

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

ORGANISATION DE COOPÉRATION ET DE DÉVELOPPEMENT ÉCONOMIQUES www.oecd.org

BETTER POLICIES FOR BETTER LIVES DES POLITIQUES MEILLEURES POUR UNE VIE MEILLEURE

Financing Climate Change Action and Boosting Technology Change

Key messages and recommendations from current OECD work

Summary

Public and private financing for climate action will need to be scaled up significantly in the coming years. Indeed, the Cancún Agreements call on developed countries to provide new and additional resources for climate actions – USD \$30 billion over 2010-2012 and a longer term goal of \$100 billion per year by 2020. The OECD is ready to assist countries in their efforts to find lasting solutions to finance action on climate change, building on the long-standing work of the organisation to share country experiences and identify lessons learnt and policy recommendations for good practice.

In a context of tight governments budgets, the use of market mechanisms in climate policy frameworks can provide resources to fund climate action and steer private investment to low carbon development. Key actions include:

- Use of carbon taxes or emission trading schemes with a significant degree of auctioning of permits can provide an essential source of public financing to support climate change action;
- Providing a clear price signal to steer private sector investment towards innovation, low-emission technologies and practices;
- Shifting public financing away from activities that encourage greenhouse gas (GHG) emissions, such as subsidies to fossil fuel use or production, to "level the playing field" and free up these resources for public financing of climate actions;
- Broadening and deepening carbon markets, for example through expanded emission trading scheme (ETS), scaled-up clean development mechanism (CDM) or sectoral approaches.

Other policies are also needed to bring clean technology and practices forward in a timely manner:

- Public research and development (R&D) funding also needs to be scaled up ideally in a technology neutral manner -- to deliver technology breakthroughs and change;
- Timebound, public support for investment in new or "immature" renewable energy or other low or no-emission technologies can be effective to lower the risk premium for these investments and promote learning;
- Development assistance and international cooperation are needed to build capacity and experience to
 accelerate international technology transfer and reduce emissions from deforestation and forest degradation
 (REDD).

Leverage private investments through the development and use of innovative financial instruments. Key instruments and actions may include:

- Exploring the contribution of export credits to climate change finance;
- Raising incentives for pension funds and other private pools of capital to invest in low carbon and "climate proofed" development;
- Encouraging pro-active corporate behaviour by establishing international reporting standards.

Transparency and accountability are key to building trust and to improving the effectiveness of international financial support over time. The international community should should work together to:

- Build on existing multilateral institutions and monitoring systems to enhance measurement, reporting and verification (MRV) of climate finance both in developed and developing countries;
- Enhance co-ordination across different funds or delivery channels and explore how existing channels for public / private climate finance can be used at a scaled-up level;
- Working through country-led systems, identify and support policies that most effectively and sustainably boost development while also addressing climate change.

Financial and technology support for climate change action in developing countries is an essential ingredient for a successful post-2012 international climate agreement

Developing countries will be hit hardest by climate change and are least able to pay the bill. Enabling increased capacity in developing countries to identify and deliver timely policy reforms will be essential to ensure that economic development is climate-proofed and contributes to low-carbon growth. To achieve ambitious climate stabilisation objectives, industrialised countries need to achieve deep emission reductions compared to current levels and support developing countries to reduce GHG emissions below business-as-usual levels in the medium term (to 2020-2030). Financial and technological support are also needed to help the most vulnerable countries adapt to climate change that is already locked-in. On adaptation, practical ways for donors to support developing country partners in their efforts to reduce their vulnerability to climate change need to be identified, integrating adaptation to climate change into all development activities (OECD, 2008a; OECD, 2009a). Failure to adapt could stall development, particularly in the poorest countries.

Mobilise and scale-up public and private sources

The exact amount of financing needed to address climate change will depend on many factors, including the level of ambition of mitigation goals and adaptation objectives, and the extent to which "correct" price signals are provided. The Cancún Agreements call on developed countries to provide new and additional resources for developing countries, \$30 billion "fast start financing" over 2010-2012 and a longer term goal of \$100 billion per year by 2020, from public and private sources. By comparison, recent estimates of current public and private financing from developed to developing countries, specifically targeted to mitigation activities, is around \$50 billion per year



accounting for around one-fifth of public and private financial flows to sectors where investment can lead to GHG emissions or to reductions in those emissions (referred to as "mitigation relevant sectors" in Figure 1). Of this, the majority is coming from the private sector. International public funding for mitigation flowing through bilateral and multilateral channels to development developing countries estimated to be on the order of \$19 billion per year; (Corfee-Morlot et al., 2009; Buchner et al. 2011). Funding for adaptation by comparison is only a fraction; annual financial flows for adaptation are estimated to be on the order of \$100 to \$200 million per year (OECD, 2011)¹ Delivering on the Cancún Agreements' goals for financial support suggests there will

