

COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 6.10.2006
COM(2006) 583 final

COMMUNICATION FROM THE COMMISSION TO THE COUNCIL AND THE EUROPEAN PARLIAMENT

Mobilising public and private finance towards global access to climate-friendly, affordable and secure energy services: The Global Energy Efficiency and Renewable Energy Fund

{SEC(2006) 1224}
{SEC(2006) 1225}

1. SUSTAINABLE DEVELOPMENT - THE GLOBAL ENVIRONMENTAL CHALLENGE FOR THE ENERGY SECTOR

Since the early 1990's, most parts of the world are enjoying an unprecedented phase of economic growth. Since 1994, global oil consumption has increased by 20%, and is projected by the International Energy Agency (IEA) to grow by 1.6% per year.[1] According to the IEA, world energy demand is set to increase by more than 60% by 2030. Meeting this demand requires an estimated investment in the energy sector of USD 16 trillion over the next 25 years. The business-as-usual investment scenario would not only create a significant financing challenge, it would not lead to a sustainable future, in particular in terms of:

- **Greenhouse gas emissions**: It would allow CO_2 emissions from the energy sector to rise by 62% by 2030 compared to 2002, while EU Heads of States at the Spring Council in 2005 have called for a global cut of greenhouse gas emissions of at least 15%, perhaps as much as 50% by 2050 compared to 1990. G8 Leaders in 2005 also decided to act with resolve and agreed on the Gleneagles Plan of Action on Climate Change, Clean Energy and Sustainable Development. The transition to cleaner energy is to be financed through enhanced collaborative efforts of public and private sector investment frameworks involving the World Bank and other multilateral finance institutions.

- **Air quality**: Rapid urbanization in emerging economies has resulted in high levels of air pollution in many cities with adverse effects on human health. For example, according to the World Bank, China is likely to experience 590.000 premature deaths due to urban air pollution arising from the transportation and power sectors. Rehabilitation of inefficient power plants and buildings and increased use of near zero emission technologies are required to reverse these trends.

- **Poverty and sustainable management of natural resources:** An estimated 1.4 billion people in developing countries would still remain without access to modern energy in 2030, and the 2.4 billion people using traditional biomass in an unsustainable way for cooking and heating purposes would not decline in number. According to the IEA, the additional investment to achieve 100% electrification is estimated at USD 655 billion. This is an enormous challenge for regions that are already struggling to raise capital.

- **Energy security:** More than 60% of the increase in energy consumption would be in the form of oil and gas. This would further increase the import dependency of all major importing regions. For example, the EU's dependency on oil and gas imports would increase to 93% and 81% in 2030 compared to 79% and 49%, respectively, in 2004. Thus, the Commission recently proposed to aim for a minimum level of the overall EU energy mix to come from secure and sustainable use of low-carbon sources. China, presently being largely self-sufficient, would have to import 27% of its gas demand in 2030. Oil and gas supplies from the Middle East and North African Region would increase to 44%.

[1] IEA 2004. World Energy Outlook.

Clearly, the need to ensure sustainable development, i.e. simultaneously win the battle against climate change, eradicate energy poverty, and secure global energy supplies, calls for profound changes in the way energy services are delivered and energy sources are used.

Heads of States agreed at the 2002 World Summit for Sustainable Development (WSSD) to urgently and significantly increase the share of renewable energy in the global energy mix. At the WSSD, the EU established the Johannesburg Renewable Energy Coalition (JREC)[2] and the EU Energy Initiative (EUEI) to ensure that the commitments contained in the Johannesburg Plan of Implementation would not remain hollow words.

Renewable energy investments, and similarly, investments in energy efficiency, are typical public goods that produce substantial local and global benefits such as zero or low greenhouse gas and pollutant emissions. They help improving energy security by exploiting locally available energy such as wind, solar, geothermal heat or biomass. Increased penetration of efficient and renewable energy technologies will reduce the environmental and health impacts of fossil fuel consumption and equally soften tensions on the energy markets. They also promote local employment and income generation, e.g. through the provision of energy for productive use, in particular in remote areas where grid extensions are uneconomic.

