent extreme weather events. The impacts of a changing climate are likely to affect developing countries the most and threaten to reduce (or even cancel out) the social and economic development achievements to date.

With rapid urbanisation and industrial growth, cities in developing countries are also seeing growing levels of dangerous local air pollution from the use of fossil fuels in transport and industry. Indoor air pollution is also a significant threat to human life, in particular for poor women and children, and this is largely due to inadequate access to alternative energy sources and polluting cook stove technologies.

Progress on energy access and sustainable energy

There has been significant progress in recent decades towards achieving universal access to reliable energy services, supporting renewable energy sources and improving energy efficiency. The number of people with access to electricity increased by 1.7 billion between 1990 and 2010, while the number of those with access to non-solid fuels for household cooking increased by 1.6 billion. With global population growth of 1.6 billion over the same period, however, the global electrification rate increased only modestly, from 76% in 1990 to 83% in 2010. In 2010, one in five people – nearly 1.3 billion people – were still without access to electricity



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and 2.6 billion still did not have access to clean cooking facilities. People in developing Asia or sub-Saharan Africa, and in rural areas, are the most affected. Without new policy action, it is projected that nearly 1 billion people will still be without access to electricity and 2.6 billion people without clean cooking facilities in 2030.

Clean energy technologies, such as solar photovoltaic and on-shore wind, have dramatically dropped in cost since 2008 and are increasingly becoming cost-competitive with fossil fuels on an unsubsidised basis in many markets. Supplies of renewable electricity from wind turbines and solar photovoltaic panels recorded double-digit annual growth rates in the last decade, in part thanks to strong policy support such as feed-in tariffs. However, the increase in renewable energy as a proportion of total final energy consumption has been modest, from 16.6% in 1990 to 18% in 2010, despite an investment of over USD 1 trillion in clean energy between 2004 and 2012. In contrast, significant progress has been made in improving energy efficiency. Improvements in energy efficiency have reduced global energy intensity (total final energy consumption per unit of GDP) by 38% from 1970 to 2010.

Unfortunately, this progress is not translating into improvements in carbon intensity. Fossil fuels still account for 79.1 % of total final energy consumption – a share that is almost unchanged since 1990. Fossil-fuel subsidies remain a key distortion to energy markets and have increased considerably in recent years, despite international efforts.

Key challenges to address in the post-2015 goals framework

Mobilising private investment: Achieving universal access to energy by 2030 will require annual investment to increase by more than fivefold, from USD 9.1 billion in 2010 to USD 49 billion in 2030. Non-OECD countries will account for almost two-thirds of the total energy infrastructure financing needs between now and 2035. Historically, rising demand for energy has mostly been met with fossil fuels. Moving forward, investment in clean energy infrastructure needs to be scaled-up significantly to hold the increase in global average temperature below 2°C above pre-industrial levels and contribute to mitigating climate change. A broad range of policy interventions are needed to transform the energy system and shift investment away from fossil fuels towards clean energy. Given the current strains on public finance, mobilising investment in clean energy infrastructure will require leveraging both domestic and international private investment.

Removing obstacles to investment, including:

- **Getting the national investment policy framework right:** Private investment in renewable and more efficient energy infrastructure is still seriously constrained by, for example, higher costs, perceived risk and longer investment timelines compared with fossil-fuel-based alternatives. Robust domestic frameworks can support clean energy investment and help mitigate risks – that is, investment both to enhance the generation of electricity from renewable sources and technologies that improve energy efficiency. A forthcoming OECD report also shows that international investment in solar photovoltaic and wind energy is constrained by the rise of indirect protectionism through local content requirements.
- **Reforming fossil-fuel subsidies and putting a price on carbon:** Improving coherence of the broad system of investment incentives and disincentives by setting long-term goals, removing inefficient fossil-fuel subsidies, pricing carbon, setting well-targeted and time limited incentives (e.g. feed-in tariffs), and facilitating the licensing of renewable energy projects are key to giving investors the incentive to move away from fossil fuels and towards renewable energy sources and increased energy efficiency.
- **Avoiding “mixed messages”: coherent policies:** Ensuring policy coherence is also critical if policy support and international co-operation efforts are to be effective. Governments need to stand back and look across the entire range of signals they are sending to consumers, producers and investors to avoid incoherent and inconsistent policies, eliminate mixed messages when it comes to supporting renewable energy and price carbon in a cost-effective way.

* Note: For bibliographical references, see paper “Enabling Investment in Sustainable Energy Infrastructure”, produced for the series “OECD and Post-2015 Reflections” (Element 4, Paper 2) (www.oecd.org/dac/POST-2015%20sustainable%20energy.pdf).