

APEC Expert Group on
New and Renewable Energy Technologies

Welcome to EGNRET 38



Asia-Pacific
Economic Cooperation

EGNRET

EGNRET 38 *Wellington, New Zealand* 18 - 20 June, 2012

Progress/Status of Current EGNRET Projects

June 19, 2012 09:40-10:10

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EGNRET Secretariat



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EWG Approval Projects in 1/2012



EWG 01 2012A (Japan)

APEC Cooperative Energy Efficiency Design for Sustainability (CEEDS), Phase 4

S EWG 02 2012A (China)

Promoting Technologies of Carbon Capture, Utilization and Storage (CCUS) in APEC Developing Economies

EWG 04 2012A (China)

Study of Demand Response's Effect in Accommodating Renewable Energy Penetration in the Smart Grid

EWG 05 2012A (Viet Nam)

Small Hydro and Renewable Grid Integration Workshop

EWG 08 2012 (New Zealand) [EGNRET]

Urban Development Smart Grid Roadmap – Christchurch Recovery Project

EWG 09 2012 (Russia)

Combined Heat and Power (CHP) Technologies for Distributed Energy Systems

EWG 43 CNs Ranking in 2/2012



- 1) Establishing Low Carbon Energy Indicators (China/EGEDA)
- 2) Energy Investment: Challenges and Opportunities in the APEC Region (Australia/ETITF)
- 3) Peer Review on Energy Efficiency (PREE) Phase 4 (Japan/APERC/EGEEC)
- 4) Operation of APEC Energy Database and Analysis (Japan/EGEDA)
- 5) APEC/ASEAN Harmonization of Energy Efficiency Standards for Air Conditioners (Japan/EGEEC)
- 6) Workshop to support the Development of National Lighting Design Centers (United States/EGEEC)
- 7) APEC Distribution Transformers Survey: Estimate of Energy Savings Potential from Increase in MEPS – Minimum Energy Performance Standards (China/EGEEC)
- ★ 8) Applied Research on Energy Regeneration of Municipal Sludge in Low-Carbon Cities Construction (China/EGNRET)
- ★ 9) Research on the Radiation system Integrated with Hybrid Energy and Phase Change Energy Storage (RSIHEPCES) in Low Carbon Towns (China/EGNRET)

★: EGNRET Project

EGNRET Project Update



- 6 on-going projects
- 3 new Project CNs received 2/2012 BMC in-principle approval, and full proposals should be submitted by 20 June, 2012:

Full Proposal Submission for Session 2, 2012

Submit to APEC Secretariat	Recommendation to BMC	BMC Decision	Notification
4 Jun 2012	15 Jun 2012	20 Jun 2012	21 Jun 2012
20 Jun 2012	27 Jun 2012	2 Jul 2012	3 Jul 2012

■ 6 on-going projects

1. Addressing Challenges of AMI Deployment in APEC (EWG 07/2011A) (Chinese Taipei)
2. Stock-take of Electric Vehicle Interface with Electricity and Smart Grids Across APEC Economies and the Potential for Harmonization (EWG 11/2011) (New Zealand)
3. Piloting Smart/micro Grid Projects for Insular and Remote Localities in APEC Economies (S EWG 15 11A) (Russia)
4. Prospects for Marine Current Energy Generation in APEC Region (S EWG 23 11A) (Russia)
5. Best Practices in Energy Efficiency and Renewable Energy Technologies in the Industrial Sector in APEC Region (S EWG 19 11A) (Cooperated with EGEE&C) (Thailand)
6. Christchurch Smart Energy Grids: Earthquake Recovery Project (Session 1/2012) (New Zealand)

- **3 new Project CNs received 2/2012 BMC in-principle approval, and full proposals should be submitted by 20 June, 2012:**
 1. **The Comprehensive Analysis and Research of Key Technologies and Commercial Model of Low Carbon Model Town Applied in Yujiapu CBD (China)**
 2. **Applied Research on Energy Regeneration of Municipal Sludge in Low-carbon Cities Construction (China)**
 3. **Research on the Application of Physical Energy Storage Technology to Enhance the Deployment of Renewable Energy in an APEC low Carbon Town (China) (Submitted on 4 June)**

