



## **GBEP Programme of work – Action 1**

*“Update the inventory of existing networks, initiatives and institutions dealing with bioenergy in order to avoid duplications, and allow integration and leverage of international activities”\**

\* This document is an updated version of Annex 1 of the GBEP White Paper.

## Global Bioenergy Partnership White Paper - Annex 1: International initiatives

Initiatives	Participants	Geographic Focus	Fuel Chain focus	Role and activities	Aims	Notes
<b>Global Initiatives</b>						
FAO International Bioenergy Platform (IBEP)	open	Worldwide, but focus on developing countries	All bioenergy, but with emphasis on links with food security	Information provision, policy and decision making tools, capacity and partnership building	The mission is to promote biomass as development tool fighting poverty and climate change, to provide tools and data in to support of pro-poor bioenergy systems, to ensure dissemination of scientifically sound information regarding bioenergy and promote research into sustainable bioenergy. Objectives include: Mobilising stake-holders through collaboration, support and acting as point of contact; Creating web-based and other modern communication based information hubs and synthesise disparate information sources; Developing mechanisms to avoid conflicts with food security and environmental quality; Promoting bottom-up sustainable bioenergy plans at local level.	IBEP officially presented at the 14 <sup>th</sup> CSD in New York May 2006, detailed description published at: <a href="ftp://ftp.fao.org/docrep/fao/009/A0469E/A0469E00.pdf">ftp://ftp.fao.org/docrep/fao/009/A0469E/A0469E00.pdf</a>
FAO supported international research networks	National research institutions	worldwide, but with principle focus on Europe, Near East and Mediterranean countries	Biomaass conversion, mostly biogas and its by-products	Basic and applied research, information provision	Promoting research collaboration, exchange and dissemination; the networks themselves aim at sustainable and feasible waste management systems integrated with economic energy gain at different scales (including large industrial or municipal units)	two most active networks are currently: the Anaerobic Technologies group of the Sustainable Rural Environment and Energy Network (SREN) and the Recycling of Agricultural, Municipal and Industrial Residues in Agriculture Network RAMIRAN, <a href="http://www.ramiran.net">http://www.ramiran.net</a>
International Energy Agency Implementing Agreement for a Programme of Research, Development and	20 OECD countries, Brazil, South Africa and the European Commission (the programme is open to non-OECD countries)	Global	Entire chain	Facilitating international research, development and demonstration (RD&D) from	Founded by IEA in 1978 with the aim of improving cooperation and information exchange between countries that have national programmes in bioenergy research, development and deployment. 12 tasks are currently pursued: <ul style="list-style-type: none"> <li>Socio-Economic Drivers in Implementing Bioenergy Projects;</li> </ul>	Focuses on R&D for production and conversion of biomass and wastes; implementation concerns are strictly linked to socio-economic aspects, as well as to GHG mitigation.

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Demonstration on Bioenergy <a href="http://www.ieabioenergy.com/">http://www.ieabioenergy.com/</a> <a href="http://www.iea.org">http://www.iea.org</a>				bioenergy	<ul style="list-style-type: none"> <li>• Short Rotation crops for Bioenergy Systems;</li> <li>• Biomass production for Energy from Sustainable Forestry;</li> <li>• Biomass Combustion and Co-firing;</li> <li>• Thermal Gasification of Biomass;</li> <li>• Pyrolysis of Biomass;</li> <li>• Energy Recovery from Municipal Solid Wastes;</li> <li>• Energy from Biogas and Landfill Gas;</li> <li>• GHG Balance of Biomass and Bioenergy Systems;</li> <li>• Liquid Biofuels from Biomass;</li> <li>• Sustainable International Bioenergy Trade.</li> </ul> - Bioenergy System Analysis	
BioEnergy Future Group <a href="http://www.acstrategy.org/">http://www.acstrategy.org/</a>	NGO creating bioenergy network	Global but recent focus on CHINA	All bioenergy supply and consumption	Platform for information exchange and dialogue	To support the global drive for sustainable development by promoting bioenergy solutions	Workshop with Chinese authorities 7-8 July 2005 Currently registered as NGO in Japan
ESMAP <a href="http://www.worldbank.org/html/fpd/esmap/">www.worldbank.org/html/fpd/esmap/</a>	World Bank / UNDP	Various developing and transition economies	All bioenergy supply and consumption	Technical assistance and consensus building	Founded in 1983 by World Bank and UNDP to promote the role of energy in poverty reduction and economic growth in an environmentally responsible manner. Its work applies to low-income, emerging, and transition economies and contributes to the achievement of internationally agreed development goals.	Recent publication “Advancing Bioenergy for Sustainable Development” aimed at informing decision and policy makers in policy setting for bioenergy
World Bank projects  <a href="http://web.worldbank.org/external/projects/main?query=biomass&amp;menuPK=224076&amp;pagePK=218616&amp;piPK=217470&amp;theSitePK=40941">http://web.worldbank.org/external/projects/main?query=biomass&amp;menuPK=224076&amp;pagePK=218616&amp;piPK=217470&amp;theSitePK=40941</a>	World Bank	Various developing and transition countries	Biomass conversion	Funding individual projects via loans	Aims to create efficient energy markets open to all investors in order to provide sustainable affordable energy services to all Example projects: Moldova – funding demonstration best-practice small-scale biomass plants. Benin – Increase rural access to modern energy services, restructure traditional biomass utilisation with best-practice. Bulgaria – funding to install biomass cofiring at one large power plant. Sri Lanka – funding to promote off-grid small scale renewable projects include biomass.	
UNCTAD	UNCTAD in	Worldwide, but	Liquid	Policy analysis,	The UNCTAD BioFuels Initiative is helping assess the	