Source: Compiled from various sources UNCTAD 2010; OECD DAC-CRS and export credit databases; World Bank 2010, AGF report 2010

Note: Mitigation "low" is a minimum estimate of the low-carbon financial flows to support low carbon investments whereas mitigation specific "high" is a higher bound. For a more detailed explanation of these estimates see Buchner *et al.* 2011.

need to be a significant scaling up of today's levels of support for climate action to address both adaptation and mitigation in developing countries between now and 2030.

¹ The available data for adaptation funding are limited to multilateral climate funds; data on bilateral assistance for adaptation will not be available until 2011. Total funds pledged for adaptation are estimated to amount to \$1 billion, of which a little over half has been committed.

In a context of tight governments budgets, market mechanisms could provide new sources of public funding

Market instruments are essential to put a price on carbon and to steer private investment to low carbon development, but they can also provide a large and stable source of public finance, some of which can be used to support climate change action. OECD research shows that if all industrialised countries were to use economy-wide carbon taxes or auction all emission trading permits to achieve the emission reductions they originally pledged in Copenhagen, they could raise about 1% of GDP (\$400 billion) in revenue per year by 2020 (Dellink *et al.*, 2010). Just a fraction of this would make a significant contribution to the financing specified under theCancún Agreements. The recent report from the UN High Level Advisory Group on Climate Change Financing assumes an auctioning of 10% of the permits for the Copenhagen targets, which would generate \$40 billion for climate action by 2020. There are a wide variety of other possible sources which could be used to scale up public finance to support climate change in this time frame (OECD forthcoming; APF 2009). However in the context of cash strapped public sector, the use of domestic market instruments and policies could generate a stable source of revenues to bolster economic growth, compensate reductions in other taxes (e.g. on labour), and/or to help provide financing to support mitigation and adaptation action in developing countries.

Put a price on carbon to send a clear signal for innovation



A clear, credible and binding policy signal on climate change is necessary to drive private investments in low-carbon

technologies and infrastructure (OECD, 2009b). For example, OECD analysis finds that patent activity related to a range of climate change mitigation technologies shot up after the 1997 agreement on the Kyoto Protocol (figure 2).

carbon Putting а price on emissions through taxes or capand-trade schemes, will penalise carbon-intensive technologies create markets for low-carbon investments and technologies such as energy efficiency, solar, wind energy and carbon capture and storage; and stimulate action in the energy, industry, transport and agriculture sectors. Recent OECD analyses demonstrate that carbon taxes can be very effective in triggering patenting and other innovations (OECD, 2010a).

A further deepening and extending

of the carbon market also creates the scope for substantial transfers of private funds from developed to developing countries. In the near term, the main channel for such transfers may be based on scaled-up versions of existing crediting mechanisms such as the Clean Development Mechanism (CDM). Improving the CDM framework and supporting institutions, and addressing barriers to investments through this mechanism, could increase the potential for financed mitigation in developing countries (Ellis and Kamel, 2007). Further, in a rapidly urbanising world, choice of urban infrastructure and policies can help deliver low carbon development, however access to financing remains a challenge. Offset market mechanisms (such as CDM and Joint Implementation) might be designed to provide better carbon market access to urban mitigation projects and programmes so as to tap the potential for cost-effective mitigation in this area (Clapp *et al*, 2010). If more ambitious GHG emission cuts were pursued and offset and crediting mechanisms were scaled-up at the same time, the amount of transfers through emission crediting – or "offsets" – could rise rapidly. This could support mitigation efforts in developing countries and in rapidly developing locations such as urban city centres. Well-functioning crediting mechanisms also reduce the cost of mitigation (OECD, 2009b).

Shift public financing away from activities that encourage GHG emissions

Even before pricing carbon and other emissions directly, an important first step can be to remove environmentallyharmful subsidies to fossil fuel energy consumption or production because these subsidies amount to a *de facto* reward for carbon emissions. OECD analysis finds that removing energy subsidies would save money for governments and taxpayers, shift the economy away from activities that emit CO₂, encourage energy efficiency, and promote the development and diffusion of low-carbon technologies and renewable energy sources. Removing these subsidies would lower the global cost of stabilising GHG concentrations.

