FAO’s expertise on the specific components of the agrifood chain provides a solid foundation for supporting the implementation of the ESF Programme. It is also important to recognize that there are some specific areas along the agrifood chain in relation to energy (e.g. transportation, distribution and food preparation) that are outside of the FAO mandate. There is also a lack of in-house expertise in certain specialized areas, such as solar, wind and geothermal energies. These gaps will need to be filled if we are to realize the ESF Programme’s full potential. A major effort of the Programme is to build a collaborative framework in order to have all the necessary expertise and specialized knowledge on board.

The ESF Programme is part of major international initiatives. It is an essential component of climate-smart agriculture and will make a major contribution to the 2012 UN International Year of Sustainable Energy for All and the Green Economy with Agriculture Programme in the context of Rio+20. The Programme also contributes to the broader UN Sustainable Energy for All (SEFA) Initiative by focusing on the energy issues in relation to the agrifood chain. SEFA’s three interlinked objectives are to ensure universal access to modern energy services; double the rate of improvement in energy efficiency; and double the share of renewable energy in the global energy mix. The objectives of the ESF Programme are to improve energy efficiency, increase the use of renewable energy along the agrifood chain and improve energy access through food and energy systems. These objectives complement those of the SEFA.

The ESF Programme will focus on country action and provide international support functions. Operating on these two levels, the ESF Programme will initially cover the following core sets of activities:

1. knowledge management, including knowledge generation, dissemination and outreach at international and country levels;

2. capacity building, including technical and policy-level capacity building with international partners and at country level; and

3. country support through the implementation of the country-level analysis and support for the development of national ESF strategies.
Addressing the energy-water-food-climate nexus along the agrifood chain is a complex challenge. It requires a number of diverse technical, institutional and policy issues at the global, national and local level. While FAO and other organizations have been working on the ESF Programme for some time, scaling up the Programme will require more collaborative learning and action among other UN agencies, multilateral organizations, donors, policy-makers and the private sector. This is critical for the success of the ESF Programme. For this reason, the Programme will establish a collaborative framework with relevant United Nations organizations, including the UNDP, the UNEP, United Nations Industrial Development Organization (UNIDO), the International Fund for Agricultural Development (IFAD) and with other partners, including, among others, the World Bank, the International Renewable Energy Agency (IRENA) and the IEA. Government organizations (such as USAID), research institutions, and non-governmental organizations will also be included in the collaborative framework. This approach will accelerate information sharing and mobilize knowledge and action for addressing the energy-food security-water-climate nexus in an integrated manner. It will also help bring together actors from across the agriculture sector, (ie. fishing, forestry, livestock and water) with those from the energy, the environment and the industrial sectors to formulate integrated policies so that the food sector can adapt to future energy supply constraints and to the impacts of climate change, and successfully meet food security needs. Participation from the private sector will be essential for the promotion of energy-smart approaches. Some organizations have already expressed interest in ESF including World Business Council for Sustainable Development (WBCSD), Novozymes and Enel Green Power.

**UN-ENERGY**

UN-Energy was established in 2002 at the World Summit on Sustainable Development (WSSD) in Johannesburg to help ensure coherence in the United Nations system’s multidisciplinary response and to support countries in their transition to sustainable energy. FAO is a UN-Energy member and has made a key contribution to its activities. UN-Energy will be a key partner in the ESF Programme.

The ESF Programme is a global mechanism designed to bring energy-food security-climate related initiatives together. Collaborative and coordinated initiatives can create an interactive feedback loop that can respond more effectively to fast-changing conditions. It also broadens the constituency of each group by connecting them with stakeholders beyond those targeted by each initiative separately. The ESF Programme will also coordinate closely with a number of ongoing international initiatives, a number of which are listed below.
- USAID’s Energy Grand Challenge for Development focuses on powering agriculture with the specific aims of identifying and overcoming specific, critical barriers to off-grid access to clean energy for agricultural processing, pumping and storage in energy poor communities in the developing world.

- Brazil’s recently-launched low-carbon agriculture programme (2011-2020) seeks to reduce greenhouse gas emissions in agriculture through more efficient use of natural resources; increase of the resilience of farming systems and communities; and support the adaptation of the agricultural sector to climate change.

- The Global Alliance for Clean Cookstoves is a new public-private partnership which calls for 100 million homes to adopt clean and efficient stoves and fuels by 2020. Its secretariat is hosted by the UN Foundation. FAO is a member of the Global Alliance for Clean Cookstoves and participates in its monitoring and evaluation group. A possible focus of the ESF Programme could be on improving the sustainability of the fuel supply for example through a more effective use of woody biomass and supporting integrated policy development.

- Through its Water project, the WBCSD is leading an international and multistakeholder initiative on the water, energy, food, and climate change linkages – the nexus approach.

- The UN Framework Convention on Climate Change has a number of associated climate funds and financing mechanisms [e.g. Green Climate Fund, Climate Investment Funds, CDM, Nationally Appropriate Mitigation Actions (NAMAs)] that are relevant to energy. NAMAs, for instance, could provide a suitable framework for agricultural sector-wide energy efficiency or renewable energy programmes. The ESF Programme could contribute in coordinating this work and act as clearing-house on existing funding mechanisms for ESF-related activities. It would cooperate with and complement, as appropriate, the above-mentioned funds, as well as the Technology Executive Committee and Climate Technology Centre and Network, particularly in support of South-South technology cooperation.