

**PRACTICAL ACTION**  
Consulting



## **Access to Sustainable Energy Sources on a Local Level – Expert Analysis and study on the current policy issues**

**Summary Report**  
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## Acronyms

AAA	Accra Agenda for Action
ACP	Africa, Caribbean and Pacific group
ADE	Aide à la Décision Economique
African RECs	African Regional Economic Communities
CDM	Clean Development Mechanism
CEMACs	The Economic and Monetary Community of Central Africa
CFL	Compact Fluorescent Lamps
CfP	call for proposals
CO <sub>2</sub>	Carbon Dioxide
CO <sub>2</sub> e	Carbon Dioxide Equivalent
COOPENER	Energy policies and market conditions for enabling poverty alleviation in developing countries
CSD	Commission on Sustainable Development
DFID	Department for International Development (UK)
DG DEV	The Directorate General for Development
E&Co	Makes high impact investments in clean energy businesses in developing countries.
EAC	East African Community partner States
EC	European Commission
ECOWAS	The Economic Community Of West African States
EDF	European Development Fund
EIB	European Investment Bank
ESCO	Energy Service Company
EU	European Union
EU-ACP	European Union - Africa, Caribbean and Pacific group
EU EnR Club	European network of national energy agencies
EU MS	European Union Member States
EUEI	European Union Energy Initiative
EUEI PDF	European Union Energy Initiative Partnership Dialogue Facility
FP	Framework Programme
FP7	The 7th RTD Framework Programme
GDP	Gross Domestic Product
GHG	Greenhouse Gas

GTZ	An international cooperation enterprise for sustainable development with worldwide operations
GVEP	Global Village Energy Partnership
IBRD	The International Bank for Reconstruction and Development
IDA	International Development Association
IEA	International Energy Agency
KfW	German government-owned development bank
kW	kilowatt
kWh	kilowatt-hour
LDCs	Least developed countries
LPG	Liquefied petroleum gas
MDGs	Millennium Development Goals
MFA	Ministry of Foreign Affairs
NGOs	Non-governmental organizations
NIPs	National Indicative Programme
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
OECD DAC	Organisation for Economic Co-operation and Development. The Development Assistance Committee
PDF	Partnership Dialogue Facility
PRSPs	Poverty Reduction Strategy Papers
PSTICB	Programme for Science and Technology Innovation and Capacity Building
PV	Solar PV (photovoltaic)
RIPs	Regional Indicative Programme
SAVE programme	Specific Actions for Vigorous Energy Efficiency
SMEs	Small-and medium sized enterprises
TOE	Tonne of Oil Equivalent
UNFCCC	United Nations Framework Convention on Climate Change
WSSD	World Summit on Sustainable Development

## Executive Summary

1. Access to energy services is essential for human development and a prerequisite for achievement of the Millennium Development Goals, yet 1.6 billion people in developing countries still have no access to electricity and 2.5 billion still use traditional biomass fuel for cooking. On current trends, by 2030, the number of people without access to modern energy services will be the same as today.
2. The European Union has previously affirmed its commitment to facilitating achievement of the MDGs through the provision of adequate, affordable and sustainable energy services. Following failure of the CSD in 2007 to agree a statement on energy for sustainable development, it is recommended that during the first half of 2009 the EU Presidency should be used to help lay the foundations for the EU position at CSD in 2010 and reaffirmation of this commitment.
3. Renewable and decentralised energy sources can be appropriate technologies for the delivery of energy services in developing countries, particularly in remote and rural areas. EU co-operation should seek to support partner countries in integrating renewable and decentralised energy sources into their energy supply mix, when these sources are optimal in terms of national development criteria. It is recommended therefore that EC and MS support for energy development in partner countries is based on an assessment of the relative benefits of decentralised and centralised energy systems, from the point of view of the national development objectives of partners.
4. Cooking is the main energy demand for most people living in poverty in developing countries, but progress on the widespread adoption of more efficient and modern cooking devices is slow. It is recommended that dialogue between the EU and partner countries and regional bodies should consider the benefits of including development of cooking energy services within national and regional development plans. The EU should also encourage partner countries to engage in dialogue with (local and international) private sector actors to determine how best to support scale-up.
5. Energy is a principal source of greenhouse gas emissions, but the increases in consumption of modern energy services necessary to enable poor people in developing countries to escape poverty would not add significantly to global emissions. Nevertheless, in addition to support for energy access, it is recommended that the EU should support the development of long-term energy development strategies which enable partner countries to meet development objectives and achieve future low-carbon energy systems.
6. Concerns about energy security and climate change have led to a rapid increase in the production of liquid biofuels, but their sustainability is uncertain. It is recommended that when the EC and MS contribute, in all relevant forums, to international dialogue on

standards and regulations for biofuels, the human development perspective is represented.

7. Improvements to energy efficiency, by liberating generation capacity, can be a rapid way to enable modern energy services to be made available for new consumers. More efficient energy use, including energy efficient end-use devices, can make decentralised systems more economically sustainable. It is recommended that the EU should support partner country efforts in favour of energy efficiency by making EU expertise and knowledge available to partner countries and enabling them to participate in EC energy efficiency actions.
8. There is generally a lack of integration of energy in national planning processes in developing countries. In particular, access to modern energy services and the use of traditional biomass have received very little attention in PRSPs, and consequently in donor country strategies or programmes. It is recommended that efforts to expand the number of countries with energy in their PRSPs and NIPs be continued through the use of existing analyses and project/programme results linking energy to achievement of the MDGs, including development of detailed, independent evidence of the contribution of decentralised renewables to human development. EU support should be provided for integrated energy planning and cross-sectoral analyses to identify priority energy needs and the optimum mix of energy solutions (e.g. balance of centralised grid versus decentralised electricity, role of conventional versus renewable energies), and the inclusion of energy as a cross-cutting theme in support of other focal areas.
9. Action to improve access to energy services for poor people in developing countries requires capacity at local, national and regional levels, for all aspects of investing in and maintaining the operation of energy services. For decentralised services, capacity within local government is especially important, in conjunction with the local private sector, civil society and community-based organisations. It is recommended therefore that a thematic focus for EC development co-operation should be institutional support for national public authorities and local level (sub-national) capacity, as well as for African regional and continental organisations, focusing on capacity to design and manage energy service delivery programmes that respond to the needs of poor people, national development objectives and the MDGs, and capacity to build and manage regional energy infrastructure.
10. Though ODA for the energy sector has increased since 2002, there remains a substantial difference between the amounts allocated for energy and the amount required even to ensure achievement of the MDGs. In view of the significant shortfall in funding available to ensure access to modern energy services, it is recommended that the EC and MS should seek to increase allocations of ODA towards this objective, through existing instruments. It is also recommended that EC development co-operation priorities include energy access for the poor as a means to enable partner countries to achieve poverty reduction and the Millennium Development Goals.