The OECD, together with the IEA, OPEC and the World Bank, have prepared analysis of the scope of energy subsidies and the opportunities for phasing-out fossil fuel subsidies. Joint reports on this issue were submitted to the G20 Leaders' Summits in June and November 2010. According to IEA data, fossil fuel consumption subsidies in 37 developing and emerging economies amounted to an estimated \$558 billion in 2008, and \$312 billion in 2009 (IEA et



al., 2010). OECD estimates that phasing-out these subsidies could reduce global GHG emissions by 10% globally by 2050, compared with business-as-usual, and by over 20% in Russia, Eastern European countries and oil exporting countries (Figure 3). subsidies Removing would also increase the efficiency of these economies (IEA et al., 2010; OECD, 2010a).

Phasing-out subsidies is often politically challenging, and can in some cases have negative impacts on low-income households. Such policy reforms must be implemented carefully to ensure that any negative impacts on household affordability are mitigated through appropriate measures (*e.g.* meanstested social safety net programmes). To achieve intended social benefits, it is

preferable to target the support directly to those who most need it, rather than to maintain an across-the-board subsidy to all fuel users.

OECD analysis has built on country case studies to develop recommendations of how subsidy reform and removal can be implemented in practice, while addressing potential social impacts. OECD is also working with countries to establish better ways of measuring different types of subsidies and tax expenditures that support fossil fuel production and use, and to help countries build capacity to identify and estimate their subsidies and tax expenditures.

Boost technology research and development (R&D)

The latest OECD analysis shows that carbon pricing that stabilises GHG concentrations even at moderate levels could lead to a four-fold increase in world energy R&D spending by 2050 (Bosetti *et al.* 2009). Carbon pricing is a necessary condition to drive investments in low-carbon technologies, but not sufficient. Specific R&D policies are also needed to bring forward low-carbon technologies that are in early stages of development. Government investment in research, development and demonstration projects holds promise for technology breakthroughs. Recent OECD analysis suggests that such breakthroughs – if in the power sector – could halve the costs of mitigation by 2050, create new business opportunities and make more ambitious climate policies affordable. However, IEA data show that public R&D expenditures in the energy sector, as a share of total R&D spending and of GDP, have been falling steadily since the early 1980s. In an encouraging move, when OECD energy ministers met in Paris recently, they called for an acceleration of public spending in this area with a view to doubling expenditures by 2015.



In a world of imperfect information and uncertainty, a key policy challenge relates to the allocation of this R&D support across fields and technologies. Work undertaken at the OECD on innovation in renewable energy technologies suggests it is more efficient to target 'generic' general purpose technologies such as energy storage and grid management than to seek to support particular generating technologies. Figure 4 presents the results of a simulation that allocates a 10% increase in public R&D expenditures two different ways: allocating the increase to generating technologies in line with past trends versus allocating the increase to energy storage technologies. The results measured through patenting activity levels indicate that governments would generate more innovation capacity in intermittent renewable energy generation technologies if they targeted R&D spending to storage technologies rather than trying to "pick winners" by targeting specific generating technologies directly (Johnstone & Haščič, 2009; Johnstone et al., 2010a,b).

Provide public support for investment in renewable energy and other new, clean technologies

In recent years OECD governments have intervened directly in energy markets in order to promote increased investment in low emission technologies, such as renewable energy power plants. Such measures appear to have had some success.

Figure 5 gives an overview of the total plant entry capacities (measured in megawatts electric) for major renewable energy sources - wind, solar, biomass and geothermal in the period 1978-2008. The increasing trend for investment in renewable energy power facilities in all regions since 1997 coincides with the agreement and implementation of the Kyoto Protocol. In this developed country period. have governments provided targeted support for renewable energy investment, which can be justified by the relative immaturity technologies. of these This immaturity makes it more difficult for lenders to accurately price relative risk of investments in "clean" energy, and thus for investors in the sector to obtain



financing at reasonable cost. Moreover, in some cases there can be important learning and demonstration effects, which will not be realized in the absence of initial support (Kalamova *et al.* 2010). At the same time, the rate of entry of coal and oil plants plummeted in these countries.

Predictability of government programmes is necessary if investors are to initiate a project in clean energy; however, predictability should not be mistaken for permanence. It is important to 'sunset' those policies which support investment directly, since over time the financial markets will price risk efficiently and learning benefits will be exhausted.