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<u>BioFuels Initiative</u> <a href="http://r0.unctad.org/ghg/">(http://r0.unctad.org/ghg/)</a>	cooperation with relevant intergovernmental organizations, governments, research centres and NGOs	focus on developing countries	biofuels with emphasis on the international trade and development dimensions	consensus building, technical cooperation	<p>potential of individual developing countries to engage in the emerging biofuel markets. In doing so, it looks at the links between domestic energy policies, food security, production and export diversification, environmental management, job creation and rural development. It deals with trade flows, tariff regimes, and market access and market entry-related issues affecting international trade in biofuels. It tackles issues related to the use and production of biofuels as emerging investment opportunities for developing countries. The Initiative provides policy guidance, ideas and examples on how to address the challenges that countries will face when engaging in this new market. By creating an International Advisory Expert Group, UNCTAD is well-equipped to deal with the many different technical issues related to biofuels' production and international trade.</p> <p>Objectives include:</p> <ul style="list-style-type: none"> <li>• Preparing technical studies;</li> <li>• Holding intergovernmental meetings aimed at consensus building;</li> <li>• Conducting activities aimed at assessing biofuels opportunities and potentials in selected developing countries;</li> <li>• Mobilising stake-holders through collaboration, support and acting as an international hub for biofuels;</li> <li>• Setting up a website dedicated to the exchange of relevant papers, posting of domestic regulations and experiences on biofuels and announcement of relevant meetings.</li> </ul>	
UNDP GEF projects <a href="http://www.undp.org/gef">http://www.undp.org/gef</a>	GEF	Various developing / transition countries	Bioenergy projects that meet GHG reduction criteria	Funding via risk guarantee mechanisms	The Global Environment Facility (GEF), established in 1991, helps developing countries fund projects and programs that protect the global environment. In relation to bioenergy, the GEF has been involved with funding large biomass generation plants in Slovenia and Thailand via risk guarantee schemes.	GEF projects are in the framework of the general objectives of the UNDP's Energy and Environmental Programme: <ul style="list-style-type: none"> <li>- Strengthening national policy frameworks;</li> <li>- Promoting rural energy services;</li> </ul>

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						<ul style="list-style-type: none"> <li>- Promoting clean energy technology;</li> <li>- Increasing access to financing for energy.</li> </ul>
UNEP bioenergy programme	UNEP	1. World	All aspects of bioenergy	<p>Working towards increased environmental sustainability. Examples of projects:</p> <ol style="list-style-type: none"> <li>1. Sustainability criteria and certification of biomass systems together with DaimlerCrysler ;</li> <li>2. Development of local biodiesel production in Tanzania together with Ericsson;</li> <li>3. Rural Energy Enterprise Development (Africa, Brazil, China).</li> </ol>	<p>Working towards assured environmental sustainability without hindering sound large scale production and use.</p> <p>Development should be done taking the whole life cycle into account, including local as well as global environmental impacts.</p> <p>UNEP works both on the policy and project levels to create better understanding and increasing awareness of the potential of the sector.</p> <p>UNEP works through private sector partnerships for development of sustainable business models within the sector.</p>	
REN21 - Renewable Energy Policy Network for the 21st Century <a href="http://www.ren21.net">www.ren21.net</a>	Government representatives, NGOs, intergovernmental organisations, industry	World	Policy	<ol style="list-style-type: none"> <li>1. Policy support</li> <li>2. Advocacy</li> <li>3. Knowledge exchange</li> </ol>	REN21 is a global policy network aimed at providing a forum for international leadership on renewable energy. It was established following the political declaration after the International Conference on Renewable Energies held in Bonn in 2004	

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Global Forum for Sustainable Energy GFSE <a href="http://www.gfse.at">www.gfse.at</a>	GFSE is a multi-stakeholder platform based in Austria	Global with emphasis on Africa	All bioenergy supply and consumption	5 <sup>th</sup> annual meeting focus on biomass	GFSE as a whole orchestrates dialogues to facilitate decision-making on policy issues in the appropriate fora, foster public-private partnerships, and promote concrete cooperation endeavours in the field. GFSE was founded by Austrian Foreign Minister in 1999. The 5 <sup>th</sup> annual meeting focused on enhancing global cooperation on biomass. Special emphasis was placed on building up institutional capacity to promote South-South cooperation on biomass.	Recommendations from GFSE-5 : 1. Improving biomass trade: stimulating research to aid planning and to reduce cost of technology (e.g. IBTs); 2. Modern biomass: Develop new finance mechanisms and promote capacity building; 3. Biofuels: Create policy framework, promote R&D, encourage PPP; 4. Power gen: promote CHP use; 5. Promote international cooperation including developing countries.
Renewable Energy and Energy Efficiency Partnership (REEEP) <a href="http://www.reeep.org">www.reeep.org</a>	REEEP is a PPP launched by UK but based in Austria with NGO status	Global	Some biomass conversion projects	Financing new projects	The REEEP aims to work as an enabler, multiplier and catalyser of institutional change. The partnership finances projects that either identify replicable models of <b>policy</b> and regulatory frameworks that overcome the market barriers to renewable energy, or projects which leverage additional resources and enhance capacity building for investors, financiers and public officials.	Past biomass projects include: Financing med to large scale biomass cogeneration projects in Kenya/Tanzania; Attracting farmers to biomass in the Philippines; Communicating Benefits and Testing Biogas Digester for Rural Communities.
World Energy Council-WEC <a href="http://www.worldenergy.org">www.worldenergy.org</a>		World	All aspects of bioenergy and other energy sources	Studies, surveys and scenarios	Surveying and monitoring different forms of energy all over the world. Defining scenarios and strategies.	
Global Village Energy Partnership (GVEP) <a href="http://www.gvep.org">www.gvep.org</a>	UK, World Bank, UNDP, USAID, Sweden, Holland, 1500 Partners	Global	Promoting biomass as one of a range of energy solutions in developing countries	Working at policy and project level, supporting bioenergy initiatives, financing bioenergy	GVEP aims to promote the use of energy to encourage social and economic development, reduce poverty and thus contribute to the MDGs. This is achieved through <ul style="list-style-type: none"> <li>supporting the establishment of national energy action plans and integrating these into national Poverty Reduction Strategy Plans and</li> <li>setting up Regional funds to support local energy SMEs</li> </ul> This is achieved through the provision of a range of	Promoting biomass within a range of adapted solutions