Taking the 'public goods' benefits fully into account often makes renewable energy and energy efficiency projects economically attractive, particularly in developing countries where power production is usually less efficient and more polluting than in industrialised countries with advanced environmental legislation. According to the IEA's alternative energy scenarios, increased reliance on energy efficiency and renewable energy could reduce the growth of global energy demand from over 60% to 50%, and those of global emissions from 62% to 46%. Reduced future demand could lead to a 15% reduction in oil prices. This would still not resolve the issues set out above, but it would be a significant step in the right direction. The Commission estimated that in the long-term, energy efficiency improvements and renewable energy can deliver cost-efficiently up to 2/3 of the emission reductions (SEC(2005)180).

As a result of the broad range of public benefits, policy frameworks are improving and renewable energy and energy efficiency are now an integral part of the core energy and development investment agenda. Today they can provide, in a sustainable way, provide affordable electric power and non-electric energy supplies for local business and transport, in particular where grid connection is uneconomic. Off-grid and mini-grids can ensure adequate and economical energy in remote areas. A full range of technological solutions to serve enterprise and household needs can be offered which is particularly relevant for developing countries.

Despite these advantages, if current trends would persist, the IEA predicts that the share of renewable energy would remain more or less constant in 2030. The more

[2] JREC membership has grown since 2002 from 66 to 90 Governments that are committed to significantly increase the share of renewable energies through co-operation based on targets and timetables to guide investments. The EC co-chairs the Coalition together with Morocco and hosts the Secretariat.

than USD 16 trillion that will have to be invested until 2030 provide therefore a unique opportunity to build a global sustainable energy sector that cannot be missed. No doubt, the bulk of future investment into the global energy sector will have to come from private sources. The challenge for public policy is to create the right incentives and enabling environment ensuring that private investment will finance access to energy services that are environmentally sound, affordable and secure.

This Communication explores current barriers for private sector participation, particularly in developing countries, in the deployment of renewable energy and energy efficiency technologies. It proposes a concrete and innovative **Public Private Partnership** called the **Global Energy Efficiency and Renewable Energy Fund** to mobilize private investments for the benefit of developing countries and economies in transition.

2. BARRIERS FOR MOBILISING SUFFICIENT PRIVATE SECTOR FINANCE FOR ENERGY EFFICIENCY AND RENEWABLE ENERGY INVESTMENTS

The IEA estimates in its baseline scenario that USD 241 billion is required for global investment into renewable energy generation by 2010[3]. The associated need for risk capital in developing countries and transition economies alone is estimated at over USD 10 billion (EUR 9 billion). Roughly 70% and 40% of investment in electricity generation in South America and in Asia, respectively, is projected to be in the renewables sector. [4] With improving policy frameworks private investors are getting increasingly interested.

There are some positive developments as regards financing renewables and energy efficiency. The EIB and other international investors have recognized the increasing profitability of renewable energy projects and have recently set ambitious renewable energy and energy efficiency portfolio targets. The EIB, for instance, has set itself a target of investing 50% of its annual EU energy lending portfolio in renewable energy projects. In April 2005, the OECD Working Party on Export Credits and Credit Guarantees, extended the minimum allowable repayment term for renewable energy investments to 15 instead of 10 or 12 years. Moreover, with the entry into force of the Kyoto Protocol and the establishment of a carbon price, the environmental benefits of zero or low carbon technology projects are now remunerated. In developing countries, such projects can now receive emission reduction credits under the Protocol's Clean Development Mechanism. Over the coming years, carbon finance will provide additional finance for these projects.

However, despite encouraging and new prospects and robust technology track records, renewable energy projects and businesses continue to face significant difficulty raising sufficient finance for investment. The problem is complex but mainly concentrated in the area of risk capital which provides important collateral for lenders. Some of the key reasons causing this financial gridlock are:

---

3 IEA 2003. World Energy Investment Outlook.

4 Impax Capital Corp. Ltd 2004. The Patient Capital Initiative Feasibility Study.

- Initial capital costs of renewable energy technologies are 3–7 times higher than for conventional fossil fuel generation. While these costs are compensated by much lower and less volatile running costs compared to fossil fuel based technologies, private sector investors still regard the longer repayment periods as too risky and therefore unattractive.

- Outside the OECD region, private equity investors are looking for additional reassurances. Even reasonable returns in the range of 6 to 14% remain inadequate to match various risks in many developing countries.