Accelerate international transfer of 'clean' technologies through international cooperation

Development assistance and international research co-operation have a role to play in encouraging the international transfer of 'clean' technologies. Clearly, market factors are important and countries with close economic ties are most likely to transfer technologies between themselves. However, OECD analyses demonstrate that high technological capacity in the recipient country is a key factor in encouraging transfers. That is, countries that innovate themselves are more likely to benefit from innovations originating elsewhere. As such, actions by developing countries to put in place policies that constrain emissions and drive local innovation supported through capacity building will also be critical to encouraging more transfer of low-carbon technologies.

In addition, special mechanisms may be needed to accelerate technology transfer to developing countries. These will need to balance the interests of businesses as well as governments. A first step would be to lower existing barriers to trade in lower carbon goods. In specific circumstances, such as where transaction costs for transfer are very high, for example due to overlapping patents on complementary technology components, it may be of interest to use international financing to buy-down intellectual property related costs (e.g., application, examination, registration fees) so as to increase technology transfer. Support for education and training may also be helpful to protect intellectual property rights, which in turn provides incentives for innovation.

Develop capacity building and experience to reduce emissions from deforestation and forest degradation in developing countries

Finance for reducing emissions from deforestation and forest degradation (REDD) in developing countries will be needed both for capacity building (e.g., institutional and monitoring capacities) and for emission reductions directly. Emissions from deforestation are substantial, particularly in developing countries, amounting to as much as 17% of global GHG emissions. REDD can be achieved relatively cheaply, and could potentially reduce the cost of global action by 40% (OECD, 2009a). Mechanisms to support "REDD plus," which refers also to conservation efforts, will be essential as part of a cost-effective and comprehensive post-2012 agreement. Four key features critical to an effective REDD plus financing mechanism are: (i) establishing clear goals and objectives; (ii) ensuring sufficient and long-term sources of finance; (iii) developing eligibility and prioritisation criteria; and (iv) ensuring accurate and consistent monitoring and performance evaluation. Ultimately, market-based approaches to finance REDD are likely to generate significantly larger, more sustainable finance, than fund-based approaches (Karousakis & Corfee-Morlot, 2007).

Design policies to leverage private investments and use limited public finance to target areas where private funding will not be available

Public finance will necessarily be limited and should be used as a catalyst to leverage private investments wherever possible. Experience with the GEF shows that public funding on climate mitigation can leverage private investment by a factor of 7:1 or more (Kim *et al.* 2009a). Public financing should primarily target cost-efficient activities unlikely to attract sufficient private funding on their own. This includes capacity building to strengthen enabling environments for investment and integration of climate change concerns into sector and other economic policies, investing in education and training as well as technology research and development. Other priority uses include protecting forests and other natural resources, and adaptation. Policy dialogue on such priorities for development assistance, and targeted capacity building to support policy reforms, are an important part of development co-operation activities and can lead to strengthened, country-driven policies for low-carbon development (OECD *et al.* 2010). In all countries, the use of national low-emission strategies or plans can also be an effective tool to provide a vision of the future and "set the course" for a wide variety of governmental and non-governmental stakeholders (Clapp *et al.* 2010).

Explore the contribution of export credits to climate change finance

Greening export credits could provide an important opportunity to stimulate private investment in developing countries in low carbon development. Export credit agencies (ECAs) typically provide funds (direct loans) or guarantees to facilitate exports. Over the last years, the majority of the medium and long term official export credit flows that go from OECD governments to developing countries have supported the transport (37%) and industry (26%) sectors, followed by energy projects (11%) of which about 1% is estimated to go to renewable energy and energy efficiency in the power sector. While no information is available on the carbon-intensity of these projects overall, it is striking that projects supporting renewable energies and cogeneration/district heating represent only a minor share of official export credits to the energy sector (USD 0.2 billion on average per year over the period 2002-2009).

OECD member countries are taking three active steps to introduce and maintain environmental accountability in official export credits and to address climate change issues. First, ECAs are encouraged, under a 2007 OECD Recommendation, to assess the environmental impacts of projects that they finance or support (OECD, 2007a). While this does not guarantee the "greening" of projects supported by official export credits, it aims to ensure that support is only provided to projects that meet international standards. The benchmarks for project assessment are World Bank



and IFC standards, and these also include GHG emission related indicators. Secondly, under the auspices of the OECD, special rules governing the provision of support for renewable energy and water projects were liberalised in June 2009 to encourage the export of these projects. OECD Members are now in the position to support exports in these areas with favourable financial terms and conditions to reflect the high up-front investment costs and expected useful lives of projects. Finally, as a follow-up to the adoption of the June 2009 changes to the Sector Understanding on Renewable Energies and Water projects, OECD members are also engaging in negotiations address to ongoing challenges related to climate change in the export credits area (OECD, 2009c). Negotiations between OECD members are under way to consider whether and how

key sectors and technologies, such as energy efficiency and other low carbon projects, could become eligible for favourable financial terms and conditions, similar to those for renewable energies.