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					financial services as well as business development skills and technical assistance.	
Foreign and Commonwealth Office (FCO) Global Opportunities Fund (GOF) Climate Change and Energy Programme (CCEP) projects	FCO Climate Change and Energy Group (UK)	Developing and middle income countries	Some biomass conversion projects	Funds REEEP to promote greater uptake of renewable energy and more efficient use of energy Has supported a number of bioenergy projects.	The aim of the Programme is to promote change in the governance and use of international energy resources and systems to help secure the UK's medium-term global climate change and energy objectives	
Department for International Development (DfID) Energy projects, supported by its Engineering, Knowledge and Research (KaR) Programme <a href="http://www.research4development.info/index.asp">http://www.research4development.info/index.asp</a>  <a href="http://www.dfid-kar-energy.org.uk/">http://www.dfid-kar-energy.org.uk/</a>	DfID is a UK Government Department	Mainly developing countries with some global focus	Biomass supply chain, particular focus on infrastructure.	financing bioenergy research and development projects	DfID Energy supports the provision of cleaner forms of energy to the poor in ways that do not degrade the local environment.  The KaR Programme is focused to ensure that investment in infrastructure, to overcome constraints on economic development (with particular emphasis on the provision of basic services to the poor), is carried out with the benefit of enhanced knowledge and technology	
Methane to Markets Partnership <a href="http://www.methanetomarkets.org">www.methanetomarkets.org</a>	18 Countries and over 300 private sector and non-governmental and governmental organizations	Global	Agriculture (biogas – anaerobic digestion)  Waste Management (landfill gas to	Policy support, technology transfer and deployment, capacity building, market development, project	Advance cost-effective, near-term methane recovery and use of methane as a clean energy source. The goal of the Partnership is to reduce global methane emissions in order to enhance economic growth, strengthen energy security, improve air quality, improve industrial safety, and reduce emissions of greenhouse gases. The Partnership currently focuses on four sources of methane emissions: <ul style="list-style-type: none"> <li>• Agriculture (animal waste management)</li> <li>• Coal mines</li> </ul>	

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			energy)	development and implementation	<ul style="list-style-type: none"> <li>Landfills</li> <li>Oil and gas systems</li> </ul>	
Joint Research on Biomass Gasification and Reburning	U.S. EPA and Italian Ministry of Environment and Territory	Global (potential)	Biomass as energy source	Research and technology development	<ul style="list-style-type: none"> <li>Develop and test technology to utilize biomass as energy source</li> <li>Reduce waste and protect landfill capacity</li> </ul> <p>Explore potential to decrease NOx emissions from combustion</p>	
<b>Regional Initiatives</b>						
EU Bioenergy Action Plan <a href="http://europa.eu.int/comm/energy/tes/biomass_action_plan/index_en.htm">http://europa.eu.int/comm/energy/tes/biomass_action_plan/index_en.htm</a>	EC TREN Interservice Steering Group External Stakeholder Group External Expert Group	EU25	All bioenergy supply and consumption	Coordination of EU biomass policies to achieve RES target by 2010	Aim is to streamline several EU policies on energy, agriculture, environment, regional policy, as well as to propose new initiatives. The BAP Impact Assessment will aim to identify the impacts on these areas these and propose a structure to achieve them.	
Latin America Thematic Network on Bioenergy (LAMNET) <a href="http://www.bioenergy-lamnet.org/">http://www.bioenergy-lamnet.org/</a>	48 institutions funded by EC, led by WIP Renewables (DE), EUBIA and ETA-Renewable Energies (IT) with CENBIO (Brazil), UNAM (Mexico), CAREI (China)	South and Central America and Mexico	All bioenergy supply and consumption	Information provision and capacity building	Aim is to establish a trans-national forum for the promotion of sustainable use of biomass in Latin America and other emerging countries. Main thrust is identification of technological objectives and the development of policy options to boost promotion of decentralised biomass production and biomass based energy generation The Lamnet network is mainly directed to: <ul style="list-style-type: none"> <li>Identify currently available, efficient, cost-competitive and reliable small scale decentralised bioenergy technologies for the conversion of biomass to energy services in Latin America, Europe, Africa and China.</li> <li>Disseminate information on current activities through the publication of a periodic newsletter, a project database and the organisation of several bioenergy workshops.</li> <li>Identify and promote opportunities for international co-operation, technology transfer and joint-ventures between OECD and non-</li> </ul>	Will create database on website and publish periodical newsletter

