

# International Copper Association Update on RE programs

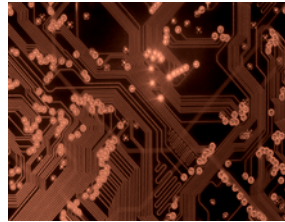
---

**Pierre Cazelles**  
**Director – Partnerships Asia**  
**International Copper Association**

APEC EGNRET Meeting  
11-12 December 2012  
Shanghai, China



**International Copper  
Association Asia**  
Copper Alliance



# Copper Alliance

- Leading organization for promoting copper worldwide
- 39 member companies comprising:
  - producers representing majority of world output
  - 10 of the world's largest copper and copper alloy fabricators
- Operating budget (including co-funding)
  - \$80 M – 2010
- HQ in New-York; 31 offices in 24 countries, including China, Singapore, Australia, Japan, Brazil, Mexico, Chile
- Objective: promote the use of copper at end-use level



**International Copper  
Association Asia**  
Copper Alliance

# ICA and Sustainable Energy



- Copper is the most efficient metal in terms of thermal and electrical conductivity
- ICA promotes higher efficiency in electrical and thermal energy applications:
  - Standards
  - Policies
  - Support OEMs
  - Educate end-users
  - Market mechanisms

# ICA and Sustainable Energy - Asia



- Power Quality and Smart Grid
- Energy efficiency programs:
  - Industry sector & Agricultural Sector – Motor driven system & CHP
  - Municipal sector – Street lighting
  - Building sector – Building Energy Management
  - Consumer sector – Energy efficient appliances
- Sustainable Power
  - Lower Mekong Sub-region Utility Harmonization
  - Power utility sector – Transmission & Distribution system

# ICA and Sustainable Energy - Asia



- ASEAN Energy Management Scheme – ISO 50001
- Promotion of renewable energy
  - Solar PV, small-scale wind power, mini-micro hydro for decentralized energy, SWH
- Transportation
- Commercialization of energy efficiency technologies
  - Copper rotor motors
  - Higher efficiency Air Conditioners, SWH, HPWH, refrigerators, etc.

# Work with international donors - Asia



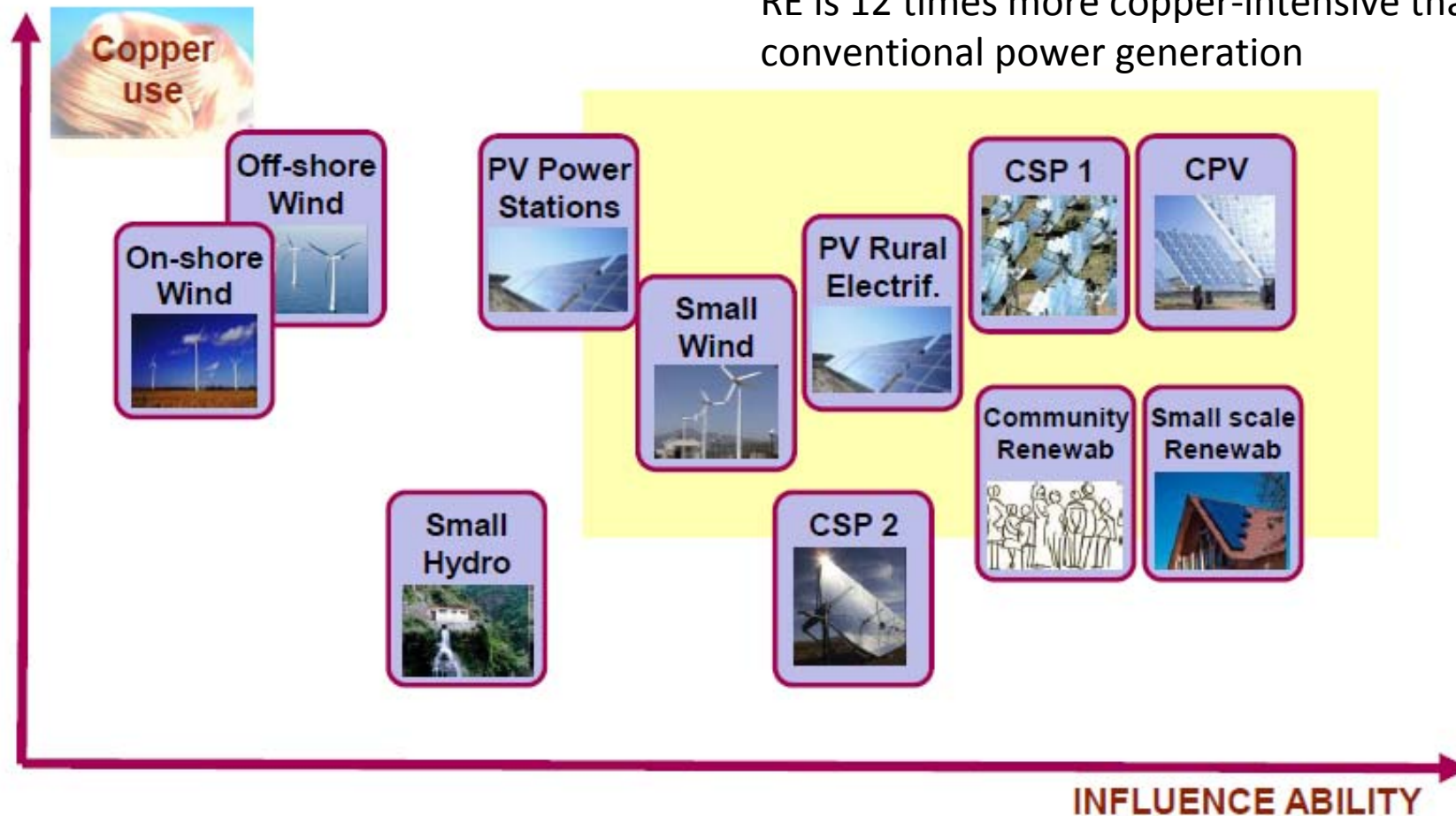
- **China Heat Pump Water Heater Challenge Program: European Commission** – 1.6 million Euro (starting 1<sup>st</sup> Feb 2013 – 4 years)
- **Establishment of the ASEAN Energy Management Scheme (AEMAS): European Commission** – 1.8 million Euro
- **Promotion of higher efficiency power and distribution transformers in China: European Commission** – 785,000 Euro
- **Harmonization of EE standards for ACs in ASEAN: European Commission** – 1.7 million Euro (starting 1<sup>st</sup> Feb 2013 – 4 years)
- **Various actions in the field of EE in South East Asia:** development of technical guidebooks (motors, transformers), study on harmonization of EE standards for ACs and refrigerators in SEA, mapping of EE and RE stakeholders): **UNEP** – 100,000 USD
- **Demonstration of higher efficiency motors and solar power for agricultural pumps in Thailand: EEP Mekong (Finland)** – 200,000 Euro