11. In dialogue with partner countries and regional bodies, particularly through the Joint Experts Group, Partnership Forum and High Level Energy meetings in 2009 of the Africa-EU Energy Partnership, the EU should ensure explicit consideration is given to access to energy services for the poor, including the development of energy services for cooking. In line with the Paris Declaration and Accra Agenda for Action, the EU should provide support for multi-sector multi-stakeholder energy dialogues in partner countries that express a request for such support.
12. Public finance alone will not be able to deliver the investment required to increase access to modern energy services. In particular, local private sector capital should be harnessed for investment in decentralised energy services. It is recommended therefore that EU development programmes for the energy sector take account of independent analyses of current best practice for the mobilisation of local private sector finance.
13. It is recommended that EU support for energy development programmes allows explicitly for the possible inclusion of demand-side actions.
14. Funding for the EU Energy Facility should be renewed and the Facility should maintain an open menu of institutional and technological options, favouring renewable energy solutions when they are optimal for attaining partner country development. In particular, the small energy access projects window should be renewed, and an emphasis on cooking be included either through a specific window or through the small energy access window.
15. In line with the objects of the Paris Declaration, co-ordination of the plans and activities of the EC and EU MS bilateral organisations, for investment, institutional support and technical assistance in the field of energy, should be strengthened. It is recommended that capacity support for energy within EU donors (EC and MS) be provided in the form of energy awareness training in country offices and HQs.
16. It is recommended that the role and funding of the successful EUEI Partnership Dialogue Facility (PDF) be strengthened and its integration into the EC be enhanced.
17. Support through existing EU instruments should be provided for networking amongst EU researchers on energy access issues, and it is recommended that the EC consider including provision for development co-operation objectives in FP research priorities, including access to modern energy services.

## Introduction

1. With their forthcoming presidency of the EU in 2009, the Czech Republic has decided to give priority in development policy to 'Access to Sustainable Energy Sources at the Local Level.' In preparation for 2009, the Department for Development Co-operation and Humanitarian Affairs of the Czech Ministry of Foreign Affairs (MFA) has commissioned a study to provide up-to-date insight and policy recommendations for the Czech presidency.
2. The study was undertaken for the MFA by a team from Practical Action Consulting Ltd.<sup>1</sup> The report broadly follows the Terms of Reference for the study, which are provided in the volume of Appendices, but has been shaped by discussions with the MFA. In the sections that immediately follow some background to the key concepts underlying the focus of the study is provided. This is followed by analysis of critical policy issues affecting energy sector development and access to energy in developing countries, and an assessment of development co-operation for energy access. The final sections of the report focus on the role of EC instruments and processes.

### 1. The importance of access to modern energy services

3. Access to modern energy services is essential for human development. It makes access to a range of basic services possible, such as drinking water, health care, education, transport and communications. Access to energy broadens opportunities to overcome poverty, and is a prerequisite for achievement of the Millennium Development Goals.<sup>2</sup>
4. People do not want energy for itself but for the service it provides. It is thus access to *energy services* that people require: the combination of energy from a primary source, energy-related technologies, labour, materials and associated infrastructure, which enables access to the goods and services which people desire (e.g. mechanical power for grinding food and pumping water, refrigeration for preserving food and vaccines, electricity for lighting and modern information and communications services). In many developing countries, particularly in sub-Saharan Africa, the main use of energy is for cooking and the main energy users are women.
5. Today, 1.6 billion people in developing countries live without access to electricity; for 2.5 billion the primary source of energy for cooking is traditional biomass fuel. On current

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<sup>1</sup> The team comprised Andrew Barnett, Edgar Blaustein, Steven Hunt, Philip Mann, Teo Sanchez and Andrew Scott.

<sup>2</sup> The DFID publication *Energy for the Poor: Underpinning the Millennium Development Goals* (August 2002) was one of the first to elaborate clearly the contribution of energy to the MDGs.

trends, by 2030, 1.4 billion would still be living without access to electricity and the number using traditional fuels for cooking is expected to increase to 2.7 billion. Most of the increase will be in the rural areas of Asia and sub-Saharan Africa. In other words, unless policy and investment efforts change, more than one third of the population in developing countries, 15 years after the MDG target, will be unable to access the energy they need to escape poverty.

6. The links between access to energy and poverty reduction were recognised by the international community at the World Summit for Sustainable Development in 2002. It was at the Johannesburg Summit that the European Union launched the European Union Energy Initiative (EUEI) and affirmed its commitment to facilitating achievement of the MDGs through the provision of adequate, affordable and sustainable energy services.
7. At the UN Commission for Sustainable Development in May 2007 (CSD 15), the EU declared amongst its priorities that “CSD should recommend the adoption of time-bound targets and commitments at the national and regional levels to increase energy efficiency and the share of renewable energies as well as access to energy, and the integration of such sustainable energy policies into national planning frameworks by 2010.” The UN Millennium Project had previously called for targets to reduce the share of the global population without access to electricity, as well as the population reliant on traditional solid fuels for cooking, to no more than about 1 billion people by 2015.
8. The EU’s commitment to energy for poverty eradication was also reflected in the call for CSD to review energy for sustainable development in 2010/11 and 2014/15, which would “provide a long-term perspective, would demonstrate progress and showcase success stories, but would also reveal gaps and barriers for the expansion of renewable energy, energy efficiency and access to energy services.” Regrettably the CSD failed to agree a statement on energy for sustainable development in 2007, making the proposed review in 2010 a critical juncture for the international community as a whole to reaffirm its commitment to access to energy services as a means to achieve poverty reduction.
9. **It is therefore recommended that the focus of the EU Presidency, during the first half of 2009, on ‘access to sustainable energy services at the local level’ in order to reduce poverty, should be used to help lay the foundations for the EU position at CSD in 2010.**

## 2. What is sustainable energy?

10. Since the Rio Earth Summit in 1992, sustainable development has been generally recognised to comprise three pillars: economic, social and environmental. The notion of sustainability, applied to all aspects of human life, is of course a key element in the EU

approach to the energy-development nexus. The EU Energy Initiative, for instance, incorporated the concept into its full title: "The EU Energy Initiative for Poverty Eradication and Sustainable Development."

11. The related concept of 'renewable energy' refers to the nature of energy sources: an energy source is considered to be renewable if natural processes constantly replenish the stock of energy (for instance solar, biomass or wind energy), or alternatively, if the stock is so large that human use will not cause depletion in any foreseeable future (for instance geothermal or tidal energy). Renewable energy is compared to fossil energy sources – coal, oil or natural gas – which are mined from finite stocks that are not being replenished. Thus, human use of this fossil energy diminishes their finite stocks, and will, in a period of decades or centuries, deplete these stocks. Moreover, the use of fossil energy releases CO<sub>2</sub> into the atmosphere, while renewable energy sources are low carbon or carbon neutral.<sup>3</sup> The use of renewable energy today (as compared to fossil energy) thus addresses two key aspects of environmental sustainability: it does not diminish the stocks of hydrocarbons that we leave to future generations; nor does it contribute to climate change related degradation of the environment.
12. However, renewable energy is not always sustainable in terms of the three pillars. In particular cases and circumstances, use of a specific renewable energy may be unsustainable or less sustainable, from an economic, social or environmental point of view, than use of a fossil fuel. For example, users of solar photovoltaic installations have often failed to renew batteries because the limited energy services the system provided (lighting and television) did not meet their needs. The use of LPG for cooking may have lower total emissions of greenhouse gases than many traditional stoves, since unimproved stoves that burn wood, charcoal or waste inefficiently, often emit significant quantities of potent greenhouse gases. Furthermore, in areas where use of wood contributes to deforestation because of unsustainable forest management practices, use of LPG can contribute to lessening the pressure on forests, thus diminishing the life cycle emissions of CO<sub>2</sub>.
13. From the perspective of the energy service consumer, it is the sustainability of the energy services which is of concern. Services (from renewable or fossil sources) which are not financially sustainable, or which are not sustainable because of poor governance and management, may be a more immediate threat to people's wellbeing.
14. **It is recommended that energy development programmes supported by the EC, should take a holistic approach to the sustainability of energy systems, comparing the impact of alternative energy systems according to their economic, social and environmental impact.**

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<sup>3</sup> GHG emissions are considered on a life cycle basis, and the CO<sub>2</sub> emissions from energy use include the emissions incurred during the collection, processing or transport phases of the energy value chain, as well as in the construction, commissioning and decommissioning of the corresponding energy infrastructure.