1. Addressing Challenges of AMI Deployment in APEC (EWG 07/2011A)

- This project is to investigate the development strategies and current status of AMI in all APEC economies, and provide recommendations for AMI deployment. The methodology of this project involves survey and analysis of AMI development status, and an two-day AMI workshop.
- Currently the literature survey of global AMI deployment has been carried out to identify the objective and strategy to discover the purposes of AMI deployment as well as the supporting scheme.
- A two-day workshop for the project was held on August 24th -25th, 2011 in Chinese Taipei. The purpose of the workshop was to share the experience of AMI deployment among APEC economies. The workshop presentations are available on the workshop's website at:

<http://www.egnret.ewg.apec.org/workshops/AMIWorkshop/index.html>

2. Stock-take of Electric Vehicle Interface with Electricity and Smart Grids Across APEC Economies and the Potential for Harmonization (EWG 11/2011)

- The objective of the project is to enhance understanding in APEC economies of EV connectivity to electricity grids and identify opportunities to increase the harmonization of standards and requirements to promote the deployment and integration of EVs, both vehicles and supporting technologies.
- The methodology of this project involves 3 main steps, including a survey of APEC economies on existing EV connectivity infrastructure, regulations, and standards; a desktop review of the results; and a workshop to discuss the findings and collect APEC feedback.
- The APEC Electric Vehicle Connectivity Workshop 2012 will be held on 19 June 2012 in Wellington, New Zealand, alongside the EGNRET 38.

3. Piloting Smart/micro Grid Projects for Insular and Remote Localities in APEC Economies (S EWG 15 11A)

- The objectives of the project are
 - to compile and share member economies' experiences in introducing new technologies for local energy systems including smart & micro grid technologies to support sustainable development of remote and isolated areas,
 - to review microgrid as a critical component of smart grid concept for local energy systems with a view to maximize the economic and environmental effect of tested and ready-to-use technologies,
 - to provide a menu of options to APEC economies for piloting of smart/micro grid projects in the form of assessment methodologies, business scenario models and specific recommendations.
- A project newsletter will be released before the end of February to allow for wider dissemination of the information about the project. The project team has also been working towards establishing a dedicated project website. It is expected to be available at www.localenergy-apec.ru by the end of February 2012.

4. Prospects for Marine Current Energy Generation in APEC Region (S EWG 23 11A)

- The objectives of the project are within the context of APEC Sustainable/Green Growth agenda, to raise awareness of the benefits of marine energy generation with particular focus to marine current energy, and to compile widely dispersed information on the deployment of marine current generating technologies and to make this information accessible to APEC economies.
- The methodology of this project consists of two major components, including review of marine renewable energy technologies and stocktake of successful deployment models, and two-day conference structured along the lines of the review and stocktake exercise.
- The project steering committee and the lead consultant of the project are now preparing to launch the review and stocktaking exercise, which corresponds to an essential component of the project work plan.
- Project website: www.marineenergy-apec.ru (available in March 2012).

5. Best Practices in Energy Efficiency and Renewable Energy Technologies in the Industrial Sector in APEC Region (S EWG 19 11A) (Cooperated with EGEE&C)

- The key objective of this project is to develop a report which clearly identifies the examples of successful adoption of new and renewable energy technologies combined with energy efficiency in the APEC industrial sector, the obstacles that prevent the adoption of technologies, and the applicability of lesson learned from previous reports including APEC supported activities.
- The final output will be suggested roadmap for the successful implementation of industrial sector new and renewable energy and energy efficiency system in APEC member economies.

6. Urban Development Smart Grid Roadmap: Christchurch Recovery Project (EWG 08 2012) (New Zealand lead) (Cooperated with EGEE&C)

- Christchurch, New Zealand has been hit by a series of earthquakes in 2010 and 2011. The resulting damage has required demolition of significant areas of the city. The recovery and rebuilding process will take time, but offers a unique opportunity to establish cutting edge energy efficiency and renewable energy technologies in Christchurch.
- The New Zealand Energy Efficiency and Conservation Authority (EECA) proposes to lead a study that will result in a 'Road Map' for establishing a 'smart electricity grid' in Christchurch, to deliver the maximum social, environmental and economic benefits to the city.
- The recovery of Christchurch represents a remarkable opportunity to provide learning and demonstration value to the APEC Community on integrating smart grid technologies into the rebuilt city.