Develop appropriate investment incentives to encourage private pools of capital to invest in low-carbon development projects

There is a need to involve private sources of funding to meet the financing challenges of low-carbon technologies and climate-proofed development both in industrialised and in developing countries. Investment incentives should build on "good practice", for example, on the OECD Principles for Private Sector Participation in Infrastructure (OECD, 2007b). At present, the absence of positive incentives and weak regulatory frameworks limit much needed investments by institutional investors (such as pension funds) into the sector and obstacles to international investment flows to low carbon options still remain (Inderst, G., 2009; OECD, 2008b).

The incentives can be enhanced in a number of ways. Judging by the risk-adjusted financial success of infrastructure investment funds more generally, tax incentives can be very powerful. The OECD is currently exploring various options, including the use of tax-incentivized bonds and other types of green bonds. To qualify for the status of "climate change" or "green" bonds, projects would have to meet certain requirements for low-emission performance. The projects that are invested in also need to have proper governance mechanisms and to be structured in ways that

generate stable cash flows in order to make them attractive to investors. A sound institutional and regulatory framework, including the phasing out of unnecessary obstacles to capital movements and restrictions on access to local markets, is essential. International organisations can play a role through providing risk-mitigation instruments and mechanisms (e.g., insuring against political or currency risk) that could result in better credit ratings and greater investor confidence.

Support pro-active corporate behaviour by harmonising corporate emission accounting and reporting methods

Climate change creates new risks and opportunities for companies, and a number of companies are already changing the way they do business to respond. The trend towards increased regulation of GHG emissions is putting pressure on carbon-intensive companies, which raises the financial liability of investment in emission-intensive processes or technologies. The expectation that policies to price carbon will become more common and more stringent, diminishes the value of companies that are not forward looking to anticipate future regulation. Increasingly, investors and other stakeholders are calling for greater transparency and corporate disclosure about the GHG emission performance. Yet the lack of internationally agreed standards for GHG emission reporting at company level – resulting in variations in methodologies, scope and boundaries of reported information – limit the companies and increases the costs of GHG reporting. Increased harmonisation of corporate GHG accounting and reporting methodologies could lower costs and improve the quality of information reported by companies (OECD, 2010b).



Build on existing systems to track financial flows

At the international level, current systems to measure, report and verify (MRV) financial support are limited, and no single system provides a complete picture of climate-specific finance flows. Tracking climate finance is difficult, as flows come from different sources (national and international, public and private), provided are via different channels (bilateral or multilateral) and have different aims (mitigation- or adaptation-specific vs. mitigation- or adaptationrelevant) (Corfee-Morlot et al., 2009). Issues relating to confidentiality of data can also impede accurate tracking of export credits and private-sector flows. It is also unclear how to assess what is "new and additional" to pre-existing levels of

finance. Developing a more comprehensive framework for MRV of climate change support in future may usefully build on the UNFCCC National Communications and review process, as well as the statistical systems of the OECD's Development Assistance Committee (DAC) (Ellis *et al.* 2009, 2010).

The OECD-DAC has a robust system for measuring climate change aid (Figure 7). It is based on activity-level reporting to the DAC's Creditor Reporting System (CRS), which covers over 90% of all aid flows from OECD countries and multilateral organisations (OECD, 2010c).

The system for measuring climate change aid is to mark each aid activity that serves climate objectives as either principally or significantly targeted at mitigation or adaptation. So a project can be marked as principally targeted at

mitigation, principally targeted at adaptation, significantly targeted at mitigation, or significantly targeted at adaptation. Data on mitigation-related aid have been collected since 1998. The adaptation marker is newer; agreed at the end of 2009, so data using this marker will be collected from 2010.

The OECD DAC approach is the result of extensive negotiation among aid providers, in consultation with UNFCCC. With the possible exception of carbon capture and storage, all aid projects that reflect climate concerns are also development projects in traditional sectors for aid, such as agriculture, forestry, energy, or water supply.