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					OECD countries, based on application of modern bioenergy technologies especially in the field of ethanol production in the Brazilian, South African and Cuban sugarcane industries as well as in China, to aid rural development.	
Mediterranean Renewable Energy Programme (MEDREP) ( <a href="http://www.medrep.it">www.medrep.it</a> ) (under construction)	ADEME, IEA, ISES ITALY, MEDENER, OME, REC, UNEP & World Bank	Mediterranean countries	Some biomass conversion projects	Developing financial mechanisms, strengthening policy and fortifying private sector infrastructure	The two principal objectives of the program are: - to provide modern energy services particularly to rural populations; - to contribute to the climate change mitigation by increasing the share of renewable energy technologies in the energy mix in the region.	Promoting biomass projects along with other RE technologies
L'Association Europeenne pour la Biomass AEBIOM	28 national biomass associations	EU Countries	Current focus is on heat chains	Promoting bilateral and multilateral agreements for development of bioenergy in EU countries	AEBIOM is a non-profit international organisation. Its objectives are the study and promotion of bioenergy, notably: <ul style="list-style-type: none"> <li>To develop, deepen and disseminate the knowledge concerning the use of biomass for energy, from scientific, technological, economic, sociological, legal and political perspectives, as well as in any other aspect having a relevance at European level;</li> <li>To develop and promote the technical quality of the European bioenergy industry;</li> <li>To support any initiative at national and international level aiming at the promotion of the use of bioenergy ;</li> <li>To communicate to policy makers the opportunities and concerns regarding the development of bioenergy in Europe.</li> <li>To actively promote the abolition of any technical or trade barriers which hamper the development of an open bioenergy market at European level.</li> </ul>	AEBIOM was a pioneer in promoting collaborations between West and East European countries. A better knowledge of the situation in these two European Regions and common projects derived from this collaboration.
African Energy Policy Research	The network is composed by 97	Africa	Biomass as energy	Promoting the transition from	An important research programme was launched in 1999 with the following key themes:	

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Network: AFREPREN..	researchers, policy- and decision-makers engaged in the formulation and implementation of energy policy in Africa.		source for rural communities	traditional use of biomass to modern use	<ul style="list-style-type: none"> <li>Renewables and Energy for Rural Development;</li> <li>Energy Services for the Urban Poor;</li> <li>Energy Sector Reform;</li> <li>Special Studies of Strategic Significance for the Energy Sector Development in Eastern and Southern Africa.</li> </ul>	
Association of South East Asian Nations-ASEAN <a href="http://www.asean.org">www.asean.org</a>	Asiatic Countries	Asia	All aspects of bioenergy	Defining policy and development tools	Enhancing socio-economic growth rate through the modern use of biomass	Multilateral agreements are in force also with the European Commission
Asia Pacific Economic Cooperation (APEC) <a href="http://www.apec.org">www.apec.org</a>	Australia, Brunei, Canada, Chile, China, Hong Kong, China, Indonesia, Japan, Korea, Malaysia, Mexico, New Zealand, Papua New Guinea, Peru, Philippines, Russia, Singapore, Chinese Taipei, Thailand, United States, Viet Nam	APEC region	Biofuels	Policy	APEC Leaders in November 2005 called upon the APEC Energy Working Group to establish a Biofuels Task Force. Terms of reference for the Task Force, adopted in Singapore in May 2006, call for building consensus on biofuel economics, infrastructure, vehicles, resources and trade. The initial objective of the Task Force will be to inform APEC Energy Ministers about the realistic potential of biofuels to displace oil use for transport over time.	
Network of Excellence –NoE <a href="http://www.bioenergy-noe.com">www.bioenergy-noe.com</a>	8 leading European Institutions	Europe	All aspects of bioenergy	Virtual centre for studies, analyses, scenarios	Promoting research and developing of new technologies and systems	
K4RES-H: Key Issues for Renewable Heat in Europe	European and National RES Associations  <i>For biomass:</i> AEBIOM (European Biomass Association)  <b>With the</b>	EU	Thermal energy from Solar, Geothermal and Biomass	Information provision and capacity building	The overall objective of this project is to increase the usage of Renewable heating and cooling (RES-H) in the European Union. To this end, a joint Action Plan for RES-H is developed by the European trade associations of the RES-H industries: ESTIF (European Solar Thermal Industry Federation), AEBIOM (European Biomass Association), and EGEC (European Geothermal Energy Council). National case studies in Italy, Sweden, France, Germany, Slovenia and Belgium are provided by national	<p>THE PROJECT ADDRESSES FIVE KEY ISSUES:</p> <ul style="list-style-type: none"> <li>Verifiable targets for RES-H;</li> <li>Quantifying the energy delivery of individual RES-H installations;</li> <li>Regulations;</li> <li>Financial Incentives;</li> <li>Innovative RES-H</li> </ul>

