

# APEC Expert Group on New and Renewable Energy Technologies

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# EGNRET Terms of Reference

- ▶ **The mission of the EGNRET is to facilitate an increase in the use of new and renewable energy technologies in the APEC region.**
- ▶ **The activities of the EGNRET will be directed towards meeting the energy challenges identified by APEC Leaders and Energy Ministers.**

# EGNRET's Renewable Energy Activities are Diverse and Complementary

- ▶ Lead and work with EWG major initiatives
  - APEC 21<sup>st</sup> Century Renewable Energy Development Initiative
  - EWG led Energy Security Initiative (2001)
  - Ministerial Level Financing Initiative (2004)
  - Ministerial Level Hydrogen Initiative (2004)
  - Ministerial Level Biofuels Initiative (2006)
- ▶ Organize workshops
- ▶ Conduct research projects
  - 42 have been completed since 1992
  - 8 will be implemented in 2008-2009

[www.egnret.ewg.apec.org](http://www.egnret.ewg.apec.org)

# Defining New and Renewable Energy Technologies (1)

Renewable energy generally refers to energy sources derived from the power of the sun, but other non-fossil related resources are usually included in the category of new and renewable energy technologies

- ▶ Solar
  - Thermal (hot water heating)
  - Photovoltaic (direct electricity conversion)
- ▶ Wind
- ▶ Biomass (stored solar energy!)
  - Biofuels (direct combustion)
  - Landfill gas
  - Municipal solid waste
  - Biogas (through biomass conversion processes)
- ▶ Small Hydroelectric



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# Defining New and Renewable Energy Technologies (2)

- ▶ Ocean energy
  - Wave energy
  - Ocean thermal energy conversion (OTEC)
  - Ocean currents
- ▶ Non-solar related renewable energy
  - Geothermal
  - Tidal power
- ▶ Examples new technologies
  - Hydrogen for energy storage
  - Fuel cells for hydrogen utilization
  - Small combined heat and power systems



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# EGNRET Meeting Themes Support Information Dissemination

- ▶ EGNRET 19: 3/2002 Hawaii: Update on Status of Economy Level Renewable Energy Programs Including R&D Programs in the Area of Alternative Transport Fuels
- ▶ EGNRET 24: 5/2005 Hawaii: APEC Economies' Experience in Alternative Transport Fuels: Successes and R&D Challenges
- ▶ EGNRET 25: 10/2005 Chinese Taipei: Economy Priorities for New and Renewable Energy Technologies for 2005-2006
- ▶ EGNRET 27: 10/2006 Zhuhai, China: APEC Economies' Experience in Biofuels: Successes and R&D Challenges
- ▶ EGNRET 28: 1/2007 Tokyo: Best Practices in Energy Efficiency and Renewable Energy in Commercial Buildings
- ▶ EGNRET 31: 10/2008 Mexico City: Economy specific electric utility based financial mechanisms that support renewable energy and energy efficiency
- ▶ EGNRET33: 10/2008 Chinese Taipei: Zero energy buildings

# APEC 21<sup>st</sup> Century Renewable Energy Development Initiative

- ▶ **Launched in May 2000**
- ▶ **Launched by the United States at the 4<sup>th</sup> APEC Energy Ministers meeting**
- ▶ **Developed within the EGNRET**
- ▶ **A Multi-Year Work Program**
- ▶ **Purpose: To advance the use of renewable energy for sustainable economic development and growth of the APEC region.**

# APEC 21<sup>st</sup> Century has 9 Collaborative Work Areas

- ▶ **I: Stakeholders Dialogues, Outreach Forums and Symposiums: USA**
- ▶ **II: Micro-Business Development: USA**
- ▶ **III: Renewable-Energy Training and Certification Network: Australia**
- ▶ **IV: Renewable-Energy Standards: China**
- ▶ **V: Distributed Resources: New Zealand**
- ▶ **VI: Renewable-Energy Technology Applications: USA**
- ▶ **VII: Web-Based Renewable Energy Information Dissemination: New Zealand**
- ▶ **VIII: Financing: Mexico**
- ▶ **IX: Alternative Transport Fuels: New Zealand**



## EGNRET Has Completed 42 Projects Since 1992

- ▶ APEC 21 Century Renewable Energy Development Initiative (Collaborative VI): Workshop on advances in electricity storage in support of distributed renewable energy based systems
- ▶ International Biofuels Conference 2007
- ▶ Development of Analytic Methodologies to Incorporate Renewable Energy in Domestic Energy and Economic Planning
- ▶ Economy Level Renewable Energy Roadmaps
- ▶ APEC 21<sup>st</sup> Century Renewable Energy Development Initiative (Collaborative VI): Development of a Sourcebook of Hydrogen Codes and Standards for APEC Member Economies
- ▶ APEC 21st Century Renewable Energy Development Initiative (Collaborative V I) Evaluation of the Role of Village Power Applications in Response to the Tsunami Recovery Effort.
- ▶ APEC 21st Century Renewable Energy Development Initiative (Collaborative V I) Renewable Energy Products Database: Paving the Way for Deployment of Renewable Energy

## EGNRET is implementing eight projects in 2008-2009

- ▶ APEC 21st Century Renewable Energy Development Initiative (Collaborative IX): Workshop and Report on Implications of Biorefineries for Energy and Trade in the APEC Region (SF Chinese Taipei lead, \$75,000/\$50,000 APEC)
- ▶ APEC 21st Century Renewable Energy Development Initiative (Collaborative VI): Best Practices in New and Renewable Energy Technologies in Urban Areas in the APEC Region (OA USA lead, \$75,000/\$50,000 APEC)
- ▶ APEC 21st Century Renewable Energy Development Initiative (Collaborative VI): Successful Business Models for New and Renewable Energy Technology implementation in APEC Economies (OA New Zealand lead, \$75,000/\$50,000 APEC)
- ▶ Addressing grid-interconnection issues in order to maximize the utilization of new and renewable energy sources (OA Japan lead, \$75,000/\$50,000 APEC)

## EGNRET is implementing eight projects in 2008-2009 (2)

- ▶ APEC 21st Century Renewable Energy Development Initiative (Collaborative IX): Establishment of the Guidelines for the Development of Biodiesel Standards in the APEC Region (EWG 05/2007A) Thailand lead, \$75,000 total/\$50,000
- ▶ APEC 21st Century Renewable Energy Development Initiative (Collaborative I): Workshop on Best Practices in Energy Efficiency and Renewable Energy in Commercial Buildings (EWG 04/2007) Mexico lead, \$75,000 total/\$50,000
- ▶ APEC 21st Century Renewable Energy Development Initiative (Collaborative VIII): Workshop on Recent Advances in Utility Based Financial Mechanisms that Support Renewable Energy and Energy Efficiency (EWG 02/2007) USA lead \$75,000 total/\$50,000
- ▶ APEC 21st Century Renewable Energy Development Initiative (Collaborative IX): Alternative Transport Fuels Policy Options for APEC Economies (EWG 04/2007A) New Zealand lead, \$75,000 total/\$50,000