### 3. Why decentralised energy services?

15. Access to modern energy services is uneven within countries as well as between countries. In Latin America one in 10 people has no access to electricity; in north Africa one in 5 has no access to electricity; while in sub-Saharan Africa 3 out of every 4 have no access to electricity. In rural areas access to modern energy services is generally lower.
16. In rural areas of developing countries, both grid and off-grid systems are being used to supply electricity to those who have access. However, most electricity at present comes from the grid, and increasing access to electricity tends to be through extending the grid from large towns or cities into smaller towns and villages. Oil derivatives, diesel oil and gasoline are used for transport, while the fuel for heating and cooking is biomass.<sup>4</sup>
17. In urban areas, the grid is the main supply of electricity, the high concentration of users making it more cost-effective than in rural areas.<sup>5</sup> Oil, gas and coal are used mainly for cooking, heating and transport. In Asia and Africa, wood and charcoal are still frequently used in urban areas for cooking and heating.
18. The energy options for both electricity generation and fuel for cooking are many, but those which have been proven to be sustainable are few. For off-grid electricity generation small hydro, small wind energy generators, solar PV and small diesel sets can be found in many places. Regarding fuels for cooking, it is expected that biomass will be the main fuel for the foreseeable future, with the use of improved cooking stoves important for energy efficiency and energy saving.
19. Policy thinking in the energy sector over recent years has been significantly affected by the massive technical changes that have taken place. A great deal of the change has been in the large-scale industrial sectors, but advances in small-scale technology have also increased efficiency and reduced costs, opening up the number of options for profitable small-scale, decentralised energy supply.
20. High oil prices and insecurity of supply of liquid fuels may make many 'alternative', small scale and decentralised energy options more financially viable. This is likely to be particularly so for PV, gasification, micro- and small-hydro, and possibly some biofuels. However, the widening of such supply options in this way does not necessarily reduce the cost of energy services to poor people, it merely increases the options at the new, higher price levels.

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<sup>4</sup> In some parts of the world (e.g. Latin America) kerosene is widely used for cooking, and in others LPG or coal is used. In sub-Saharan Africa, 90 per cent of rural inhabitants use traditional biomass.

<sup>5</sup> Small diesel sets have been used in some developing countries when there is a severe shortage of electricity.

21. 'Decentralised energy services' are provided to users by systems in which some or all of the major elements – energy source, governance, distribution and billing – are local, in close geographical proximity to users.<sup>6</sup>
22. In both developed and developing countries local conditions may favour decentralised systems:
- Decentralised systems based on small, modular, production units, can be more easily and rapidly installed, and can be more easily financed because of their low unit costs.
  - Decentralised systems are better adapted to using dispersed renewable energy sources, such as solar or wind power. Such systems are less vulnerable to supply disruptions, and thus contribute to local energy security.
  - Decentralised systems often provide more local employment and higher national value added.
  - In countries with low population densities and/or low purchasing power of consumers, as is the case in many countries in sub-Saharan Africa, extension of centralised systems, for instance national electricity grids, can be prohibitively expensive. In these cases, decentralised systems can be an attractive economic option for delivery of energy services.
23. Though decentralised energy systems can be, in some circumstances - notably for poor, sparsely populated, rural areas – the most effective option for energy service provision, it is important to keep in mind that decentralised energy systems are not synonymous with renewable energy. Some renewable options cannot provide some of the energy services that are required locally, such as mobile shaft power.
24. **It is recommended that EC support for energy development programmes and for specific investments, is based on an assessment of the relative benefits of decentralised or centralised energy systems, from the point of view of national development objectives, such as the contribution to poverty reduction through creation of employment and provision of basic social services; local value added; impact on local and national energy security.**

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<sup>6</sup> The related concept of 'distributed energy systems' refers to centralised energy systems (usually electricity) composed of many small, geographically dispersed, production units linked together by a common energy transport network, such as an electricity grid.

## 4. Cooking energy services

25. Currently 2.5 billion people in developing countries rely on traditional biomass (generally a renewable resource) as their main source of energy for cooking and heating. This number is projected to increase to 2.6 billion people by 2015 in the absence of new policies, due largely to population growth.
26. The use of this traditional biomass has important adverse consequences on human development and in some locations on the sustainability of forest resources. The health impacts in particular are now well recognised. Indoor air pollution from the use of traditional biomass on inefficient stoves causes 1.5 million premature deaths a year worldwide, through lower respiratory infections (LRI) in young children and chronic obstructive pulmonary disease (COPD) in adults. The overall mortality risk is about 50 per cent higher for women (who do most of the cooking) than for men.
27. As well as suffering the health impacts of indoor air pollution, the women in families which rely on solid fuels (fuelwood and dung) for cooking and heating, assisted by their children, spend many hours each day gathering and carrying heavy loads of fuel, resulting in reduced time for child-care, productive and educational activities.
28. Cooking and heating in developing countries involves a diverse range of fuels and end-use devices. Wood, dung, agricultural waste, charcoal and coal are all used by the poor. The diversity of cooking practices also reflects variation in foodstuffs and cultures. The key complexity of intervening in the domestic cooking sector is the large number of varied and dispersed actors involved.
29. A further challenge is that the cooking sector is only partially commercialised. Some stoves are sold as goods at market – generally referred to as ‘improved cook-stoves’ – while others are made by the users (often still a simple three-stone fire), and thus are not tradable products. Similarly, some fuels are traded while many are not in the formal sector.
30. There are two technical approaches to improving energy services for cooking in developing countries: improving end-use devices to increase efficiency and reduce emissions by improving combustion efficiency (e.g. improved cook-stoves); and switching fuels to cleaner and/or more sustainable options.
31. Much of the past development work on improved stove designs was undertaken by women themselves, small entrepreneurs, NGOs and academics. There have been some notable successes with programmes to introduce improved stoves, for example in China where the National Improved Stove Programme disseminated around 130 million improved stoves (principally biomass) in rural areas between 1982 and 1992. More than two-thirds of these stoves were still in use by 1992.

