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Dear Dr Bauer

The vision of ExtremeEarth is to develop a wholly new class of models for more accurate prediction of extremes in our weather and climate systems, and to couple these to impacts in the food, water, health, energy and insurance sectors. ExtremeEarth will then give unprecedented new insights into the processes and mechanisms responsible for weather extremes, and allow us to understand how the frequency and intensity of such events will alter in response to climate change, thereby leading to increased predictive skill.

The energy sector is looking forward to such developments, which will have direct applications, in particular regarding the fast and massive development of Renewable Energies, which requires increased accuracy in short term forecasts at local scale, as well as increased understanding about future resource under climate change. Increased forecast quality and resource estimation will be a key driver in the development of more resilient energy systems.

This will require the development of new models of the climate system at unprecedented resolution, and with the inclusion of new physics and numerical algorithms, which will be run on the next generation of High Performance Computing platforms.

ExtremeEarth is essential if we are to fully understand the drivers of weather extremes and climate variability, and the impacts of these on the energy sector. We believe this issue cannot be solved by a single centre and a pan-European approach is then needed to construct the next generation models that include suitable physics, and will perform effectively on the High Performance Computing platforms of the near future.

It is time for the European community to come together, using the fully-integrated approach proposed within ExtremeEarth, to address problems that are critically important for society. I therefore fully support the ExtremeEarth initiative, which will deliver critical advice to enable Europe to better plan for, and mitigate, the effects of high-impact weather events on the energy sector, as well as generating new scientific understanding and advancing modelling technology, which will greatly benefit research and application development at EDF, and in the energy sector in general.

Yours sincerely

Isabelle FLOUR,