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	<b>partnership of:</b> ITABIA (Italian Biomass Association); SVEBIO (Swedish Biomass Association); SLOBIO (Slovenian Biomass Association); ITEBE (Bioenergy Institute); BBE (German Bioenergy initiative)				organisations. A case study for biomass in Italy is provided by ITABIA. The EU Action Plan focuses specifically on improving public policies, as the level and the quality of RES-H policies has proven to be the most decisive factor for the growth of RES-H in certain countries and the stagnation of RES-H markets in other countries.	applications. <b>FIVE DELIVERABLES CONCERNING THE BIOMASS SITUATION IN ITALY HAVE BEEN PROVIDED BY ITABIA</b>
BITES: Biofuels Technologies EU Showcase	ITABIA as Co-ordinator. UNACOMA SVEBIO GBA (German Biogas Association); EC BREC (Baltic renewable Energy ter, Poland); MINERVA R&C (market and Communication Co.)	EU	Best practices for biofuels	To increase the usage of bioethanol, biodiesel, and biogas for transportation in the European Union	The overall objective is to develop an Action Plan for biofuels in the EU. Five Project Partners, representing four different regions of the EU, act as driving leaders for a more ample and complex network.	The BITES project intervenes as a dissemination and uptake enabler for demonstration projects and other initiatives on biofuels, at pan-European level and with strong potential to become a widely acknowledged space of shared knowledge in the European scientific and industrial communities.  The rationale itself of the BITES project is that of a <u>dissemination action</u> to be carried out at European level. Given the issues at stake, action has to be taken at European level so as to increase the level of awareness Europe-wide about biofuels successful experiences and improve the performance of biofuels chains in concrete frameworks.  BITES is likely to produce

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						effects well beyond the duration of the project itself as a result of a shared vision of biofuels uptake processes that the project intends to develop through the activities of the working groups.
African Rural Energy Enterprise Development Programme Contact person: Lawrence Agbemabiese, (lawrence.agbemabiese@unep.fr)	UNEP, Mali Folkecenter, ENDA, KITE, TaTEDO, CEEZ, E+Co	Africa	Enterprise development		1. Delivery of enterprise development services. 2. Investments in renewable energy enterprises. 3. Policy activities such as high level policy workshop.	
<b>National Policies</b>						
Canadian Biomass Innovation Network (CBIN) <a href="http://www.cbin.gc.ca">www.cbin.gc.ca</a>	Federal departments - Natural Resources Canada (energy, forests and mines), Industry Canada, Environment Canada, National Research Council, Agriculture and Agrifood Canada which do research in federal laboratories and partner with industry, academia and provinces on a project by project basis	Across Canada mainly but some projects have international partners	Bioenergy biofuels, biomaterials, biochemicals, industrial bioprocesses- feedstocks, conversion, utilization and biorefineries /biocomplexes as well as environment and infrastructure issues as well as technical issues	Coordinating and leading federal S&T activities and networking with the provinces, industry and academia and internationally Funding S&T projects, developing strategies and partnerships	To develop knowledge and technologies working in partnership with universities, industry, provinces and other related federal programs and develop linkages and networks nationally and internationally to further the contribution of a biobased economy to Canada's energy future (depending on funding availability). CBIN develops strategy for federal investment, funds projects, networks across sectors, brings partners together, and facilitates participation or participates internationally (bilateral and multilateral).	

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			related to policy			
The Italian National Program on Renewable Energy from Biomass.	Italy <i>Promoter:</i> Ministry of Agricultural and Forestal Policy  <i>Actors:</i> <ul style="list-style-type: none"> <li>• Regions</li> <li>• Provinces</li> <li>• Biomass stakeholders</li> <li>• Agriculture organisation</li> </ul>	Italy	Energy crops cultivation for biodiesel and bioethanol production and their use in the transport and household heating sectors.  Thermal and electric energy from biomass recovered from agriculture forestry and livestock sectors.	PNERB was the first Italian document, issued in 1998, setting guidelines for bioenergy deployment. The target is to replace by 2012 8-10 Mtoe of fossil fuels with biomass coming from agriculture, forestry, livestock sectors and related industries.	The objectives are multiform and approached in an holistic way. <u>Energy:</u> Recovery of residual biomass and waste for energy production, developed of innovative energy conversion technologies. <u>Agriculture:</u> Expansion of land areas for energy crops cultivation, reaching 200,000-300,000 ha in a 5 years time-frame. <u>Forestry:</u> Improvement of forestry management for carbon sequestration and for multiplying modern forestry enterprises. <u>Environment:</u> Soil restoration, land protection and greenhouse gas reduction. <u>Human health:</u> Mitigation of the pollution effects of urban traffic and household heating. <u>Socio economic:</u> Cost reduction of bioenergy products, reduction of unemployment, new job creation, expanding environmental and renewable energy awareness.	Following the PNERB, subsequent collateral programmes and action plans were set up especially concerned bioelectricity and liquid biofuels for transport. Remarkable action is the National Programme on Biofuels (PROBIO) approved by the inter-ministerial Committee for Economic Planning (CIPE) in February 2000 and managed by the Ministry for Agriculture and Forestry Policy. The programme promotes demonstration projects and dissemination activities at Regional and Interregional level with a strong link with territory in order to push local administrations, industrial and agricultural entrepreneurs towards biofuel development.
PEAR: Regional Energy and Environmental Plans	Italy <i>Promoters</i> 19 Regions and the two Autonomous Provinces  <i>Actors</i> <ul style="list-style-type: none"> <li>• Municipalities;</li> </ul>	Italy  Regional territory	The Region's energy market both in terms of supply		Overall objectives Use agricultural and agro-food industry residues, livestock sludge, wood and forest residues and energy crops for household heating, district heating and cogeneration.  Actions	IN RECENT YEARS MANY STATE TASKS HAVE BEEN TRANSFERRED FROM THE STATE TO THE REGIONS AND PROVINCES. THE LATTER ARE COMMITTED , AMONG OTHER THINGS, TO