The Cancún Agreements explicitly acknowledge the role of private finance to achieve 2020 goals. Yet today, there is limited understanding of the baseline of private financing that flows to low carbon development and better monitoring tools are needed to assess progress (Corfee-Morlot *et al.* 2009; Ellis *et al.* 2010). The system of MRV could be extended to include some private climate-specific flows, such as those related to CDM. In addition, foreign direct investment (FDI) is a key financing vector and can play an important role in support of the diffusion of low-carbon technologies. Until recently, however, the potentially important role of FDI has received little systematic attention in the climate change debate. In partnership with others, the OECD is working on how to define and measure green FDI, with a view to promoting a better understanding of the contribution FDI can make to the shift to a low-carbon economy and the role policies may play in the greening of FDI.

Any broad framework for MRV of climate-related financing could build on the OECD DAC system and provide information not only on the source country or fund, but also the destination, purpose (*i.e.* capacity building, mitigation and/or adaptation outcomes) and the targeted sector. Such a framework would ideally include reporting from both developed countries and developing countries to provide information on support provided and received (Buchner *et al.*, 2011). There is also a need for methodological work on how to measure and assess the effectiveness of financial support, particularly in the case of adaptation where there is an issue of how to assess progress. OECD work is also underway in this area.

Improve effectiveness of international financial support

Mobilising public finance is essential, but once available these funds will have to be managed efficiently and channelled towards the most effective investments and activities. A key challenge is to better "match" support with priority actions in developing countries. In particular, we need to be able to connect potentially multiple sources of funding in a strategic way to priorities in developing countries (Kim *et al.*, 2009a, 2009b). Some co-ordination across different funds or delivery channels could be valuable to ensure strategic goals of the international community are met including the geographical distribution of funds, or the balance of funding between mitigation and adaptation. Delivery channels will also need to be designed to reach the poor who are also often most vulnerable to the impacts of climate change. For example, for adaptation financing, working at the sub-national level will be important and mechanisms like microfinance merit a closer look (Agrawala & Carraro, 2010).

Lessons learnt from bilateral and multilateral development assistance activities and global funds for development will be important in informing future climate financing mechanisms (OECD 2010d, 2009d). These lessons include the need to ensure that developing country partners exercise full ownership of climate change funding and integrate it within their own financial allocation mechanisms. Recording these resources in the national budget will help ensure that their use is subject to scrutiny by parliaments, civil society organisations and other domestic accountability institutions. In other words, activities undertaken in response to climate change should be country-driven and clearly based on the needs, views and priorities of partner countries (CDDEF, 2010 a, b).

Further reading:

Books

- OECD (2010)a, Taxation, Innovation and the Environment, OECD Publishing, Paris, www.oecd.org/env/taxes/innovation.
- OECD (2010)b, Transition to a Low-Carbon Economy: Public Goals and Corporate Practices, OECD Publishing, Paris.
- OECD (2009)b, The Economics of Climate Change Mitigation: Policies and Options for Global Action Beyond 2012, OECD Publishing, Paris, www.oecd.org/env/cc/econ/beyond2012.
- OECD (2008)a, Economic Aspects of Adaptation to Climate Change: Costs, Benefits and Policy Instruments, OECD Publishing, Paris, www.oecd.org/env/cc/ecoadaptation.
- OECD (2008)b, Infrastructures to 2030: Telecom, Land Transport, Water and Electricity, OECD publishing, Paris.
- OECD (2007)b, OECD Principles for Private Sector Participation in Infrastructure, OECD publishing, Paris.