32. However, there have also been a number of significantly less successful stove programmes on scales varying from small NGO projects of a few hundred stoves to national programmes. Factors influencing the success or failure of past activities include the price/affordability of the technology, durability and cultural acceptability of the technology, and the sustainability of programme financing and delivery models. Schemes dependent on grants alone do not provide a sustainable basis on which to expand improved stove dissemination on the scale required.
33. Despite the considerable number of programmes to improve cooking services in developing countries, it is clear that the rate of change is insufficient in development terms. The IEA and UN Millennium Project have estimated that a necessary (but not sufficient) condition for achieving the MDGs, would be a switch by an extra 700 million people away from traditional biomass by 2015. In Africa, where cooking energy accounts for 80 per cent or more of national primary energy in many countries, figures compiled for stove dissemination programmes total 8.6 million stoves. In India, the National Programme on Improved Chulhas, initiated in 1985, installed around 35 million improved stoves by early 2003. Not only is this a small number compared to the population in India relying on traditional biomass, but many of the stoves were reported to be performing poorly or are out of use.
34. Despite the many recent calls for a rapid improvement in the cooking status of the poor (e.g. the Global Clean Cooking Fuel Initiative and the Partnership for Clean Indoor Air), and the emergence within the past five years of large multi-nationals into the cooking sector (for example Philips, Shell, BP and Bosch), progress is slow.
35. There is much current interest in the possibility of using carbon finance to support the scale-up of clean cooking programmes. It has been claimed that switching from traditional fuels/stoves to improved cooking can reduce greenhouse gases by the order of 1 tonne CO<sub>2</sub>e per household per year. If this were the case a global switch could save of the order of 350 million tonnes CO<sub>2</sub>e a year (around 125 and 100 million tonnes CO<sub>2</sub>e a year respectively for South Asia and Africa). However, there are a number of obstacles to the large-scale use of carbon finance in the cooking sector, not least the high transaction costs involved. The emergence of CDM Programmes of Activity, as well as new CDM cooking-related methodologies, may provide an opportunity to up-scale cooking programmes.
36. **It is recommended that the EU should include in dialogue with partner countries and regional bodies, consideration of the benefits of including development of cooking energy services within national and regional development plans. The EU should encourage partner countries to engage in dialogue with (local and international) private sector actors involved in the field of household energy (cooking) with a view to determining how donor activities could best support scale-up.**

37. **The importance of modern energy for cooking to people living in developing countries should be emphasised in the call for proposals for a second phase of the EU Energy Facility.**

## 5. Climate Change

38. Energy-related activities account for 80 per cent of the carbon dioxide emitted into the global atmosphere each year. Energy policy is consequently at the centre of the climate change debate. Though mitigation of climate change through reduced consumption of fossil fuels globally is a great challenge, the expanded provision of affordable energy services to the poor is essential.
39. Energy consumption globally and particularly in developing countries is projected to grow,<sup>7</sup> and by 2030 developing countries will account for just over half of all emissions. However, on a per capita basis there are great inequalities between countries. Although China has this year overtaken the USA as the world's largest emitter of carbon dioxide, per capita emissions there are one fifth of those in the USA. In India per capita emissions are one tenth of those in industrialised countries, and 500 million people there – more than the total population of the expanded European Union – live without any access to electricity.
40. The increased consumption of modern energy services necessary to enable poor people in developing countries to escape poverty would not add significantly to global carbon dioxide emissions. If all of today's population without access to electricity had a basic supply generated from fossil fuels, and if all of those cooking with traditional biomass fuels switched to LPG, their total emissions would account for just 2 per cent of the global total. Their per capita emissions would still be a fraction of those in Europe.
41. The urgency of tackling climate change requires global action to reduce global greenhouse gas emissions. Developing countries will need to play their part, in accordance with the principles of the UNFCCC, adopting low-carbon energy technologies when this is consistent with their development objectives. Given the expectation of increased per capita incomes in the future and the long life expectancy of many energy investments, enabling developing countries to adopt energy development paths which lead to lower-carbon systems will require medium to long-term strategies – strategies which enable them both to meet current development objectives, including access to modern energy services for their populations, and future development of low-carbon energy systems.

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<sup>7</sup> The IEA estimate for total world energy consumption in 2006 is 11,730 million toe, which is expected to increase by 45 per cent by 2030.

42. **It is recommended that EC and MS support to partner countries for energy sector development should include the development of long-term energy strategies which enable them to meet development objectives, including access to modern energy services for their populations, and future low-carbon energy systems.**
43. Uncertainty in the price and availability of oil as well as climate change concerns have prompted the investigation of biofuels as a 'green' alternative to liquid fossil fuels. Promotion through subsidies and other regulatory measures, has resulted recently in a rapid expansion of production. However, the actual carbon savings of biofuels vary considerably depending on the type of feedstock, agricultural practices, the production pathway, and the effects of related land use change. Recent research also suggests that most of today's biofuels increase GHG emissions compared to gasoline or diesel fuel.<sup>8</sup>
44. The large-scale production of biofuels has also resulted in competition for land between production of biofuels and food production. Intensive, monoculture production for biofuels has contributed significantly to deforestation in some countries<sup>9</sup> and can result in massive topsoil erosion and surface and groundwater pollution, from pesticides and fertiliser runoff. Biofuels produced from grain food crops lead to increased staple food prices.
45. Nevertheless, biofuels have shown potential to increase access to liquid fuels for poor people, and make a real contribution at the local level, based on the sustainable use of local resources, promotion of local energy efficiency and empowerment of communities in managing energy production and consumption. Some small-scale conversion technologies already exist and are suited to local crops. As biofuels become a larger part of the social, economic, and environmental strategies of countries around the world, standards and regulations are needed to ensure that biofuels do in fact reduce greenhouse gas (GHG) emissions and promote sustainable development.
46. **It is recommended that when the EC and MS contribute, in all relevant forums, to international dialogue on standards and regulations for biofuels, the human development perspective is represented.**

## 6. Environmental Degradation

47. In one way or another, energy-related activities have some connection with the land. Large hydro power generation has, most of the time, meant building large dams and flooding large areas of land, which in turn meant severe damage to communities. The

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<sup>8</sup> So-called 'second generation' biofuels, derived from woody biomass and waste feedstock, which are not yet in production, may have more potential.

<sup>9</sup> In Indonesia, for example, 3.6 million hectares of land are now under oil-palm plantations, increasing by around 13 per cent annually, and accounting for an estimated 17 to 27 per cent of deforestation in the country.

exploration and exploitation of fossil fuels, entails the building of roads, ports, and fuel spillage, causing damage to all kind of living species within the areas of operation. New energy technologies, such as large wind farms, present some concerns regarding environmental effects, such as killing birds and damage to the landscape. One advantage of small decentralised energy generation systems is that they are potentially less harmful to the environment. For example 'run of river' small hydro installations use dams without holding reservoirs.

48. In the past, serious concerns were raised about possible deforestation due to the intensive use of fuel wood for cooking. Research since the 1960s has repeatedly shown that there is little basis for such concerns, that the use of biomass for cooking is not a significant cause of deforestation; instead they show that the most important causes of deforestation are extension of agricultural land. The energy-related deforestation which is cause for concern is the clearance of rainforest for oil palm plantations, for the production of liquid biofuels.
49. For those developing countries which rely heavily on wood as a source of energy for heating and cooking, energy resources may be threatened by loss of forest cover resulting from increasing population, agricultural expansion and unsustainable forest management practices.