- Renewable energy technologies are very suitable for small and medium sized investment projects. However, this leads to significantly higher transaction costs compared to large scale fossil fuel power plants, and therefore this has been less interesting for conventional risk capital providers. Where international finance institutions or the private sector has risk capital on offer, it is for large scale investments with terms that are not suitable for small businesses or projects of less than EUR 5-10 million total capital.

When competing for scarce private equity finance, these facts put renewable energy at a distinct disadvantage resulting in a general lack of equity finance in the sector. The World Bank recently came to a similar conclusion that 'even with an improved regulatory environment and the use of policy risk mitigation instruments, the challenge of financing incremental costs and reducing technology risks will be significant'[5]. However, the high potential of renewables and energy efficiency projects to generate a multitude of environmental and socio-economic public goods, both locally and globally, merits public support to solve this financing gridlock and to provide public incentives to international and domestic private investors. Governments will have to work hand in hand with the private sector in order to overcome the outstanding financial barriers.

3. AN INNOVATIVE PUBLIC-PRIVATE PARTNERSHIP: THE GLOBAL ENERGY EFFICIENCY AND RENEWABLE ENERGY FUND

For these reasons, this Communication proposes to set up a concrete and innovative **Public Private Partnership**, called the **Global Energy Efficiency and Renewable Energy Fund (GEEREF)**, to mobilize private investments, in particular in developing countries and emerging economies, in the context of international programmes to promote sustainable development. The proposed partnership will complement ongoing efforts for improving the policy framework, thus accelerating sustainable development through faster deployment of efficient and renewable energy technologies.

The proposal draws on the Patient Capital Initiative launched by the European Commission in 2004 in the context of the JREC. The scope of that initiative was guided by the debates at the WSSD and the 2003 international high-level JREC conference held in Brussels. The proposal builds on a 2004 feasibility study that assessed various options for designing a new targeted public-private financing

[5] World Bank. 2006. Clean Energy and Development: Towards an Investment Framework.

partnership. The feasibility study benefited from comments and suggestions of a variety of stakeholders, *inter alia*, the EIB Group, the World Bank's International Finance Corporation (IFC), the EBRD, KfW, UNEP, UNDP, the EU Energy Initiative and various other partnerships.

Moreover, the proposal builds on the recently published Green Paper "A European Strategy for Sustainable, Competitive and Secure Energy"[6] in which the Commission sets out an integrated approach to tackling the sustainable development challenges in the energy sector, in particular related to climate change, including through increased demonstration and deployment of energy efficient and renewable energy technologies. Subsequently, the March 2006 European Council called for ensuring adequate support from Community instruments to such sustainable energy solutions. In the context of dialogues with third countries, the EU is also to assume a more proactive approach in ensuring sustainable development through promoting renewables, low emission technologies and energy efficiency to help the global fight against climate change, and enhance the implementation of the Kyoto Protocol mechanisms. This proposal is furthermore building on the "Principles for integrating energy interventions into development co-operation" recently adopted by the Council (Development)[7], the Renewed EU Sustainable Development Strategy[8], and the Joint Paper by the Commission and the High Representative of CFSP "An External Policy to Serve Europe's Energy Interests"[9] all of which reiterate the importance of promoting clean energy solutions to address the global climate change, poverty and sustainable development challenge.

In the wake of limited public sector finance, the need to establish an innovative instrument maximising the leverage of public funds is a priority. In the latest Communication setting out the scope and priorities for the future Thematic Programme on Environment, and the Management of Natural Resources, including Energy, the Commission expressly stated that "innovative and flexible funding mechanisms are urgently required".[10] This is also a key message contained in the June 2006 Inter-Institutional Agreement stating that "The institutions agree that the introduction of co-financing mechanisms is necessary to reinforce the leverage effect of the EU budget by increasing the funding incentive. They agree to encourage the development of appropriate multi-annual financial instruments acting as catalysts for public and private investors".[11]

Enhancing private sector access to risk capital through the public provision of patient capital seems to be the most promising avenue because it offers various ways of risk sharing. The public could:

- accept lower returns on a case by case basis depending for instance on the actual risks to be covered, and thereby lift returns for the private sector towards commercial thresholds;

---

6 COM(2006) 105 of 8 March 2006.
7 Council Doc. 8358/06 of 11 April 2006.
8 Council Doc. 10117/06 of 9 June 2006.
9 This paper was presented to the European Council of 15-16 June 2006.
10 COM(2006) 20 of 25.1.2006, and COM(2005) 324 of 3.8.2005.
11 OJ, C139 dd. 14.6.2006 pp.1-17 Paragraph 49.