Conducting Questionnaire Surveys



- Addressing Challenges of AMI Deployment in APEC (Chinese Taipei)
- Stock-take of Electric Vehicle Interface with Electricity and Smart Grids Across APEC Economies and the Potential for Harmonization (New Zealand)

Please assist in fill in questionnaires !
Thank you very much.

New Project Proposals for Funding in Session 2/2012 (BMC in-principle approval)



1. The Comprehensive Analysis and Research of Key Technologies and Commercial Model of Low Carbon Model Town Applied in Yujiapu CBD (China lead)

- This project will propose a smart energy network system that encompasses the entire circle for sustainable and low-carbon development in Yujiapu financial district, Tianjin city.
- Smart grid (SG) which could achieve deployment and integration of distributed resources such as solar and wind energy and area energy supply network (cooling, heating) have been extensively discussed independently.
- In this study, the Smart Energy Network system proposed will integrate those two systems together in order to promote use of renewable energy and consequently reduce CO₂ emission of entire city.
- The smart energy network makes it possible to collect real-time data from both demand side of energy use and operation status of energy supply side within Yujiapu district, which could substantially support the management staff to achieve an efficient operation.

New Project Proposals for Funding in Session 2/2012 (BMC in-principle approval)



2. **Applied Research on Energy Regeneration of Municipal Sludge in Low-carbon Cities Construction** (China lead, US\$ 150,000 total/ US\$ 100,000 APEC)

- The Project responds to the Energy Ministers' instruction from their meeting in Fukui, Japan in 2010 to implement an APEC Low-Carbon Model Town Project. Traditional city sludge treatment is pollutant and energy wasted. This project specially will focus on the feasibility of municipal sludge energy regeneration for market application. Currently, this technology has been applied in the biggest sludge treatment plant in Asia, named bailonggang sludge treatment plant.
- This project is combined energy saving and environmental protection. It is very suitable for popularization in large-scale cities of Asia Pacific, belonging to new industry, owing huge potential market.
- This project can change the waste solid produced by wastewater treatment plant into the renewable energy in the course of sludge reduction, making waste into valuable. It is the development of revolution in sludge treatment, and is considered as the ultimate purpose of sludge treatment.

New Project Proposals for Funding in Session 2/2012 (submitted to EWG 43)



3. Research on the Application of Physical Energy Storage Technology to Enhance the Deployment of Renewable Energy in an APEC Low Carbon Town (China lead, US\$ 196,000 total/ US\$ 96,000 APEC)

- Energy storage is essential to utilize renewable resources and reduce CO₂ emissions considerably because of the intermittent and uncontrollable availability of renewables. It is also an acceptable method of smoothing power demand, which is a major part of our national energy security and sustainable development.
- With the research and demonstration of energy storage technology, energy consumption of buildings will be reduced by 20%. The technology offers substantial benefits in terms of reducing the need for traditional air conditioning and it allows for the shifting of electricity usage from on-peak to off-peak hours.
- This research will provide a base for policy and the criteria of energy storage system which will contribute to the exploitation of energy storage technology and promote its application in APEC regions.

Thank you for your attention!



EGNRET website: <http://www.egnret.ewg.apec.org/>

A screenshot of the EGNRET website homepage. The header includes the APEC logo and the text 'APEC Energy Working Group' and 'EXPERT GROUP ON NEW AND RENEWABLE ENERGY TECHNOLOGIES'. A navigation menu lists: Home, Representatives, Projects, Meetings, Workshops, Reports, Publications, Reference. The main content area features a large 'WELCOME' text, a welcome message, and a description of the group's mission. Below this are three image-based sections: 'News' (water splash), 'Meetings' (wind turbines), and 'Contacts' (combine harvester). The footer contains copyright information and hosting details.

APEC Energy Working Group
EXPERT GROUP ON NEW AND RENEWABLE ENERGY TECHNOLOGIES

Home Representatives Projects Meetings Workshops Reports Publications Reference

WELCOME

Welcome to the official website of the APEC Expert Group on New and Renewable Energy Technologies (EGNRET)

The EGNRET has been established by - and reports - to the APEC Energy Working Group (EWG)

The mission of the EGNRET is to facilitate an increase in the use of new and renewable energy technologies in the APEC region

News **Meetings** **Contacts**

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