## **7. Energy Efficiency**

50. Poorer energy consumers in developing (and developed) countries tend to pay more for energy services, in absolute terms and as a proportion of their income. Indeed, they often cannot afford more efficient modern equipment that consumes less primary energy to deliver small amounts of energy services. Thus, energy efficiency might be regarded as even more critical for them than for higher income users in industrialised countries, and the lack of capital to convert energy might be regarded as more of a constraint than lack of primary energy sources.
51. Improving the efficiency of use of energy contributes to development in several ways. Improved efficiency for grid connected users reduces pressure on national energy supply systems (national grids, transport fuel distribution, cooking fuels), many of which are in crisis. Energy administrations in a majority of African countries today are totally absorbed in trying to alleviate immediate crisis conditions, and have no capacity (human or financial) to take up longer term challenges such as expanding access to energy. Improving energy efficiency is the most rapid, cost effective means to liberate electricity generation capacity, to allow grid extension to supply new customers.
52. Since the cost, per kW and per kWh, of energy in decentralised systems is often higher than for centralised systems, the inclusion of high efficiency end use devices in

decentralised energy programmes often reduces the total capital cost, making these programmes more cost effective and easier to finance. Furthermore, since more efficient use of energy reduces recurrent costs to users, energy efficiency makes decentralised systems more economically sustainable.

53. Many different types of energy efficiency programme have proved successful in developing countries, ranging from technically and institutionally simple programmes (e.g. distributing efficient CFL for lighting in Ghana, and replacing old refrigerators with new ones in Cuba and Palestine) to more complex initiatives (e.g. high efficiency buildings and electric motors in China, and industrial energy efficiency in Kenya).
54. Energy efficiency investments can be highly profitable, and often have a short payback time, typically less than three years. The major challenges are not in raising large amounts of capital – they can be financed, for example, using private ‘ESCO’<sup>10</sup> type mechanisms. Rather, the requirement for public financing is on relatively low cost, up-stream aids for decision making, and the challenges are:
- Raising awareness and providing advice to users about the opportunities to save money through energy efficiency
  - Building technical capacity to carry out energy efficiency actions (e.g. labelling and standards for appliances, fiscal measures to encourage energy efficient imports)
  - Instituting appropriate financial mechanisms (e.g. ESCO type funding), or integration of the cost of efficient devices into utility billing
  - Integrating the provision of efficient end use devices into energy supply programmes
55. **It is recommended that the EC should support partner country efforts in favour of energy efficiency through:**
- **Mobilising the vast experience of EU agencies responsible for energy efficiency in support of developing country energy efficiency agencies (e.g. through twinning programmes, joint seminars, and study trips)**
  - **Developing country partner participation in EC energy efficiency actions such as the SAVE programme**
  - **EC research programmes including specific actions pertinent to developing country energy efficiency, including how policy can support demand/end-use technologies for energy efficiency**

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<sup>10</sup> An ESCO – Energy Service Company – is a mechanism through which an energy efficiency service provider pays for energy efficiency investments at a client company’s site, and gets repaid from a portion of the savings achieved.

## 8. Energy security

56. For national and international policy-makers consideration of energy security has increased in significance as fluctuating oil prices, climate change, and security more generally dominate their agenda. The conventional understanding of energy security in terms of the interplay of energy markets (i.e. supply, demand and structures) and geopolitics, which prevailed at the time of the 1970s oil shock, has broadened to incorporate concerns about climate change, greater interconnectedness of the global energy system, and significant new consumer and producer stakeholders in the global energy system (such as China and Russia).
57. Energy security concerns vary from country to country and between different actors in the energy supply chain. Developing countries are affected by both variability in energy prices and the new scramble for energy resources, particularly in Africa, which have implications for their development and for relations with other countries. For energy-importing countries, high oil prices are, in effect, cancelling out increases in ODA. Sub-Saharan African countries spent 14 per cent of their GDP on fuel imports in 2000, and the IEA estimates a \$10/barrel increase in the price of oil costs sub-Saharan Africa more than 3 per cent of its GDP as a consequence.
58. High energy prices also bring risks to energy-exporting countries. In Africa, some fourteen countries are currently enjoying windfalls that are massive relative to any foreseeable aid inflows but the past experience of such revenue windfalls, has been that revenues are often not harnessed for sustained development. Instead, after a short period of time, they tend to increase corruption and even to slow growth.
59. Policy-makers also focus on the risks of supply disruption and the security of infrastructure due to terrorism, war or natural disaster. In Africa, as countries such as China and India, concerned about their own energy security, seek to secure a share of the continent's oil and gas reserves they influence investment in the energy sector as a whole, bearing in mind the abundant renewable energy resources in Africa. By committing African countries to long-term agreements they are influencing medium to long-term supply capabilities. African countries that import oil therefore face increased supply uncertainties, and other markets (e.g. the EU) adopt policies which will ensure their own supplies.
60. **It is recommended that dialogue through the Africa-EU Energy Partnership should consider mutual energy security objectives and take account of the development objective of energy access for poverty reduction.**

## 9. National and Regional Capacity

61. In developing countries, as elsewhere, national energy policy objectives generally include ensuring the security and reliability of supplies, the contribution of energy to the economy, and the management of natural resources. More recently, there has been increasing recognition of the importance of access to energy for the poor to support achievement of the MDGs, as well as energy for economic growth. However, there is generally a lack of integration of energy in national planning processes.
62. Poverty reduction strategies are key instruments for national development policy and national budget priorities, providing the basis for donor co-ordination and influencing the way aid resources are allocated. Poverty Reduction Strategy Papers (PRSPs) have resulted in increased financing for key sectors such as health, education and water, but the energy sector has generally been under-represented, and this is then reflected in Medium Term Expenditure Frameworks. When the contribution of energy to poverty reduction has been considered, the focus has been on large-scale infrastructure and regulation for the sector. Access to energy and traditional biomass receive very little attention in PRSPs.
63. The limited inclusion of energy in PRSPs can be attributed, in part, to the limited attention given to energy in the MDGs and lack of recognition of the central role of energy access in achieving national social and economic development objectives. A further factor is poor integration and planning across sectoral ministries which leads to opportunities being missed to exploit cross-sectoral linkages in relation to energy access in support of poverty reduction.
64. The absence of energy from most PRSPs affects the formulation of donor country assistance programmes. The alignment of ODA on national objectives, and use of national structures and institutions to manage ODA, in accordance with the Paris Declaration, requires sufficient national capacity within partner country institutions. In sub-Saharan countries, particularly in the energy sector, this capacity is greatly lacking. Structural reform has reduced the capacity of public authorities and privatisation of energy utilities has substantially removed competence in energy from the public domain.
65. Rebuilding capacity for management of the energy sector will be essential for the effectiveness of ODA efforts. This is particularly true for capacity to manage the complex inter-sectoral, multi-stakeholder dialogue necessary to focus energy programmes on pro-poor development of energy services. It will be necessary to create favourable environments for attracting private investment (especially local capital) and to institute results oriented management of ODA and public investment.
66. At the regional level, energy sector development in sub-Saharan Africa has been addressed in regional co-operation bodies through the development of strategies and plans, with the support of the EUEI PDF and others. In most sub-regions in Africa there is

now some form of regional planning in place. Some have developed specific policies and plans, with targets and proposed budgets, to improve access for the poor in rural and peri-urban areas (e.g. ECOWAS aims to improve energy services for cooking for all by 2015 and achieve access to electricity for two-thirds of the population; CEMAC's plan includes the promotion of improved stoves and access to modern cooking fuels, the creation in rural areas of exemplary models with improved access to modern energy; and the EAC aims to strengthen national capacity to deliver energy services for the poor). While renewable energy and decentralized energy form part of these plans, renewables are generally considered on a case by case basis, with a seeming reluctance to mobilize specific funding streams for renewables.

