Building environmental knowledge for EU policies

Roadmap for the knowledge base for the 7th EAP

“Environment Knowledge Community Roadmap”

(endorsed at the EKC DG meeting 13 May 2015)

Introduction – the EKC rationale

Environmental knowledge is cross-cutting and its robustness is a *sine qua non* for success in a number of EC priorities and initiatives:

- Understanding how green economy opportunities can boost jobs and growth, and how environmental policies can contribute to the circular economy;
- Transforming environmental needs into innovation potentials;
- Designing a coherent path towards the SDGs;
- Strengthening the EU environmental knowledge base for better law-making;
- Involving EU citizens through public participation in knowledge creation and through a more open and transparent planning.

In its Priority Objective 5, the 7th Environment Action Programme calls for "coordinating, sharing and promoting research efforts at Union and Member State level with regard to addressing key environmental knowledge gaps". Beyond that, the strengthening of environment knowledge is key to delivering all 7EAP priority objectives, particularly where policy-makers need to better understand the increasing complexity arising from the links between different environmental domains.

Robust and highly credible environmental knowledge is needed not only for environment and climate policies, but for all policies which may have an impact on the environment / natural resources. Many of those policies aim to deliver the new priorities seeking greater EU prosperity and, in particular, more employment.

Successful delivery and maintenance of EU policies on environment implies working beyond the traditional silos. Policy-making will increasingly rely on understanding the complex interactions occurring between the various environmental media, as recognised by the 7th EU Environment Action Programme. To be able to master that complexity in a way that leads to better environmental outcomes in support of prosperity and growth throughout the EU, it is evident that each of the EKC partners, as in fact most EU actors, needs to be as much a knowledge user as a knowledge provider. New synergies gained via this process will help to increase efficiency, planning and systematisation in the light of shrinking human and financial resources and to achieve the goal of increasing openness and transparency.

1. Environmental knowledge and evidence for EU policies

   - Science and innovation, monitoring and assessments, experience of stakeholders and implementers, data and statistics are all instrumental in the development of policies affecting or benefitting from the health of the natural environment, notably the availability and sustainability of natural resources.
• Knowledge work has a wide spectrum. It ranges from already well-established knowledge production processes – e.g. continued updating of monitoring data and statistics – to exploring new pathways towards innovative approaches. Amongst them innovative data technologies such as Big Data, remote sensing, citizens' observatories, earth observations and online reporting provide new opportunities to improve and complete the knowledge on the environment. In addition, knowledge work includes methodological work such as data harmonisation as well as provision and sharing of knowledge.

• The various stages in the policy cycle require different (combinations of) knowledge such as scientific evidence, stakeholders' local knowledge, implementing authorities experience, bio-physical and monetary macro-economic modelling results, statistics, accounts and indicators. The various stages also require different quality profiles for the different types of knowledge generated.

• Transparent and participatory ways of addressing better regulation require a strong evidence base, in particular to underpin Impact Assessment and REFIT processes.

• New types of multi-topic policies are emerging, requiring a fully systemic approach, incorporating the socio-economic and well-being dimensions, in particular to support sustainable development.

• New forms of knowledge are increasingly relevant for policy development and review/revision, e.g. covering uncertainties, interaction between ecological, social and economic domains, distribution of costs and benefits over-time and amongst social groups and economic sectors. This will entail more extensive foresight and a review of integrated models aiming to provide multi-dimensional forecasts.

• Working methods need to be better inter-connected, to enable all players to deliver on the challenges set out in the 7EAP, building on existing working methods, in particular coordination of data work and access to data within the Environmental Data Centres.

2. EKC vision and strategic objectives

2.1. Vision
ENV, CLIMA, ESTAT, JRC, RTD and EEA see the benefit of working in a more structured, strategic and collaborative way for the development of the knowledge needed for the implementation of the EU 7EAP, including the 2030/2050 vision that it sets out.

2.2. Objectives

General objective:
To optimise the generation of knowledge on the environment in support of EU 7EAP goals and actions.

Strategic objectives:
1. Improve cooperation on environmental knowledge creation for policy making, incl. capacity to acquire and absorb knowledge.
2. Strengthen the Commission's capacity to anticipate emerging issues, including through foresight tools as well as to monitor and identify opportunities and complex risks and foresee their impact on environment and society.
3. Innovate on the approach to environmental knowledge creation, strengthening collaboration on specific projects focusing on areas where breakthroughs are needed.
3. Operational objectives, actions and tools

The EKC encompasses three work streams: co-ordinated planning, identifying emerging issues and KIPs as detailed below.

3.1. Coordinating the planning of knowledge to fill the 'known unknowns'
- EKC partners will increasingly co-ordinate their planning processes for key knowledge topics with a view to closer harmony among partners' work programmes, aiming to identify synergies and avoid duplication. The coordination of knowledge generation should be centred on filling the knowledge gaps that hamper effective policy development and implementation, notably those identified by the 7EAP.
- The co-ordination should build on the mutual exchange of knowledge needs and the planned knowledge work of each partner, the link to 7EAP priority objectives, to specific policy actions and to expected delivery dates up to 2020 (e.g. by way of a common tool as in Annex 1).
- This builds on the experience of partners on joint co-ordination of data work and access to data within the Environmental Data Centres, as reviewed in 2014.