- accept longer investment or repayment periods ('first in – last out') to match the high upfront investments with the low operating and maintenance costs;

- take on higher transaction costs to allow targeting small and medium scale businesses and serve the needs for a broad range of business support services, seed and growth capital.

4. PUTTING THE INNOVATIVE PUBLIC-PRIVATE PARTNERSHIP INTO PRACTICE

The objective is to mobilize public and private finance that can help solve the financing grid-lock for economic renewable energy and energy efficiency projects and businesses, especially focusing on the risk capital gap. This could include scaling up of successful pilot schemes. International finance institutions like the EIB, EBRD and the World Bank, private sector investors, and other financial intermediaries have already started to join hands with the Commission to set up the GEEREF. Initial co-investment possibilities were identified by the EIB (targeting in particular the Africa, Caribbean and Pacific and the Mediterranean regions) and by the EBRD (for a regional fund covering the non-EU Eastern European markets).

How would it look like?

The GEEREF will be set up as a global public-private partnership taking the form of body established under private law with a public sector mission.[12] This will be done in close partnership with an International Finance Institutions such as the EIB and the EBRD. It will offer new risk sharing and co-funding options for various commercial and non-commercial investors with a global investment mandate. It will allow engaging professional fund managers on a self-sustaining basis, acting in accordance with a specific mandate established by donors and investors. High-quality monitoring, reporting and control features will be established.

Rather than providing finance directly to the target groups, GEEREF will actively engage in the creation and funding of regional sub-funds or in scaling up similar existing initiatives. This will accommodate specificities of different regional markets bringing in international financial institutions, local expertise in addition to scientific-based knowledge and to leverage additional private sector funding. Engagement in any sub-fund will be subject to the compatibility of its investment strategy with that of the GEEREF, its sound management and implementation capacity and the provision of a minimum proportion of commercial co-funding.

Who will be supported?

The GEEREF will support renewable energy and energy efficiency project developers and SMEs. The focus will be on projects below EUR 10 million as these as mostly ignored by commercial investors and IFIs. In addition to utility-based projects, investments will include manufacturing and assembly businesses, consumer, SME, and micro-finance intermediaries.

---

[12] Compatible with the relevant provisions in Art. 54 (2) of the Financial Regulations.

Which regions will be covered?

The GEEREF will support regional sub-funds for Sub-Saharan Africa, Caribbean and Pacific Island States (ACP region), the countries of the European Neighbourhood (including North-Africa and non-EU Eastern Europe including Russia), Latin America, and Asia (including Central Asia and the Middle East).[13] The new Development Cooperation Instrument (DCI) will provide the legal basis and the GEEREF will be incorporated into the Thematic Programme for Environment and Sustainable Management of Natural Resources, including Energy (ENRTP) set out in that Instrument.[14] Funding will be market-driven whilst priority will be given to investments in those countries or regions with renewable energy and energy efficiency policies that are conducive to private sector engagement. There will be a special emphasis on serving the needs of ACP countries.

What type of support will be provided?

The major part of the Fund will be used to provide risk capital to different types of renewable energy and energy efficiency investment projects. Capital will be provided at affordable "patient" terms whereby the degree of patience will reflect the degree of local and global benefits offered by the sub-funds and their underlying projects. GEEREF participation will range from between 25 to 50% for medium to high risk operations to 15% for low risk operations. In addition, the Fund will include dedicated technical assistance funds. These will amount to 10-20% of the total fund size depending on the actual needs for capacity building which is likely to be greater in less developed economies. Through this feature, local and international technical expertise can be employed to improve project proposals and business plans in parallel with developing the investment pipeline. Both actual provision of risk capital and technical assistance will make the Fund a 'one stop shop' which will reduce transaction costs and improve overall performance of the Fund.

Which types of technologies will be supported?