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	<ul style="list-style-type: none"> <li>• Consumers associations ;</li> <li>• Industries,;</li> <li>• Energy service providers;</li> <li>• Forest-based industries and co-operatives, etc.</li> </ul>		(existing plants, production, importing, conversion, etc.) and demand. Information on environmental situation is also provided.		<ul style="list-style-type: none"> <li>• Drafting a regional energy balance;</li> <li>• Identification of energy fields;</li> <li>• Identification of possible district heating sites;</li> <li>• Financial plan to support energy production initiatives;</li> <li>• Formulation of objectives based on action priority;</li> <li>• Formulation of procedures for identifying possible sites for large-size plants (up to 10 MW);</li> <li>• Partnerships in private investments through regional agencies;</li> <li>• Organisation of seminars, exhibitions, conferences for sensitising local population.</li> </ul>	DEFINE AND IMPLEMENT THEIR OWN ENERGY AND ENVIRONMENTAL PLANS, BECOMING THE MAIN REFERENCE POINT FOR ANYONE WHO INTENDS TO INVEST IN THESE SECTORS.
White Certificates	<p>Italian Government.</p> <p>Actors:</p> <ul style="list-style-type: none"> <li>• Issuing bodies</li> <li>• The Italian Regulatory Authority for Electricity and Gas</li> <li>• Energy Market Administrator.</li> <li>• Distributors</li> <li>• Energy Distribution Companies;</li> <li>• Energy Service Companies (ESCO), including crafts companies and cooperatives</li> </ul>	Italy National territory	Energy saving	Incentives for introducing innovative devices in the biomass heat sector.	<p>Priorities concern projects aimed at:</p> <ul style="list-style-type: none"> <li>• Improving the efficiency of current energy conversion plants;</li> <li>• Replacing traditional devices with innovative ones, for example, substituting electric water heaters or fossil fuels space heating plants with biomass fed district heating plants, and solar thermal systems;</li> <li>• Any other intervention which leads to energy saving.</li> </ul>	“White Certificates” represent marketable documents issued by the Energy Market Administrator (in Italian initials: GME) testifying the energy saved by the energy distribution companies - as well as by their controlled partnerships - and by the Energy Service Companies (ESCO). All these companies must undertake and implement specific projects aimed at improving the energy conversion efficiency. As opposed to the Green Certificates concerning the electricity production, the White Certificates correspond to the units of primary energy saved rather than produced.

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Green Certificates	Italian Government  Actors  a) Issuing bodies: GRTN: The Italian National Transmission Grid Manager.  b) Market operators: electric energy producers and importers	National territory	Obligation to include a quota of electricity from RES (initially 2%) in the production and import of energy from conventional sources	Overcoming the barriers affecting the production of bioelectricity	Favouring a competitive market mechanism for the green electricity production	THE CERTIFICATES GIVE A UNIQUE VALUE TO THE “GREEN” KWH PRODUCED, REGARDLESS OF THE SOURCE UTILIZED. THIS PLACES BIOMASS AT A DISADVANTAGE IN RESPECT TO OTHER RES THAT HAVE ZERO PURCHASE COSTS.
FASI (Russia) – The Federal Agency of Science and Innovations (governmental agency)  <a href="http://www.fasi.ru">www.fasi.ru</a>	Russian government	Russia	Bioenergy	Policy	Use of bioenergy for the benefit of the regions and local communities	1. The federal target-oriented programme in the field of science and technology “Research and development work in the priority fields of science and technology for 2002-2006” (a new program for the next 5-year period is being developed; the concept of the programme has already been approved by the government.) 2. Bioengineering technologies in the context of bioenergy
Support for bio-energy supply	UK	UK national level	Biomass heat and power          Transport Fuels		<u>Biomass Heat and Power</u> - Financial aid available to establish energy crops in England, Scotland and Northern Ireland. Government has commissioned studies to develop potential new energy crops and investigate use of energy crops in markets other than bio-energy (e.g. fibre) to provide alternative income streams and reduce GHG emissions.  <u>Transport Fuels</u> - Financial aid available to farmers raising biofuel crops	

