Forest-Based Sector
Technology Platform

Draft Call Topic Proposals for the 2013 Work Programme the Forest-based sector ETP

Towards the SSH thematic priority (14 Aug 2011)

F7 European wide foresight exercise for the forest-based sector

Justification:

EU is targeting for smart, sustainable and inclusive economy (Europe 2020). The forest-based sector is in a key role – together with other natural resource sectors – for achieving the goals for a more resource efficient, greener and more competitive bioeconomy, as well as the goals for better employment in the rural areas and a variety of social benefits. At the same time there is a growing complexity of issues at stake for forests and the forest-based sector in Europe. The natural resources are under increasing pressure, and the global developments leading to this include foreseeable challenges, but also uncertainties of a new scale due to for example, climate change, social and political developments. More flexibility and anticipation are required from the decision making both in administration, business and in research and development. A European-wide foresight exercise is needed to improve coordination of forest-based sector research in Europe, and to strengthen the forest-based sector response to the grand challenges.

Scope:

The objective is to carry out investigations on the future of forests, changing societal demands on forests goods and services, as well as impacts of policies on goods and service provision. With respect to forests, Europe comprises a variety of landscapes and ecological basis for actions, as well as governance structures and instruments to ensure sustainability of the forest ecosystems in changing conditions and to plan a sustainable provision of forest-based products and services to the evolving needs of the society. Research is needed to focus the European-level efforts to topics where a pan-European added value is achieved across the varying needs and demands in different parts of Europe. A step-wise foresight exercise is needed to combine regional investigations in different parts of Europe – i.e. combining the national requirements and perspectives to region-specific ecological conditions – and convey these investigations to European level goals and measures.

Foresight is a systematic, participatory, future intelligence gathering and medium-to-long-term vision-building process aimed at present day decisions and mobilizing joint actions. Compared with a long tradition in futures orientation in the forest sector – for example in forest growth trends, development projections and trade outlooks – foresight builds capacity to tackle possible futures beyond extrapolation of present and foreseeable trends.

An elementary part of the investigation is methodology development – on one hand, to improve an evidence base from integrated analyses combining quantitative and qualitative investigations and synthesising of the data and results gained in different disciplines, and on the other hand to contribute to the work already carried out in the forest-based sector in scenario modeling, long-term monitoring and impact assessments. Furthermore the method development is needed to ensure a coherent foresight approach and method to the regional exercises, and to fully utilise the work already carried in other sectors e.g. in the SCAR foresight exercise in the agricultural sector.

Recommended size (instrument) and duration:

Large scale collaborative project – 3 to 4 years

Expected impact:

The improved coordination of the forest-based sector pan-European investigations will improve efficiency in using research resources, support the bioeconomy development as well as contribute to vision building process at the European level for forests and the forest-based sector in a long term. Furthermore, foresight improves preparedness to alternative development pathways in the forest-based sector and consequently, improves agility in responding to the global challenges.

F10 Long term socio-ecosystem research (LTSER) integrating social and ecological approaches towards adaptive forest systems management

Justification:

The current paradigm in global change and sustainability research frequently is based on deeply accepted assumptions that bio-physical experiments and computational models constitute a core technology to support policy, and that quantitative data are to be prioritised relative to qualitative evidence, information and value-laden judgement. Open knowledge systems, on the other hand, rely on a inter-disciplinary, systemic perspective to embrace complexity and a comprehensive representation of global change and sustainability issues; it includes a combination of participatory experiments and agent-based modelling approaches to examine an increasing wide range of social-environmental problems.

The building of knowledge to govern uncertainty and transition impacting on forest landscape management, under global change, requires an integrated, interdisciplinary approach to provide insights and indicators for sustainable approaches to forest C-management, biodiversity conservation and enhancement, biomass supply and climate change adaptation, in a landscape dimension.

Scope:

To implement a research program that supports a network of rigorously planned, long-term socio-ecosystems case-studies centered on forest environments and landscapes to analyze and, possibly, to simulate the behavior of individuals and groups within different societal structures and environmental contexts, for understanding the drivers and barriers for mitigating global change impacts (i.e. climate change effects, contrasting land-uses in forest landscapes, increasing requirements of biomass for energy vs wood industry, fires, pest outbreaks, windstorms) on forest systems and to increase their adaptive responses. These studies would also demonstrate different mechanisms of engagement and cooperation in knowledge production, learning and evaluation in tackling sustainability concerns in different places.

The research program will supports a series of infrastructures and ”laboratories” made of participation-driven field experiments, under contrasting social-environmental set ups, based on different silvicultural systems, for testing integrated methodologies and forest management options to devise robust, sustainable, societal action for global change adaptation.

Through a set of participatory-type experimental research, the program will define sustainable approaches to:

- Favor a transition to a “soft path” and towards more integrated and adaptive regimes in ecosystem management, taking into account uncertainty and complexity.
- Evaluate management effects at forest patch and landscape scales, taking into account ecological connectivity, ecosystem fragmentation and the interactions with the man-made component.

- Establish a network of forest test-sites where it will be possible to follow long-term trends of forest biodiversity and carbon cycling in response to forest management options, defined with a participatory approach.
- Develop and convey to the different groups of stakeholders, a new understanding of what is meant for “managing transitions” and innovative methods for adaptive management options of such processes of change.

Recommended size (instrument) and duration:

Large scale collaborative project - 3 to 5 years

Expected impact:

The project should lead to updated knowledge about the effectiveness of new forest management practices in meeting societal multiple objectives (production, protection, biodiversity, etc) into target European ecosystems/forest types. It will deliver data and policy relevant information about the impact of forest management on carbon cycling and biodiversity. It will lead to evaluation of management effects at forest patch and landscape scales, taking into account ecological connectivity, ecosystem fragmentation and the interactions with the man-made component. Better tools and methods for monitoring global change and for supporting anticipatory, reflexive and adaptive societal responses to global change will be produced as well together with stakeholders and SME’s. Improved access to and comparability of large data sets (includes long-term support for maintenance and further development of infrastructure and better meta data).