Papers, reports and other documents

- AGF (2010), Work Stream 4: Contributions from International Financial Institutions. Available at http://www.un.org/wcm/webdav/site/climatechange/shared/Documents/AGF_reports/Work_Stream_4_International%20Fin ancial%20Institutions.pdf
- Agrawala, S. and M. Carraro (2010), "Assessing the Role of Microfinance in Fostering Adaptation to Climate Change", OECD Environment Working Papers, No. 15, ENV/WKP(2010)1, OECD Publishing, Paris.
- Aasrud, A., R. Baron, B. Buchner and K. McCall (2009). "Sectoral Market Mechanisms Issues for Negotiation and Domestic Implementation". COM/ENV/EPOC/IEA/SLT(2009)5, OECD/IEA.
- APF (2010), "New and Innovative Funding for Climate Change", Special Session of the Africa Partnership Forum on Climate Change, Addis Ababa, 3 September 2009.
- Bosetti, V., C. Carraro, E. de Cian, R. Duval, E. Massetti and M. Tavoni (2009), "The Incentives to Participate in and the Stability of International Climate Coalitions: a Game-Theoretic Analysis Using the WITCH Model", OECD Economics Department Working Paper, No. 702.
- Buchner B., and Brown J. and J. Corfee-Morlot, (2011 forthcoming), "Monitoring and tracking long-term finance to support climate action", OECD Publishing/IEA, Paris.
- Capacity Development for Development Effectiveness Facility (CDDE)b, October 2010, Bangkok call for action, Realizing Development Effectiveness: Making the Most of Climate Change Finance, prepared for the Asia-Pacific Climate Change Finance and Aid Effectiveness dialogue 19th–20th October 2010.
- Capacity Development for Development Effectiveness Facility (CDDEF)b, October 2010, "Realising Development Effectiveness Making the Most of Climate Change Finance in Asia and the Pacific. A Synthesis Report from Five Country Studies in Bangladesh, Cambodia, Indonesia, Philippines and Vietnam" Prepared by Nigel Thornton for the Asia Pacific Climate Change Finance and Aid Effectiveness Dialogue 19th–20th October 2010
- Clapp, C., A. Leseur, O. Sartor, G. Briner and J. Corfee-Morlot (2010)a, "Cities and Carbon Market Finance: Taking Stock of Cities' Experience With Clean Development Mechanism (CDM) and Joint Implementation (JI)", OECD Environment Working Papers, No. 29, ENV/WKP(2010)15, OECD Publishing, Paris.
- Clapp, C., G. Briner and K. Karousakis (2010)b, "Low-Emission Development Strategies (LEDS): Technical, Institutional and Policy Lessons", OECD Publishing/IEA, Paris.
- Corfee-Morlot, J., B. Guay and K. M. Larsen (2009), "Financing Climate Change Mitigation: Towards a Framework for Measurement, Reporting and Verification", COM/ENV/EPOC/IEA/SLT(2009)6, OECD Publishing/IEA, Paris.
- Dellink, R. B., G. Briner and C. Clapp (2010), "Costs, Revenues and Effectiveness of the Copenhagen Accord Emission Pledges for 2020", OECD Environment Working Papers, No. 22, ENV/WKP(2010)8, OECD Publishing, Paris.
- Ellis, J., S. Moarif and G. Briner (2010), "Core Elements of National Reports", COM/ENV/EPOC/IEA/SLT(2010)1, OECD Publishing/IEA, Paris.
- Ellis, J., S. Moarif and J. Kim (2009), "Reporting and Recording Post-2012 GHG Mitigation Commitments, Actions and Support", COM/ENV/EPOC/IEA/SLT(2009)4, OECD Publishing/IEA, Paris.
- Ellis, J. and S. Kamel (2007), "Overcoming barriers to Clean Development Mechanism Projects." COM/ENV/EPOC/IEA/SLT(2007)3, OECD Publishing/IEA, Paris.