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Support for supply chain development	UK	UK national level	Biomass heat and power  Transport Fuels		<p><u>Biomass Heat and Power</u> - Provision of financial aid to develop supply chains from harvest through to delivery to energy end users. Preparation of Woodfuel Strategies to identify measures needed to deliver additional volumes of wood to bio-energy markets.</p> <p><u>Transport Fuels</u> – currently developing proposals to establish an enhanced capital allowance scheme for biofuel processing plants to offer these allowances to plants which have a good carbon balance inherent in their design.</p>	
Support to develop bio-energy markets	UK	UK national level	Biomass heat and power		<p><u>Biomass Heat and Power</u> - Capital grant schemes are available for biomass heat and CHP projects in the domestic, community, commercial and industrial sectors– some of which are linked to improvements in energy efficiency. Electricity suppliers are required to supply a specified and increasing proportion of their electricity sales from renewable resources. Co-firing of biomass with fossil fuels is encouraged. Direct and indirect support for renewable energy including via the UK emissions trading scheme and via exemption from the Climate Change Levy (an energy tax).</p> <p>Use of the planning system to stimulate renewables development (including bioenergy) eg encouraging planning authorities to require a minimum percentage of renewable energy in new developments. Introduction of new Building Regulations to encourage the use of low or zero carbon systems, such as biomass. The action and advisory group, Low Carbon Vehicle Partnership (LowCVP) is developing “Principles of Certification for Bioenergy”, to facilitate traceability of environmental and social benefits. Government leadership through public procurement including the commitment by the UK Government to map the potential use of biomass across the main procuring departments of the Government estate and installation of biomass boilers.</p>	

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			Transport Fuels		<p><b>Transport Fuels</b> – fiscal support for bioethanol and biodiesel (via duty rate cut) compared to fossil fuel. Introduction of a Renewable Transport Fuel Obligation requiring major oil companies and importers to ensure that a increasing proportion of their fuel sales are from a renewable source (the level of the obligation will be 2.5% in 2008, 3.75% in 2009 and 5% in 2010). Developing a carbon and sustainability assurance scheme to require companies to report on the level of carbon savings achieved and on the sustainability of their supplies. Intend to run a pilot project to examine the potential for using fuel duty incentives to support the direct refining of vegetable oils at oil refineries. LowCVP are promoting the UK’s shift to low carbon transport and are in the process of developing a single, independent, sustainable standard for all liquid biofuels in the UK.</p>	
Advice and innovation	UK	UK national level	Bioenergy		<p>Advice to industry and public on bioenergy and/or renewables available from several bodies including the Biomass Energy Centre, Centre for Alternative Land Use, woodfuel officers network, Community Renewables Initiative and renewable energy centre of scientific excellence. The National Non-Food Crops Centre, created as a part of the Non-food Crops Strategy, provides a single, authoritative source of information on the use and implementation of non-food crops and technologies. Bioenergy Funders Forum considers R&amp;D across the UK. Extensive energy crop R&amp;D projects underway to encourage new varieties and underpin an expansion in the commercial breeding programme and expansion of Life Cycle Analysis assessment tool to include bioenergy. Ongoing work on the use of energy from waste including use of anaerobic digestion. Government supports R&amp;D to promote innovation and development of new bioenergy technologies.</p>	
UK Biomass Strategy ( <a href="http://www.dti.gov.uk/">www.dti.gov.uk/</a> )	UK	UK national level	Bioenergy		In response to the Biomass Task Force report, the Government committed to develop a UK Biomass Strategy by May 2007 (together with supporting strategies)	

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<a href="http://www.dti.gov.uk/.../bio-mass/government-response-to-the-biomass-task-force/page28196.html">.../bio-mass/government-response-to-the-biomass-task-force/page28196.html</a> ).					and/or action plans in NI, Wales and Scotland). ( <a href="http://www.dti.gov.uk/.../bio-mass/government-response-to-the-biomass-task-force/page28196.html">www.dti.gov.uk/.../bio-mass/government-response-to-the-biomass-task-force/page28196.html</a> ). Actions contained in the Government response will contribute to wider targets and objectives in the Climate Change Programme Review ( <a href="http://defraweb/environment/climatechange/uk/ukccp/pdf/ukccp06-all.pdf">http://defraweb/environment/climatechange/uk/ukccp/pdf/ukccp06-all.pdf</a> ). The Energy Review - “the energy challenge” published in July 2006 highlighted the importance of renewable energy and energy efficient technologies, including bioenergy. (More details at : <a href="http://www.dti.gov.uk/energy/review/">www.dti.gov.uk/energy/review/</a> . )	
EPA-US Environmental Protection Agency – Renewable Fuel Standards <a href="http://www.epa.gov">www.epa.gov</a>	USA Government	USA	Renewable fuel for transportation	Adopt regulations implementing requirements of Energy Act of 2005	The Renewable Fuel Standard will require expanded use of renewable fuels (principally ethanol and bio-diesel) in the transportation sector. EPA regulations will put in place these requirements and analyze the impacts on vehicle emission performance, energy consumption, petroleum consumption and GHG emissions as well as impacts on the farming sector as suppliers of feedstock for fuel production and the refinery industry as suppliers of transportation fuels	
EPA – US Environmental Protection Agency – Methane Programs <a href="http://www.epa.gov">www.epa.gov</a>	USA Government, private sector, and other governmental and non-governmental organisations	USA	Landfill gas to energy Agriculture (biogas recovery, anaerobic digestion)	Policy support, technology transfer and deployment, capacity building, market development, project development and implementation	AgSTAR Program - works with the agricultural community to reduce methane emissions from livestock waste management operations by promoting the use of biogas recovery systems at swine and dairy operations.  Landfill Methane Outreach Program - works directly with project developers, energy companies, landfill owners and operators, energy users and communities to encourage the development of new landfill gas-to-energy projects at US landfills	
USDA – United States Department of Agriculture <a href="http://www.usda.gov">www.usda.gov</a>	USA Government	USA	Feedstock, biopower and biofuels, biobased products,	Policy, research and technology development, assistance	Promoting the development and use of renewable agriculture and forestry resources for biobased products and bioenergy	