67. The key gap appears to be not the existence of regional policies and plans, but their implementation. Regional institutions are generally weak in capacity or lacking finance, limiting their engagement in dialogue and their ability to overcome the multiple barriers to complex regional infrastructure investments. However, the regional plans in existence do provide a good platform on which to build support by EU donors, and the draft road map for implementation of the Africa-EU Energy Partnership action plan (September 2008) includes strengthening the institutional and technical capacity of the African Union with a view to facilitating the participation of the African regional authorities in energy development.
68. **It is recommended that efforts to expand the number of countries with energy in their PRSPs and NIPs be continued through:**
- **the use of existing analyses and project/ programme results linking energy to achievement of MDGs, for the revision of PRSPs and NIPs and integration of energy into national planning of social sector development**
  - **development of detailed, independent and credible evidence of the areas where decentralised renewables contribute to development**
  - **inclusion of energy as a cross-cutting theme in support of other focal areas**
  - **support for integrated energy planning and cross-sectoral analyses to identify priority energy needs and the optimum mix of energy solutions (e.g. balance of centralised grid versus decentralised electricity, role of conventional versus renewable energies)**
69. In addition to appropriate policy frameworks, action to improve access to energy services for poor people in developing countries requires capacity at local, national, sub-regional and regional levels, for all aspects of investing in and maintaining the operation of an energy service: technical capacity to design, build and operate energy schemes; financial services; management and institutional capacity to supply a sustainable service to users. For decentralised services, where models for the ownership and governance of schemes range from the completely private to the completely public, capacity within local government is especially important, in conjunction with the local private sector, civil society and community-based organisations.

70. **It is recommended therefore that a thematic focus for EC development co-operation should be institutional support for national public authorities and local level (sub-national) capacity, as well as for African regional and continental organisations, focusing on capacity to design and manage energy service delivery programmes that respond to the needs of poor people, national development objectives and the MDGs, and capacity to build and manage regional energy infrastructure.**

## **10. Development co-operation for energy access**

71. ODA for the development of the energy sector now accounts for around 4 per cent of the total worldwide – US\$ 4,958 million in 2006. This represents an increase (in current prices) of 45% on 2002. Almost three quarters of the total was through bilateral programmes. EU Member States, through their bilateral channels and the European Commission, accounted for 30 per cent of the total.<sup>11</sup>
72. However, in line with the Paris Declaration, most EU MS are moving towards more focused activities, in fewer countries, and thus the number of EU bilateral energy programmes is decreasing. In 2006, total bilateral ODA for energy from EU MS was US\$ 941 million and more than half of this came from one country, Germany.
73. Investments by donors, including the EC and MS, in energy and other infrastructure in developing countries have generally been targeted at delivering economic growth. ODA for the energy sector also includes investment for the extraction of energy resources. At the same time investment in energy services may be undertaken through cross-sectoral programmes and not be classified as energy sector ODA.
74. It is thus quite difficult to obtain an overall picture about ODA commitments for energy access. EC and MS programmes are discussed further below. The World Bank Group, the largest multilateral donor in the energy sector committed US\$4,537 million to energy sector development in 2006. Financing for developing countries through IBRD and IDA totalled US\$1,569 million. Of the total 12 per cent was classified as support for energy access.
75. During the 1990s there was a realisation within the donor community that the huge need for capital to meet the needs for electric power generation could not be met by the public sector and aid agencies alone. This coincided with an ideological perspective that these sorts of investments should be left to the private sector, and that the state should only be concerned with generating the 'enabling environment' for private sector investment.

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<sup>11</sup> Figures from OECD DAC. MS also support energy investments made by the World Bank through their IDA commitments. When EU MS contributions to multi-lateral instruments are included, the EU accounts for over half of worldwide energy development assistance.

76. However, foreign private investment proved very unwilling to invest in the power sector of many developing countries, with the net result a near cessation of investment in power generation from that time onward. ODA for all infrastructure has declined by half since the mid-1990s, while overall spending on infrastructure, from all sources, as a proportion of GDP in low and middle-income countries also declined by half. The policies of the mid-1990s tended especially to reduce the access to energy services of people who receive subsidised energy (rich and poor) or who are located in areas that are costly to supply (such as sparsely populated rural areas).
77. Recent turbulence in financial (and fuel) markets is likely to raise the cost of capital, particularly to those at the margins of society and of capital markets, as well as increase the number of people on the margin.
78. It is now generally recognised that public finance will remain an important tool in leveraging private sector finance (increasingly local rather than foreign capital) and in funding essential power investment particularly in fragile and the poorest states. There has thus been an increase in ODA and other investment in energy infrastructure over the past five years. Nevertheless, there remains a large gap between the funding available and what is required.
79. The latest projections by the International Energy Agency, based on current policies for energy sector development, and current technical and environmental standards, call for total worldwide investment in energy of US\$26 trillion over the period 2007 to 2030. The power sector (electricity generation and distribution) accounts for a little more than half of this. A little over half is required just to replace existing infrastructure.
80. A previous IEA projection estimated total investment of US\$8.1 trillion for the developing and transition economies over the period 2003 to 2030, equivalent to US\$300 billion a year. Electricity generation and distribution accounts for about 73% of this projected investment, but current levels of investment provide for only an estimated 50% of what is needed in developing and transition economies. In low-income countries about 60% of investment in the energy sector comes from public funding.
81. The Millennium Project estimated that a per capita investment in energy of US\$10 to US\$20 would be needed to meet the MDGs. For the 1.6 billion without access to electricity this amounts to a total worldwide of US\$16 billion to US\$32 billion. The IEA estimate US\$18 billion is needed to provide universal access to electricity and LPG for cooking in oil- and gas-rich sub-Saharan African states. The World Bank has estimated that 100% access to electricity, in all regions of the world by 2030, would require US\$34 billion a year.
82. **In view of the significant shortfall in funding available to ensure access to modern energy services, it is recommended that the EC and MS should seek to increase allocations of ODA towards this objective, through existing instruments.**

## **10.1. Local capital**

83. Many rural people, and the urban poor, already pay significant amounts of cash to meet their energy requirements. In principle, therefore, it may be possible to meet their needs with market-based solutions, even though the supply of improved energy services to poor people is unlikely to be the most profitable area for private sector investment.
84. In the developing country context, with limited public funds (government and ODA) available for investment in the energy sector, and a difficult to reach low-income market for energy services, the identification of viable investment opportunities is a constraint for local private sector actors (commercial or not-for-profit). Commercial banks and equipment suppliers have traditionally been unwilling to do business with small-scale modern energy service providers due to a lack of knowledge of these nearly invisible markets.
85. Recent advances in technology innovation and changes in regulatory systems provide opportunities for small-scale businesses to supply infrastructure services with a degree of financial sustainability. Small-scale enterprises are well suited to provide infrastructure services at a standard and cost that meets the needs of poor communities.
86. The development of private sector energy companies, providing energy services directly or supplying goods and services to energy service providers, has received a lot of attention in recent years. For example, Shell Foundation and GVEP have adopted a 'social merchant bank'<sup>12</sup> approach which provides essential business linkages between technology providers, entrepreneurs, communities and financial institutions.
87. The approach has enabled significant numbers of households to gain access to modern energy services. Experience to date, however, suggests that energy service SMEs face a trade-off between profitability and providing services to poorer households. The specifics of the approach can vary, and other less-commercially oriented models have also achieved successes (e.g. community managed micro-hydro schemes supported by Practical Action).
88. However, the extension of sustainable modern energy services in rural areas is often impossible without incentives such as smart subsidies or grant financing. The use of soft money can both help and harm the expansion of decentralized energy supply options, but the development arguments for using concessional finance are compelling if large numbers of people are to be given access to improved energy services. Subsidies or concessional finance to lower initial capital costs (including connection fees for consumers and end use investments), rather than lowering operating costs, can contribute to poverty reduction.

