

**EERA inputs to Issues Paper No.4 - DRAFT
(version 17/12/2015)**

**Energy Systems
(Increase the resilience, security, smartness of the energy system)**

The following EERA members have contributed to this response:

RSE, Italy
SINTEF, Norway
INESC Porto, Portugal
CRES, Greece
KIT, Germany
VUB, Belgium

The EERA hereby gives inputs to the Issues Paper No.4 – DRAFT (version 17/12/2015) “Energy Systems” and the SET Plan Action 4 “Increase the resilience, security, smartness of the energy system”. The EERA JP on Smart Grids led this consultation within EERA, but due to the tight time schedule it was not possible to gather contributions from all the JP participants. However, this feedback is also including a few inputs received from the EERA JP Storage.

The input is structured according to the guidelines set forth in the document entitled "The SET Plan actions – implementation process and expected outcomes".

Q1: Do you agree with the targets set in the issues paper?

Overall, we agree with the proposed targets.

We suggest the explicit inclusion of acceleration of the electricity grid modernization. The present energy systems in Europe are to a large part progressively approaching their designed end of life, and hence massive investments are expected in the decades to come. The Smart Grids paradigm represents the cost-effective solution to the new and increasing energy system challenges, but calls for technological innovations in the electrical power sector, the ICT domain and in the merged "Smart Grids domain". This calls for a stepwise development towards an observable, flexible, controllable and sustainable electricity/energy system at a minimal/affordable cost.

Joint Programme on Smart Grids

Q2: Do you think that the level of ambition is correct?

In relation to the target statement:

"As an overarching target, the SET-Plan R&I will aim at developing, maturing and demonstrating (up to TRL7 to 9) technologies, systems and services which have the potential of being cost effective so that the EU electricity system is capable of hosting 45% of variable renewables by 2030 and operate in a safe, stable and secure way."

The EU commitment *to reach a share of renewables of at least 27% by 2030* refers to the *overall* share of electricity from RES in the annual consumption, not the maximum instantaneous hosting capacity. Although the hosting capacity is relevant, we cannot claim a direct accordance/correlation between the EU goal of 27 % annual consumption and a 45% hosting capacity. Due to geographic and temporal variations, our electric system should in fact be technically capable of hosting **significantly higher capacities** in extreme cases.

If in the end **"hosting capacity"** remains as the guiding measure, **it should be more precisely defined** and linked to the EU RES goal: is it the hosting capacity with respect to the maximum installed system capacity or with respect to instantaneous demand, etc?

Moreover, these targets address only the capability of hosting variable renewables and not to the societal benefit of reaching this share of renewables. An alternative phrasing of the overarching target could be: *"...the EU electricity system is well adapted to supply energy in accordance with the EU goals of energy consumption supplied by RES at and beyond 2030 and operate in a safe, stable and secure way."*

Q3: Are there any standing issue(s) in the way to reaching the proposed targets/priorities?

As stated above, we suggest the explicit inclusion of acceleration of the electricity grid modernization. This of utmost importance for realization of the overarching target, and must be given adequate attention.

In a separate document we provide you our specific suggestions for improvement of the draft Action No.4 document, by using the track changes tool.

Yours sincerely,

8 January 2016



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