

## **Report from WG 12 Energy, September 2014**

### *Mandate*

At the working group's meeting in Tokyo in July 2013, the following mandate was approved

- The working group (WG 12) shall review current energy issues and through International Union of Pure and Applied Physics (IUPAP) make briefs available for the global physics community and policy makers as well as the public at large.
- The group meets once or twice a year to review selected topics taking advantage of local experts where the meeting is held.
- The topics considered should include energy supply, carriers, storage and use. Both advanced and low tech systems shall be looked into.

It was agreed to make briefs on selected issues rather than technical reports.

### *Oslo meeting*

The working group had its second meeting in Oslo September 1<sup>st</sup> to 4<sup>th</sup>. Drafts for some 15 briefs have been received or are in the process of being prepared. These include solar energy, wind energy, hydro power, ocean wave energy, ocean tidal energy, geothermal energy, nuclear power, fusion, coal, gas hydrates, biogas, biofuel, bioenergy (solid), energy storage, batteries. Included is a survey paper on the various energy resource estimates.

In addition there were site visits to the Norwegian distribution center for electricity (Statnett) and to head quarter of the Norwegian petroleum company, Statoil.

The drafts were discussed at the meeting and it was agreed to publish them in a series of EnergyPages similar to the Canadian SciencePages (<http://sciencepages.ca/publications/>). Each document will have a ISBN and the key authors will be named on behalf of the group. The typical length of a brief will be 6 pages that can be printed in paper format.

### *IUPAP-SCOPE*

IUPAP is a member of SCOPE (Scientific Committee of Problems of the Environment) which has its secretariat at the UNESCO premises in Paris. SCOPE has experience in publishing policy briefs similar to the EnergyPages planned by the working group. The leader of the working group was elected president of SCOPE this year. After consulting with the executive councils of IUPAP and SCOPE, it was agreed that the briefs should be published as a series of IUPAP-

SCOPE energy briefs. For the working group this means that we have access to professional staff that can help in the practicalities of preparing the briefs and distributing the briefs. It also means that experts in the SCOPE network will be available to the working group.

*Publications*

The briefs are planned to be published in batches of four. The first four briefs being hydro power, nuclear energy, coal and biofuels. The target date is April 2015. Before publication, the briefs will be peer reviewed. Hopefully, a science writer will be engaged in the final editing of the briefs if funding can be secured.

*Members of the energy group:*

Jon Samseth (chair) (Norway), Kristina M Johnson (USA), Kimitoshi Kono (Japan), Mats Leijon (Sweden), Hardo Bruhns(Germany), Glauca Mendes Souza (Brasil), Wikus van Niekerk (South Africa), Chris Llewellyn Smith (UK), George Crabtree (USA), Hushan Xu (China), Kohei M. Itoh (Japan), David Faiman (Israel), Lincoln Paterson (Australia), Eduard Son (Russia), Jack Saddler (Canada).

Proposed resolutions for the IUPAP GA in Singapore, November 2014 concerning the continuation of the working group on energy, WG 12.

- The WG 12's work should continue for another period of 3 years.
- Inactive members should be replaced, and new members should be chosen by the Chair to fill gaps in the expertise that is needed to produce further Briefs that are felt to be important (taking into account geography, gender).
- If possible, provide a budget for the group (one person attended the meeting in Oslo at his own expense).
- The existence of the Briefs should be publicised (with whatever disclaimer is felt necessary), and persuade the world's Physical Societies to do the same.