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<sup>12</sup> 'Social merchant bank' was pioneered by the US not-for-profit company, the Small Scale Infrastructure Development Fund (S3IDF).

89. **It is recommended that EU development programmes for the energy sector take account of independent analyses of current best practice for the mobilisation of local private sector finance.**

## **10.2. Demand side**

90. People who can afford improved energy supplies may still not be able to afford the conversion technology that makes that energy useful (e.g. a stove, radio, light bulb, or motor), or the connection fee to access the service initially. Increased access to cash can be crucial both for poverty reduction and for acquiring improved energy services. The most financially sustainable decentralized energy supply options (particularly electricity) are likely to be those that provide power to productive activities that can sell goods or services profitably.
91. The cycle of energy poverty will often only be broken if it is possible to combine investment to improve energy services with associated investment in energy using end uses that generate income. This income can come from productive energy end uses that enhance activities, either by increasing productivity, extending the range of outputs or improving output quality. Examples of such income generating end-users include shopkeepers or hawkers, grain millers, farmers using irrigation, women's groups using sewing machines, and other small enterprises.
92. Despite the force of this logic, many government and donor supported 'energy' programmes are often procedurally prevented from investing on the demand side of the equation. This is particularly so in grid extension, where recent studies have shown that connection finance can be a profitable business if associated with end-use finance. There is scope for innovating and creating programming, using analysis of best practice for the mobilisation of local private sector finance.
93. **It is recommended that EU support for energy development programmes allows explicitly for the possible inclusion of demand-side actions.**

## **10.3. Co-ordination**

94. The low profile of access to energy for the poor in national development strategies and plans, and consequently in donor assistance programmes, is partly a reflection of a lack of knowledge and understanding about the importance of access to energy services for achievement of the MDGs. It is also a reflection of lack of knowledge about which, and whether and how, energy development investments or programmes deliver access.
95. The 2005 Paris Declaration called for greater harmonisation and co-ordination amongst donors. This was reinforced by the Accra Agenda for Action (AAA) endorsed by the EU and MS in September 2008, which also calls for greater country-level policy dialogue. In

the AAA, developing countries resolved to work more closely with local authorities and civil society, and donor countries resolved to increase the capacity of all actors to take an active role in policy dialogue. For this to be effective, information about energy plans, investments and experience needs to be shared.

96. The strategic use of existing analyses and project/programme results is needed, linking energy to achievement of MDGs, especially during the process of revision of PRSPs and NIPs, maximising cross-sectoral linkages relating to energy access in support of poverty reduction.
97. A key vehicle to pursue this is the EU-Africa Partnership. This was recognised in the joint statement from the African Union Commission and European Commission in September 2008, which called for the Partnership Action Plan to include, as soon as possible, activities to “enhance technical assistance and launch twinning arrangements in the field of renewable energies, energy efficiency, access strategies and market reform.” The proposed Africa-EU Energy Partnership Forum and the biennial High Level Energy meeting will also provide opportunities for the exchange of knowledge as well as policy dialogue.
98. **It is recommended, in line with the objects of the Paris Declaration, that co-ordination of the plans and activities of the EC and EU MS bilateral organisations, for investment, institutional support and technical assistance in the field of energy be actively supported and enhanced through the role of EC in Brussels and in Delegations (e.g. through national energy donor co-ordination). Capacity support for energy within EU donors should be provided in the form of strengthened energy awareness in country and head offices.**

## 11. EU Policy and Funding Instruments

99. Energy has really only featured in EC external policy towards developing countries since 2002, when the Communication from the Commission, *Energy Co-operation with the Developing Countries*, defined a strategy for development co-operation which included improving access to energy as a means to achieve poverty reduction. Policy was further defined in the 2005 European Consensus on Development:

*Community policy ... is focused on supporting a sound institutional and financial environment, awareness raising, capacity building, and fund-raising in order to improve access to modern, affordable, sustainable, efficient, clean (including renewable) energy services through the EU Energy Initiative, and other international and national initiatives. Efforts will also be made to support technology leapfrogging in areas like energy and transport.”(para 82)*

100. In the decade 1996 to 2006, EC support for energy sector development in ACP, Asian and Latin American countries totalled €664 million (ACP €538 million; Asia €95 million; and Latin America €31 million). Power generation investments accounted for almost half of the support to ACP countries, while in Asia and Latin America the activities addressed mainly consumption and savings.
101. Although EC support for the energy sector helped improve the availability of energy in partner countries, it has not targeted the demand side (ADE, 2008). The impact of EC energy-related activities on living conditions and growth has not been measured, but the sectoral evaluation by ADE concluded that the effects of EC support on access to energy for the poor have been limited to date.
102. Access to energy has been an identified EC priority only since 2005 and can be said to not yet be fully reflected in the achievements of activities supported by the Commission. Because there are other dimensions to EC co-operation with partner countries in the field of energy, notably the security of energy supplies for the EC, and other development objectives in co-operation strategies, there remains a need to continue to emphasise the importance of energy access for poverty reduction.
103. **It is recommended that EC development co-operation priorities include energy access for the poor as a means to enable partner countries to achieve poverty reduction and the Millennium Development Goals.**
104. **It is recommended that the agendas in 2009 for the Joint Experts Group, Partnership Forum and High Level Energy meeting under the Africa-EU Energy Partnership should include explicit consideration of access to energy services for the poor.**

### **11.1. *European Development Fund (EDF)***

105. The place of energy co-operation within the EDF was fundamentally modified by the launching of the EUEI at the Johannesburg summit in 2002. This initiative was founded on the basis of energy services being seen as a means to attain the MDGs, and was based on a consensus that energy services are essential for development, that market actors alone will not provide universal access and public action is necessary to stimulate the provision of energy services.
106. The bulk of EDF funds are allocated to partner countries through the mechanism of a National or Regional Indicative Programme (NIPs/RIPs). Accompanied by Country and Regional Strategy Papers, the NIPs/RIPs are policy documents negotiated with partner countries (or regions) that specify how, and for what, EDF funds are to be spent.
107. Through the NIP/RIP mechanism, the EDF has traditionally devoted over 50% of funding to the transport sector, primarily in road building. EDF funding for energy fell to less than 1% of activities during the 1990's. Influenced by growing concerns worldwide about oil,

climate change and energy security, notably in the discussion leading up to the Johannesburg Plan of Implementation at WSSD, consensus was built within the EU to reintroduce energy into the activities of the EDF.