- IEA, OECD, World Bank (forthcoming), "The Scope of Fossil-Fuel Subsidies in 2009 and a Roadmap for Phasing Out Fossil-Fuel Subsidies".
- IEA, OECD, OPEC, World Bank (2010), "Analysis of the Scope of Energy Subsidies and Suggestions for the G-20 Initiative", Joint report prepared for submission to the G-20 Summit Meeting, Toronto, 26-27 June 2010, IEA/OPEC/OECD Publishing/World Bank.
- Inderst, G. (2009), "Pension Fund Investment in Infrastructure", OECD Working Papers on Insurance and Private Pensions, No. 32, OECD publishing
- Johnstone, N. and I. Haščič (2009), "Environmental Policy Framework Conditions, Innovation and Technology Transfer", ENV/EPOC/WPNEP(2009)2/FINAL, OECD Publishing, Paris.
- Johnstone, N., I. Haščič, C. Kaminker and F. Watson (2010)a, "Climate Policy and Technological Innovation and Transfer: An Overview of Trends and Recent Empirical Results", ENV/EPOC/GSP(2010)10/FINAL, OECD Publishing, Paris.
- Johnstone, N., I. Haščič and M. Kalamova (2010)b, "Environmental Policy Design Characteristics and Technological Innovation: Evidence from Patent Data", OECD Environment Working Papers, No. 16, ENV/WKP(2010)2, OECD Publishing, Paris.
- Johnstone, N., I. Haščič and F. Watson (2009), "Indicators of Innovation and Transfer in Environmentally Sound Technologies: Methodological Issues", ENV/EPOC/WPNEP(2009)1/FINAL, OECD Publishing, Paris.
- Kalamova, M., C. Kaminker and N. Johnstone (2010 forthcoming), "Sources of Finance, Investment Policies and Plant Entry in the Renewable Energy Sector", OECD Publishing, Paris.
- Karousakis, K. and J. Corfee-Morlot (2007), "Financing Mechanisms to Reduce Emissions from Deforestation: Issues in Design and Implementation", COM/ENV/EPOC/IEA/SLT(2007)7, OECD/IEA, Paris.
- Kim, J., J. Corfee-Morlot and P. T'Serclaes (2009)a, "Linking Mitigation Actions in Developing Countries with Mitigation Support: A Conceptual Framework", COM/ENV/EPOC/IEA/SLT(2009)2, OECD Publishing/IEA, Paris.
- Kim, J., J. Ellis and S. Moarif (2009)b, "Matching Mitigation Actions with Support: Key Issues for Channelling International Public Finance", COM/ENV/EPOC/IEA/SLT(2009)8, OECD Publishing/IEA, Paris.
- OECD (2011) "Development Perspectives for a post-Copenhagen Climate Financing Architecture", OECD publishing, Paris, available at: http://www.oecd.org/dataoecd/47/52/47115936.pdf
- OECD (2010)c, "Tracking Aid in Support of Climate Change Mitigation and Adaptation in Developing Countries" www.oecd.org/dac/stats/rioconventions
- OECD (2010)d, "Financing Today's Climate Change Challenges", OECD factsheet, OECD publishing, Paris.
- OECD (2009)a, "Policy Statement on Integrating Climate Change Adaptation into Development Co-operation", Joint High-Level Meeting of the OECD Development Assistance Committee (DAC) and the Environment Policy Committee (EPOC), 28-29 May 2009.
- OECD (2009)c, "Arrangement on Officially Supported Export Credits" Available at: http://www.olis.oecd.org/olis/2009doc.nsf/LinkTo/NT00004C12/\$FILE/JT03268495.PDF
- OECD (2009)d, "Climate Change and Development: Key Principles to Inform Climate Change Financing", OECD Factsheet, OECD Publishing, Paris.
- OECD (2007)a, "Revised Council Recommendation on Common Approaches on the Environment and Officially Supported Export Credits." TAD/ECG(2007)9, available at: http://webdomino1.oecd.org/olis/2007doc.nsf/Linkto/tad-ecg(2007)9
- UNCTAD (2010), "World Investment Report", available at: http://www.unctad.org/en/docs/wir2010_en.pdf
- World Bank (2010), "State and Trends of the Carbon Market 2010. Washington DC: World Bank." Available at: http://siteresources.worldbank.org/INTCARBONFINANCE/Resources/State_and_Trends_of_the_Carbon_Market_2010_lo w_res.pdf
- World Bank (2006) "Clean Energy and Investment: Towards An Investment Framework." Available at: http://siteresources.worldbank.org/DEVCOMMINT/Documentation/20890696/DC2006-0002(E)-CleanEnergy.pdf



ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

ORGANISATION DE COOPÉRATION ET DE DÉVELOPPEMENT ÉCONOMIQUES

BETTER POLICIES FOR BETTER LIVES DES POLITIQUES MEILLEURES POUR UNE VIE MEILLEURE

Further enquiries about this work should be addressed to:

- On climate change policy, finance, innovation

Jan Corfee-Morlot (flyer coordinator, climate change policy and finance) (<u>jan.corfee-morlot@oecd.org</u>) <u>http://www.oecd.org/env/cc/financing</u>

Nick Johnstone (technology/innovation) (<u>nick.johnstone@oecd.org</u>) http://www.oecd.org/environment/innovation

Shardul Agrawala (adaptation policy, development) (<u>shardul.agrawala@oecd.org</u>) http://www.oecd.org/env/cc/adaptation

Rob Dellink (economic modelling) (robertus.dellink@oecd.org)

- On development financing and aid effectiveness:

Remy Paris (development and climate policy) (remy.paris@oecd.org)

Julia Benn (aid statistics, DAC CRS and Rio Markers) (julia.benn@oecd.org) http://www.oecd.org/dac/stats/rioconventions

- On export credits

Michael Gonter (michael.gonter@oecd.org)

Jean Le Cocguic (jean.lecocguic@oecd.org)

- On financial and entreprise affairs

Celine Kauffmann (private sector initiatives, financing low-carbon development) (celine.kauffmann@oecd.org)

Fiona Stewart (institutional investors) (fiona.stewart@oecd.org)

For more information see: www.oecd.org/env/cc/financing