# Copper and Renewable Energy



RE is 12 times more copper-intensive than conventional power generation



# Mini-micro Hydro in the Philippines (AMORE)



- AMORE: Alliance for Mindanao Off-grid Renewable Energy – phase 3
- Ongoing initiative funded by USAID (12 mil. USD)
- Objective: provide electrification to rural areas in Autonomous Region of Muslim Mindanao
- Tech. focus: solar-powered battery charging stations, solar home systems (SHS) and micro-and mini-hydro power plants
- Phase 3: build capacity of village enterprises to invest, implement, operate systems; strengthen the supply chain
- Obj.: electrification of about 25,000 households, 150 schools, and the installation of seven mini- or micro-hydro power plants
- **ICA role: capacity building for entrepreneurs (technology, certification for solar PV installers; financing; marketing); support awareness and information campaign; study on connection to the grid; study on total market potential**



# EE & RE for agricultural pumps



- Higher efficiency motors (HEMs) for pumps (rice farming) and aerators (shrimp farming) + solar PV
- HEMs increase efficiency by 33% thus reducing diesel consumption
- Activities:
  - Pilot project in Thailand (shrimp farms) + development of financial models + best practices guide + initiate ESCO + dissemination; funded by Nordic Fund and ICA
  - Scoping study in Vietnam for rice farming (funded by MOIT and ICA) to be followed by capacity development and pilot projects
- **ICA role: coordinator and implementer**

# Small-scale wind



- ICA promotes small-scale wind turbines: street lighting, telecom relay stations
- Standards development in China
- Training courses
- Establish the Small Wind Power Alliance of China
- Advocate for and support government to develop for policy incentives for small wind power
- Financed demonstration projects for street lighting and advertising boards lighting in Beijing

# Promotion of SWH



Various ICA activities in Asia:

- Developed SWH calculator to assist users to select proper SWH for their requirements; developed SWH users manual for end-users
- Funding and implementing partner of the GEF-UNDP-UNEP-ICA Global SWH program (barriers removal)
- Training for SWH installers

# ICA – APEC Cooperation



- ICA offers to support economies in projects promoting RE:
  - ICA offers technical support
  - ICA can provide financial support in some cases
  - ICA can provide resources to conduct studies, capacity building programs, technical assistance programs
- ICA cooperation with EGEEC already very effective

# Proposal idea #1



## Promotion of SWH in industry

- Rationale:
  - SWH applications in industry for low to medium temperature applications
  - Huge potential in non-energy intensive sectors
- Barriers to be addressed:
  - Low level of awareness among industry about benefits of SWH
  - Absence of subsidies (usually subsidies are offered for SWH in residential)
  - Lack of product standards (to ensure quality)

# Proposal idea #1



## Promotion of SWH in industry

- **Objective:**
  - Enhance understanding of SWH market potential in APEC economies and identify barriers to be addressed
  - Provide APEC economies with recommendations, guidelines, training materials and a financial model for replication in their economies
- **Long-term goals:**
  - Increase the penetration of SWH in industry
  - Reduce electricity and fuel consumption in industry for water heating purposes
  - Reduce emissions of GHG
- **Approach:**
  - Analysis of market potential for SWH in industry in APEC economies
  - Description of technology options, applicability conditions
  - Review of current barriers and success stories in APEC economies
  - Recommendations on policy, standards and capacity building/awareness
  - Guidelines to establishment of ESCO-type financing based on model to be developed in China
  - Dissemination of outputs to APEC EGNRET members during workshop



# Proposal idea #2

## Product standard and certification in PV

- Rationale:
  - Huge demand for solar PV throughout the world
  - Uneven product quality badly affect the market and reduces actual potential for power generation from PV
- Barriers to be addressed:
  - Various safety and performance standards, not mandatory
  - No product certification in place

# Proposal idea #2

## Product standard and certification in PV

- Objective:
  - Propose a solar PV product certification system to improve product quality
- Approach:
  - Review existing standards
  - Critical review of current practices in terms of compliance with standards (including interviews with users, laboratories, manufacturers, standard making bodies, etc.)
  - Consultation with laboratories, industry associations and users groups to define skeleton of a product certification system
  - Propose a product certification system



# Thank you



**Pierre Cazelles**  
**Director - Partnerships Asia**  
**International Copper Association**  
Tel: (86) 159-0100-7376  
Email: pierre.cazelles@copperalliance.asia



**International Copper  
Association Asia**  
Copper Alliance