The investment scope will include a broad mix of project types, and energy efficiency and renewable energy technologies. Given the focus on developing countries and transition economies, the emphasis will be placed on deploying environmentally sound technologies with a proven technical track record, also taking account of science-based knowledge resulting from such programmes as the Community Framework Programmes. Experience and projections show that small hydro and biomass comprise a large part of investment prospects, with on-shore wind also offering significant potential. Photovoltaics may remain costly for the lowest income countries. Renewable energy is to likely dominate the investment portfolio. Energy efficiency projects will qualify in particular where similar financing barriers need to be resolved. Co-firing (e.g. coal and bagasse), energy service companies, and other small and medium scale clean and efficient energy solutions will also be eligible.

---

13 As regards countries covered by the Pre-Accession Instrument, supplementary funding from other Instruments should be secured.

14 Council Doc 134/06 DEVGEN dd. 20.7.2006.

What is the envisaged size of the Fund?

The minimum funding target for the GEEREF is set at EUR 100 million. This target is both necessary to have a meaningful impact at the global level and sufficient to establish a public-private partnership that will be self-sustaining over time.

Assuming that a first financial close in the order of EUR 100 million would be achieved, additional capital of at least EUR 300 million up to EUR 1 billion could be mobilised through the sub-fund structure and at the project and SME level. Considering the prospects to recycle and reinvest the initial public funds, this figure could grow over the coming years. Fund leverage could be up to a factor 10. This is considerably higher than for conventional grant-based schemes that ask for 50-70% co-funding.[15] It is envisaged that up to €50 million Euro co-financing may be obtained from the Investment Facility under the 9th European Development Fund managed by the EIB to develop activities in ACP regions. This novel instrument could serve as a positive example that could be replicated, including by other public and private investors.

What is the expected benefit?

Once fully invested and leveraged, GEEREF could bring almost 1 Gigawatt of environmentally sound energy capacity to developing country markets. This could serve 1-3 million people with sustainable energy services, substituting 1-2 million tonnes of CO_2 equivalents per year. GEEREF will also broaden the range of instruments to effectively support the development and transfer of environmentally sound technologies between developed and developing countries. It will strengthen the Community's capacity to implement the above mentioned strategies and thematic programmes and to generate synergies with European Technology Platforms, Joint Technology Initiatives, and Climate Change and Energy Partnerships, e.g. with Russia, China and India The promotion of clean energy solutions will generate substantial benefits in terms of improved indoor and ambient air quality and promote the creation of local enterprises, employment and income development.

5. CONCLUSIONS AND NEXT STEPS

The proposed Global Energy Efficiency and Renewable Energy Fund as outlined in this Communication is a novel public-private partnership complementing available Community financing instruments. It is specifically designed to boost the Community's capability to support the implementation of its partner countries' sustainable development and poverty eradication programs, and accelerate the transfer, development and deployment of environmentally sound technologies. It will facilitate efficient co-operation amongst donors and commercial investors, including international finance institutions, and ultimately accelerate the global market uptake of sustainable, secure, and affordable energy technologies and the services they deliver. It provides a strong response to the urgent need for innovative public-private financing solutions called for by the European Institutions.

---

[15] For detailed calculations, Section 6 of the impact assessment in support of this Communication (SEC(2006) 1224).

The European Commission welcomes the initial expression of interest from the EIB and EBRD to co-finance this initiative. It invites the Council and European Parliament to provide its political support to this novel initiative so that interested public and private stakeholders can firm up their expressions of interest.

Considering the risks involved, the European Commission acknowledges that a significant contribution from the Community budget is essential to kick-start the initiative and trigger substantial private co-funding. . The European Commission proposes to contribute up to EUR 80 million covering the period 2007-2010 to the GEEREF within the context of the Thematic Programme on the Environment and the Management of Natural Resources, including Energy. A first contribution of EUR 15 million is proposed to be made in 2007. GEEREF will be structured to ensure that these contributions can be reported in the annual development assistance committee (DAC) co-operation report. The necessary human resources for this initiative will be covered from existing resources, where necessary through internal redeployment.

The Commission also invites Member States, EEA Members, and other finance and corporate institutions to join this novel global initiative.

Considering that this is a novel approach, the European Commission Services will continue to develop the detailed implementing arrangement together with the fund management team, the EIB and the EBRD, and others that express a formal interest in co-financing this initiative. Member States and the European Parliament will be kept fully informed on the development of this initiative.