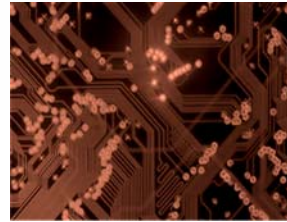


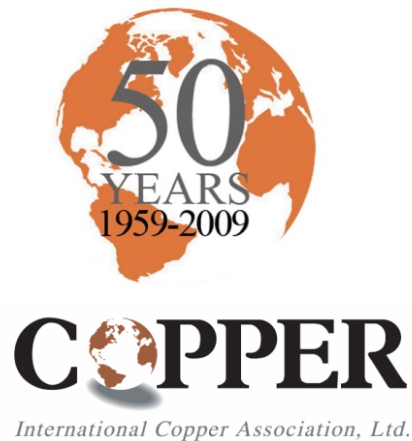
International Copper Association Update on RE programs

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APEC EGNRET Meeting
28 February – 02 March 2011
Washington DC
Ronald Reagan Conference Center



International Copper Association (ICA)



- 🌐 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

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,

Work with international donors - Asia

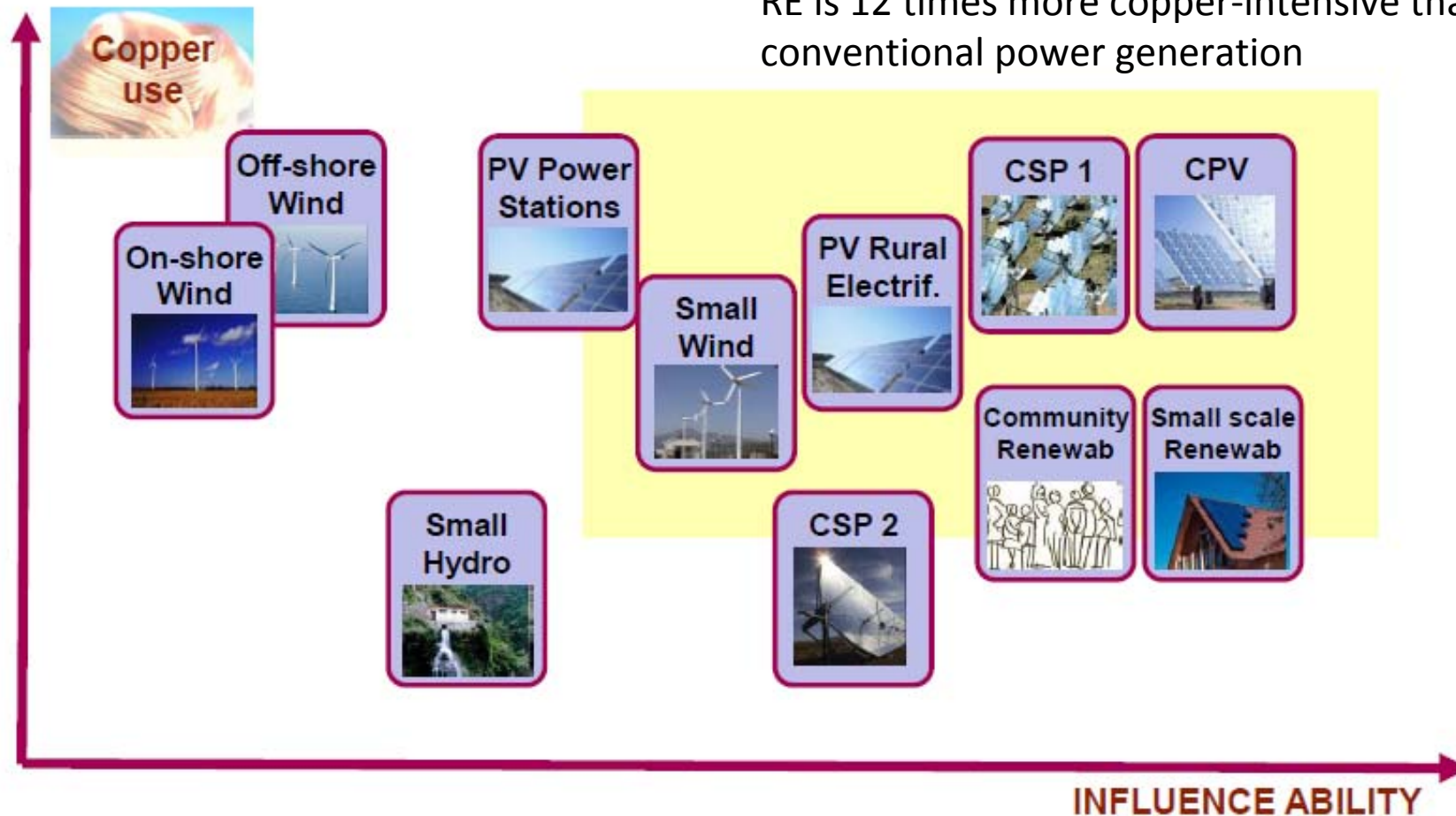


- **Establishment of the EU-Asia Power Quality Initiative (APQI): European Commission** – 647,000 Euro
- **Establishment of the ASEAN Energy Management Scheme (AEMAS): European Commission** – 1.8 million Euro
- **Promotion of higher efficiency power and distribution transformers in China: European Commission** – 785,000 Euro
- **Promotion of higher efficiency electric motors in the Chinese industry in the framework of the CDM: EU-China Energy and Environment Program:** 235,000 Euro
- **Capacity building on higher efficiency motors in China: Energy Foundation** – 250,000 USD
- **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
- **Establishment of the Energy Efficiency and Conservation Office of the Ministry of Industry, Vietnam: European Commission** – 195,000 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

Electric vehicles



- ICA completed comprehensive study on energy storage technologies
- ICA promotes Li-Ion batteries:
 - Environmental standards
 - Labeling and information/awareness for the public
 - Business models for Li-Ion battery recycling
- Capacity building for policy makers on electric buses and taxis in China

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

Thank you



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