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			biorefinery			
Advanced Energy Initiative	DOE,USDA, external partners	USA	Biofuels and biopower	Policy, research and technology development, assistance	Providing clean-energy technology research in which a primary alternative is the use of biomass	
DOE - Department of Energy <a href="http://www.energy.gov">www.energy.gov</a>	USA Government	USA	Biopower and liquid biofuels, biorefinery	Policy	Decreasing USA fossil fuel dependence and mitigating environmental pollution through the use of bioenergy	A Regional Bioenergy Plan involving five regions (USA) is in force.
<b>Bilateral Projects</b>						
Recovery and energy-use of biogas produced from landfill	Italian Ministry for the Environment Chinese Ministry of Science and Technology	China	Biomass as energy use	Policy and technology development	The pilot phase of this wide-ranging project is being implemented in the Province of Ningxia in conjunction with a municipalized company. The project is designed to capture biogas produced by landfill and methane originating in animal manure, and to its use to produce electricity.	The project will allow the development of the methodology for the recognition of emission credits under the Clean Development Mechanism.
Use of biomass for energy production	Italian Ministry for the Environment Chinese Ministry of Science and Technology	China	Biomass as energy use	Studies, Surveys and scenarios	Design of a cogeneration plant with biomass gasification, and construction of the cogeneration plant with complete biomass combustion.	The project is currently being completed
Development and demonstration of a process for producing Biodiesel from Jatropha Curcas seeds by enzyme extraction and ethyl transesterification	Italian Ministry for the Environment EEAA (Egyptian Environmental Affairs Agency)	Egypt	Industrial research project	Studies, Surveys and scenarios	The main aim of the project is the development of a technologically innovative, low cost process for the production of Biodiesel derived from oleaginous Jatropha Curcas seeds, currently under cultivation in the southern Mediterranean coast, especially in Egypt.	
Evaluation studies for the "Souss-Massa biogas project"	Italian Ministry for the Environment, CDER (Centre de Développement des Energies Renouvelables)	Morocco	Biogas from manure	Study	Evaluating the programme launched few years ago in some rural areas, regarding the installation of about 100 biogas mini-plants in the region of Souss-Massa. Elaborating technical, financial and socio-economic evaluation of this first pilot project in order to analyze all the collected information and use to facilitate the development of projects in other regions	

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Advanced cogeneration: use of biogas for energy production (electricity and heat) Sitio das Neves landfill – Brazil	Italy – Italian Ministry for the Environment and Territory	Sitio des Neves - Brazil	Biogas for energy use	Study	The project is designed to capture biogas produced by landfill and to use it to produce electricity and heat.	The project is in progress
Promotion of bio-fuels for remote villages in India (Winrock International India) 2005-2007	UK (REEEP) and India	India	Biofuels	Study	The main aim of the projects is to demonstrate that bio-fuels can provide clean and affordable energy to the rural population in India. The project implementers are working to create and demonstrate a replicable model of remote village power plant fuelled by a plant called jatropha. The power plant will operate using diesel generators but using oil extracted from jatropha seeds. In the first year, engine optimisation tests were carried out on the generator sets to make it suitable for using this biofuel. Villagers voluntarily dug pits along the periphery of their farms to plant Jatropha saplings.	The project is in progress
Sustainable Energy Blueprint (WWF Brazil) 2005-2006	UK (REEEP) and Brazil	Brazil	Biofuels	Study	To explore the potential for clean and affordable energy services to the 20 million Brazilians who lack access to energy services. WWF-Brazil is implementing a two-year project which aims to explore the potential for clean and affordable energy services to the 20 million Brazilians who lack access to energy services. Following a phase of capacity and coalition building, and a subsequent communication campaign, the study will demonstrate to decision makers how the adoption of a Sustainable Energy Blueprint could provide clean and affordable energy services for all Brazilians, while setting the power sector on a sustainable and low-carbon path.	The project is in progress
EUBIA-Russia Framework agreement www.eubia.org	EUBIA and Russian Federation – Federal Agency of Science and	Russia and EU	All bioenergy supply and consumptio	Technical cooperation to advance and implement new	The aim is that both parties will facilitate implementation of the scientific/technical cooperation on progressing energy-efficient technologies and systems for biomass energy use and the application of these technologies on	EUBIA – European biomass Association – is an international non-profit association open to all companies and organizations that

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	Innovations (FASI) – governmental agency <a href="http://www.fasi.ru">www.fasi.ru</a>		n	technology: cooperation between scientific institutions of the Russian Federation and EC, including cooperation within the framework of the EU 6 <sup>th</sup> Framework Program (FP6).	the base of equality and mutual benefits	have interest in the area of biomass and energy.  The Russian Federal Agency of Science and Innovations (FASI) – governmental agency (under the Ministry of Education and Science)
Local biodiesel production for GSM network in Tanzania together with Ericsson Contact person: Marie Holmlund (marie.holmlund@unep.fr)	UNEP, Ericsson, Diligent Energy Systems	South Eastern Tanzania	Biofuel production	Feasibility study	Feasibility study of local biodiesel production for use in telecommunications applications in Tanzania by fostering local production of biodiesel as a substitute fuel to power GSM network Assessment of the technical, financial, environmental as well as social aspects of proposed local biodiesel production in forming possible business models for creating an integrated system/approach to rural energy.	The project is in progress