European Climatic Energy Mixes
1st Stakeholder Workshop

Paris, Tuesday 16 February 2016, 09:00-17:00

The Workshop is kindly hosted by EDF at their Chatou Campus

Help us shape the European Climate Services in support of the Energy Sector of the future!

Copernicus Climate Change Service

Provisional Programme

9:00 – 9:30	**Welcome and Project Introduction**	Alberto Troccoli (UEA/WEMC)
9.30 – 11:40	**Listening to stakeholders experiences, as they relate to ECEM's goals**	
9:30 – 9:50	e-Highway2050 project	Nathalie Grisey (RTE)
9:50 – 10:10	EDF's expectations of Copernicus Climate Change Service	Laurent Dubus (EDF)
10:10 – 10:30	Statkraft: Why we need to understand Climate Change	Uta Gjertsen (Statkraft)
10:30 – 11:00	**Coffee Break**	
11:00 – 11:20	Using geospatial tools for energy infrastructure risk analysis.	Jan Bartos (IEA)
11:20 – 11:40	The UKKO climate service prototype	Carlo Buontempo (Met Office)
11:40 – 12:10	**Appetiser of demonstrator**	Jon Blower (U Reading)
12:10 – 14:50	**Shaping the demonstrator**	
12:10 – 12:20	Rules of engagement	Alberto Troccoli (UEA/WEMC)
12:20 – 13:00	Shaping the demonstrator (Part 1)	Sub-groups
13:00 – 14:00	**Lunch**	
14:00 – 14:40	Shaping the demonstrator (Part 2)	Sub-groups
14:40 – 15:30	**Plenary discussion**	Moderator: Marta Bruno Soares (U Leeds)
15:30 – 16:00	**Tea Break**	
16:00 – 16:45	**Draft out an idea of the demonstrator**	Chair: Clare Goodess (UEA)
16:45 – 17:00	**Summary and looking forward**	Alberto Troccoli (UEA/WEMC)

For more information, and/or to register your interest, please contact:
Sarah Clarke on env.admin4@uea.ac.uk (Workshop Organiser)

A Global Framework For Climate Services (GFCS) workshop:
Climate Services for the Energy Sector: Building Partnerships
co-organised by GFCS, the World Meteorological Organization (WMO) and the World Energy and Meteorology Council (WEMC), will be held at the same venue on **17 February 2016**.
For more information, please contact Roberta Boscolo at rboscolo@wmo.int

What's ECEM?

European Climatic Energy Mixes (ECEM) aims to produce, in close collaboration with prospective users, a proof-of-concept climate service – or demonstrator. Its purpose is to enable the energy industry and policy makers to assess how well different energy supply mixes in Europe will meet demand, over different time horizons (from seasonal to long-term decadal planning), focusing on the role climate has on the mixes.

This 27-month EU Copernicus Climate Service project started in November 2015 and is led by the University of East Anglia (UEA, UK) in collaboration with Electricité De France (EDF, France), the Met Office (UK), ARMINES (France), the University of Reading (UK) and the Agency for new technologies, energy and sustainable development (ENEA, Italy).

Why should you attend the ECEM 1st Stakeholder Workshop?

If you are working in the Energy domain, in charge of anticipating the transformation of the sector, through either long-term planning or medium-term operational activities, and Climate affects your decisions, then participating in this workshop is essential for you and your sector. Does the role of temperature on thermal plant efficiency, or the variability of renewable energies, or indeed the climate-related variability in demand impact your sector, then why not join us and help us shape one of the first European Climate Services for the Energy Sector? A number of prospective users have already demonstrated their interest in contributing to the development of the ECEM demonstrator, which is being developed by world-leading organisations. We would very much welcome your contribution too!

A little more detail about the Workshop

This is the first in a series of 5 planned workshops, occurring every six months. The reason for the frequency of these workshops is that the ECEM team wants to ensure regular input from all stakeholder groups in order to promote acceptance, credibility and adoption of the ECEM climate service tool.

At this 1st stakeholder workshop, prospective users will have the opportunity to shape the demonstrator. Some suggestions, as an appetizer, will be provided to get the ball rolling, but then the aim is to let you, as a prospective user, take control of the demonstrator. In this vein, this initial ECEM stakeholder workshop aims to identify energy sector champions who could act as active co-designers of the demonstrator and then help with the promotion and dissemination of the demonstrator to the wider energy sector. Please consider becoming an energy sector champion: let us know if you would like to receive more information, or indeed express your interest, ahead of the Workshop.

Copernicus Climate Change Service

Getting to know ECEM better

The energy sector is undergoing a major transformation. The established paradigm according to which traditional thermal power plants provide most of the 'firm' power to match a variable demand is being challenged by the steadily increasing share of power supply from variable renewable energy (RE) sources, such as wind and solar. Demand variability is also increasing as a result of the widespread use of embedded small-scale generation (e.g., rooftop solar) and air-conditioning, and can further change in response to price signals, and to an ever-changing climate. At the same time, the cost of batteries has started to noticeably decrease, making electrical storage increasingly economically viable.

This transformation in the energy sector is taking place against a variable and changing climate. Given the weather-and climate-dependency of both RE and demand (even in the case of large storage uptake), it is important to develop robust climate-based tools to advise energy planners and policy makers. These must quantitatively assess:

1) The ways in which energy supply and demand over Europe are affected by the spatial and temporal variations of their climate drivers; and
2) How scenarios with different energy supply mixes can meet demand at the European scale, particularly given the projected high level of highly climate-sensitive RE.

In recognising that energy supply varies geographically and temporally, that climate plays an important role in this variability, that energy supply needs to continually match energy demand, and that even energy demand is climate dependent, this project will consider various energy mix scenarios and the impact climate has on them.

In particular, we adopt the five energy scenarios selected by the e-Highway 2050 project, amongst those developed by the *EU Roadmap 2050 Reference*. These scenarios were chosen in such a way so as to be substantially different from each other, while also challenging the entire existing European electricity system, not just the transmission grid.

Depending on the level of detail to be resolved (e.g. the time frame used to match supply and demand, for example on the minute or day timescale) the level of complexity of the problem can also vary considerably. The approach taken with this project is one of simplifying the supply and demand balance as much as possible, so as to better demonstrate the impact of climate, while retaining key aspects of supply generation and energy demand. Thus we will start from longer timeframes (daily averages) and broad geographical areas (countries), covering the entire European continent. The state-of-the art tools, developed in a modular fashion, will subsequently allow us to downscale the coarse-grained solution to higher time and space resolutions, according to stakeholder needs. These tools will target both seasonal and long-term decadal time scales.