3.2. Emerging issues: dealing with the 'unknown unknowns'
- The 7EAP calls to ensure that, by 2020, "the understanding of, and the ability to evaluate and manage, emerging environmental and climate risks are greatly improved".
- EKC partners recognise the need to take into account the complexity of environmental issues in a joint and broadly participatory way.
- The partners wish to jointly explore emerging trends and possible future scenarios, in order to better support strategic decisions.
- The partners acknowledge that the massive use of new information technologies represents a significant potential for the creation of knowledge on future scenarios in a participatory and inclusive way.
- The first goal is to build a joint, participatory foresight capacity, to anticipate and understand new and emerging issues requiring a policy approach, as well as related risks and opportunities.
- Building on existing tools and experience, the proposed approach aims initially to add value by increasing the potential use of insights collected in past foresight and citizen science processes among EKC partners, with a view to designing and to implementing future joint demonstrator projects. (Annex 2).

3.3. Knowledge Innovation Projects (KIPs)
- Some priority knowledge gaps that are of strategic importance for the delivery of 7EAP can best be addressed by medium-/long-term cooperation among EKC partners, i.e. to achieve genuine knowledge breakthroughs within the 2020 timeframe.
- As exploratory and forward-looking knowledge creation projects, KIPs provide a platform for EKC partners' to collaborate on specific topics.
• KIPs will be based on agreements between the EKC partners, also involving – when appropriate – non-EKC partners.
• KIPs will be prepared by concerned partners, initially by drafting a joint scoping paper, to be endorsed as a formal basis for future work.
• After the decision to launch a KIP has been taken, participating partners should establish – based on the scoping papers – a concrete work plan for the initial phase (for example, for the remainder of 2015), as well as an aspirational work plan for the later phases, including sharing of work and milestones. The work plan should foresee intermediate results/output, as well as a final deliverable.
• KIPs will generally be equipped with the available resources (human & financial as appropriate) of the participating partners, based on their existing capacities. If needs are identified for further resources beyond what can be made available from the work programmes, this should be discussed among the EKC partners. Decisions on further investment after the initial stages of the KIPs will largely depend on how far the collegiate style of working translates into programming KIP work into work programmes. If a KIP identifies important work that cannot be programmed into EKC partners' work programmes (e.g. due to absence of necessary in-house skills or timing), the case for (co-)funding of work to be carried out by an external provider should be explored and (innovative) solutions devised.
• Any EKC partner can take the initiative to invite other partners to start drafting a further KIP scoping paper to be submitted for approval to the next DG or Director level meeting, as appropriate.
• To start in 2015, the following topics Scoping Papers have been drafted and were accepted as basis to start the inception phase of those three KIPs:
  – Natural capital and eco-system services accounting
  – Knowledge base for "within the limits of our planet" (WiLoP)
  – Adaptation to climate change

4. Governance

• EKC will be an informal co-ordination mechanism that precedes and complements the formal processes to adopt the work programmes and management plans of the partners, in particular the multi-annual plans if existing.
• EKC governance will feature annual meetings at Director-General level, at a time that allows for ideas in support of a co-ordinated approach to be included in partners' respective (bi-/annual) Work Programmes. Other horizontal co-ordination meetings will take place on a needs-driven basis, normally held at Director level. Meetings of DGs and Directors will be prepared by the group of 'sherpas' which are the assigned contact points at Head of Unit / Adviser level.
• Partners will inform each other about bilateral meetings amongst partners if relevant for the EKC.
• DG ENV provides the EKC secretariat.
• Partners will connect their wider networks to the EKC, linking to other knowledge sources, including those related to other EU actions, Member States administrations and authorities, and international initiatives such as UN GGIM and GEO/GEOSS.
In addition to the horizontal coordination and guidance provided at Director General level (and by Directors responsible for the liaison of partners and 'sherpas' as defined above), co-ordination at the thematic level (e.g. air, water, waste, ...) and on cross-cutting issues (modelling, valuation, IT-systems, ...) can be established as required, in agreement between DGs or Directors. Co-ordination meetings at thematic level should take place at least once a year, at the most suitable time to allow for ideas to feed into the preparation of the partners' work programmes (e.g. by early spring). These meetings will discuss the new and changed knowledge needs as expressed by partners, if considered appropriate by the respective partner, by way of updating the knowledge needs and planning table (Annex 1, inter alia).

The governance on thematic issues uses and extends the established governance structure of the Environmental Data Centres (EDCs) as reviewed in 2014, while keeping their function for the EDCs.

The horizontal coordination meetings at Director level of EKC and EDC will be merged.

Cross-cutting co-ordination groups are called EKC Task Forces, will have a clear mandate and work programme, a 'sunset clause' and will report to each DG or Director level meeting. Any partner can invite other partners to draft an initial mandate for an EKC Task Force.

Any co-ordinating role required for the efficient delivery of results under any KIP, will be defined and agreed among partners.

Each DGs' and Directors' meeting will discuss progress of the KIPs. The KIP co-ordinating partner will provide the necessary input. The DGs' and Directors' meetings will provide the necessary guidance and agree on any resource aspects of the KIPs.

For practical reasons the governance structures of the EKC and the EDCs have been merged despite their different functions remaining: the EKC seeks increasingly co-ordinated planning and generation of new knowledge related to the environment in a broad perspective, while the EDC structure aims to improve the accessibility of existing environmental data, statistics, accounts, indicators and indices produced by EDC partners.

The Roadmap will be evaluated and revised periodically and will expire on 31st December 2020, in conjunction with the expiration of the 7EAP.

ANNEXES
Annex 1: EKC Knowledge needs and planning table
Annex 2: Scoping paper on Foresight and Citizen Science¹
Annex 3: Scoping paper on KIP Natural capital and eco-system services accounting
Annex 4: Scoping paper on KIP "within the limits of our planet" (WiLoP)
Annex 5: Scoping paper on KIP Adaptation to climate change

¹ To be turned into two separate scoping papers according the decision to split Foresight and Citizen Science.