108. However, the process has been slow and difficult, for two principal reasons. First, the NIP/RIP mechanism has considerable inertia. The programmes are negotiated for 5 year cycles, and generally evolve slowly. Indeed, lack of appropriate competence for energy in many European Delegations makes it difficult to support the integration of energy into EDF programming.
109. Furthermore, EDF rules require partner countries to choose two or three focus areas. Most countries will focus on areas such as health, education, agriculture or transport, where the state has primary responsibility. Despite efforts by DG DEV to engage dialogue with ACP countries on energy, currently only 7 NIPs include energy as a focus area.
110. Difficulty in integrating energy into NIPs thus leads to a paradoxical situation. On the one hand, there is consensus that energy services are essential to the achievement of sectoral development goals. On the other hand, the EDF programming process tends to exclude energy from EDF activities.
111. The solution for this paradox lies in the potential of a "multi-sector, multi-stakeholder" process, under which partner country national authorities would organise a national dialogue amongst energy services stakeholders, both users and suppliers of all energy services, and including representatives of the major sectoral ministries responsible for development objectives (health, education, water, rural development, etc.). The dialogue would aim to produce national consensus on the specific energy services necessary to achieve national development goals. As a consequence, budgets for these priority energy services would be included as components of sectoral strategies, in the NIPs, and in similar documents used by other donors (notably the PRSPs used by the World Bank).
112. **In line with the Paris Declaration and Accra Agenda for Action, and consistent with the OECD guidelines on infrastructure for pro-poor growth, the EU should provide support for multi-sector multi-stakeholder energy dialogues in partner countries that express a request for such support. These dialogues should aim at:**
- **Identifying the specific energy services essential to achieving national development objectives, through discussion between energy users and energy service providers**
  - **Integrating these priority energy services into national development strategies, either as energy chapters, or as components of sectoral programmes**
  - **Building national capacity to organise the pooling of resources from different energy using sectors, to meet their respective energy service needs cost effectively**

113. **It is recommended that the EC support implementation of EAC, ECOWAS, CEMAC strategies and plans for cooking fuels, electrification, motive power, and provide continued support to develop capacity for energy planning oriented towards the needs of rural and peri-urban populations.**
114. Note that aside from the principal mechanism for allocating EDF resources, several other spending mechanisms exist within the EDF:
- Intra-ACP funds, approved by the joint EU-ACP committee, fund programmes that benefit all ACP countries. The Intra-ACP mechanism is being mobilised to fund small capacity building programmes on energy for the African RECs
  - The PSTICB (Programme for Science and Technology Innovation and Capacity Building) is a small facility that has served to support energy research and networking of energy centres (less than 10m€ total)

## **11.2. The EU Energy Facility**

115. The Energy Facility, along with the NIP/RIP EDF funding circuit, is the principal EC funding instrument for access to energy. The first Facility was formally approved in 2005 with €220 million. Project selection and contractualisation is now complete, financing a total of 75 projects, which should benefit 7.5 million people, mostly in sub-Saharan Africa, and with smaller components in the Caribbean and Pacific regions.
116. The first Facility received proposals for a large number of high quality projects for more than three times the available funds, showing that there is a large unmet demand for support in the field of energy. The Facility is unusual within the range of European (and international) ODA instruments, in that it provides much needed grant funding focused specifically on providing energy access targeted on poverty reduction and sustainable development.
117. The selection of projects for Facility funding was done according to a two step 'call for proposals' (CfP) mechanism. The 75 funded projects were selected from a pool of 230 projects accepted into the selection procedure. Project teams could submit proposals in four different categories: energy access; large infrastructure; governance, energy management, institutions; and cross border co-operation. Although it is too early to draw conclusions on the impact of the Facility, the Call for Proposals mechanism was considered to be quite successful for the 'small energy access projects' window, but there is probably room for improvement in the procedure for the 'large projects' and 'governance' windows.
118. **It is recommended, on the basis of the experience and lessons learned from the selection process of the first Facility, that:**
- **Funding for the Energy Facility should be renewed in the light of this being a unique instrument within the range of EC policy tools focused on access**

to energy. In accordance with the principles of the Paris Declaration, the Facility should maintain an open menu of institutional and technological options, favouring renewable energy solutions when they are optimal in view of attaining partner country development goals.

- The budget and procedures for the *small energy access projects* window of the Facility should be renewed. In line with Paris Declaration principles, it should better integrate recipient institutions into the selection process for the *large scale projects* window. A negotiation phase would allow them to express their views on priorities, modalities and integration into national development planning.
- Build a more flexible, "rapid response" procedure for the institutional support *governance* window. The procedure should allow a political dialogue process, better fitted to the needs of institutional support activities. Use of procedures similar to those of the EUEI Partnership Dialogue Facility could be considered.
- Add a specific window on improvement of cooking services, or enhance the emphasis on cooking within the small energy access window.

### **11.3. EUEI Partnership Dialogue Facility**

119. The EUEI Partnership Dialogue Facility (PDF) has been instrumental in providing rapid response and policy oriented support to ACP partner countries. The PDF seeks to place energy policies within partner country sectoral strategies and integrate access to energy services into national and regional strategies. There appears to be no similar fast-acting analytical capacity within the EU system to undertake analysis of energy in the development context (political, economic, technical).

120. **It is recommended that the role and funding of the EUEI Partnership Dialogue Facility (PDF) be strengthened and its integration into the EC be enhanced.**

### **11.4. Other Instruments**

121. It is useful to keep in mind that several non EDF instruments support EC energy activities in developing countries, notably:

- COOPENER, an instrument for non-technological support focused on the promotion of renewable energy and energy efficiency, now managed by EuropeAid under the thematic programme 'Environment and Sustainable Management of Natural Resources including Energy.' COOPENER aims to strengthen local policies and legislation, and promote the provision of energy services for poverty reduction.

- The EU Infrastructure Trust Fund for Africa, partially funded from the EDF, is another major element among EC energy instruments. This trust fund, leveraging loans from EIB and other financial institutions, is intended to support and initiate programmes which facilitate inter-connectivity at continental level.

## **11.5. Research**

122. Internationally, research in the field of energy is focused on large-scale and cutting-edge energy systems, to the neglect of decentralised, small-scale energy services. There has been limited use of existing research by practitioners, including the integration of applied research into tools for integrated energy planning.
123. As well as improved sharing of information on research activities to inform policy within the EU, a means to direct resources for research to questions related to energy access for the poor are necessary; in particular, research on the role of renewable energy sources, including sustainable biofuels, for achievement of MDGs, and on a local level, small-scale, decentralised technologies and effective social/management models.
124. Existing EC instruments, including FP7, have limitations in their provision of support for research in and for developing countries relevant to energy access. European capacity to carry out research and analysis (political, social, economic and technical) of development related energy issues is required, as is the development of research capacity on energy issues within partner countries, particularly in sub-Saharan Africa.
125. **It is recommended that the EC consider including provision for development co-operation objectives in FP research priorities, including access to modern energy services.**