



International Copper
Association
Copper Alliance

ICA's Programs on Renewable Energy

Pierre Cazelles, International Copper Association
APEC EGNRET meeting, 16-17 October 2013, Beijing

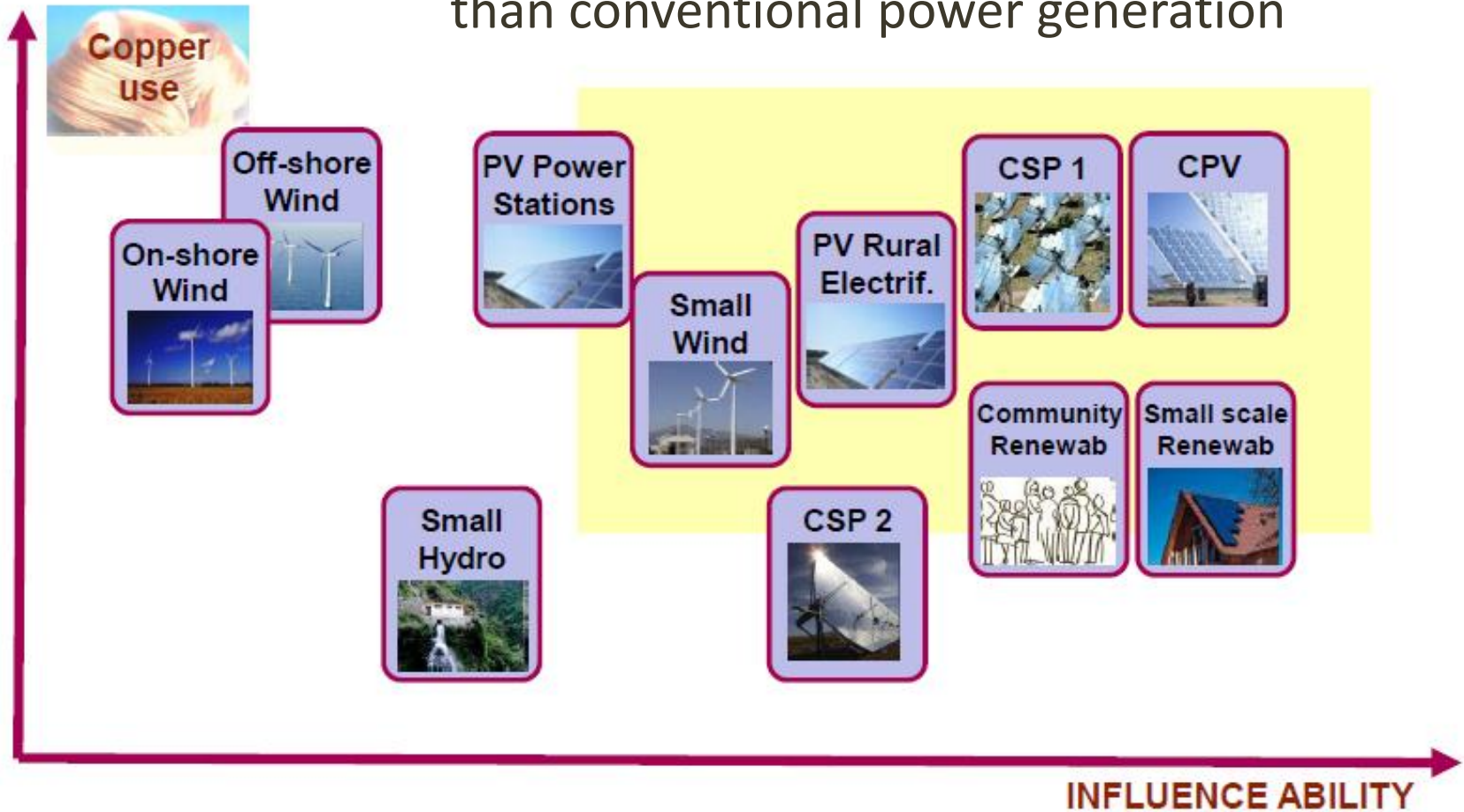


- **Offices in Singapore, Thailand, Vietnam, Indonesia, Malaysia, Korea, Taiwan, Japan, China**
- **International non-profit organization dedicated to promote the use of copper**
- **Most important program: Sustainable Energy (energy efficiency and renewable energy/access to energy) as copper is the most efficient electrical and thermal conductor**
- **History of cooperation with APEC:**
 - APEC Distribution Transformers Survey: Estimate of Energy Savings Potential from mandatory efficiency standards (EGEEEC, ICA co-funding: 130,700 USD)
 - APEC-ASEAN Harmonization of Energy Efficiency Standards for Air Conditioners: Phase 1 (EGEEEC, ICA co-funding: 88,000 USD)
 - Evaluation of Harmonized Test Methods and Energy efficiency Level for Commercial Refrigeration – Prior 4 products (SEAD-CAST; ICA co-funding: 20,000 USD)
 - Evaluation for energy efficiency improvements in installed electrical motors (SEAD-CAST; ICA co-funding: 40,000 USD)
 - Catalysing Monitoring, Verification & Enforcement Best Practices Exchange and Building Compliance Capacity in the APEC Region (EGEEEC; ICA co-funding: 20-30,000 USD)
 - APEC Workshop - Market Compliance Mechanisms for Energy Efficiency Programs (EGEEEC; ICA co-funding: 15,000 USD)

Copper and RE

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



Overall objective

- To increase copper consumption through accelerated uptake of renewable energy technologies in Southeast Asia

Overall strategy

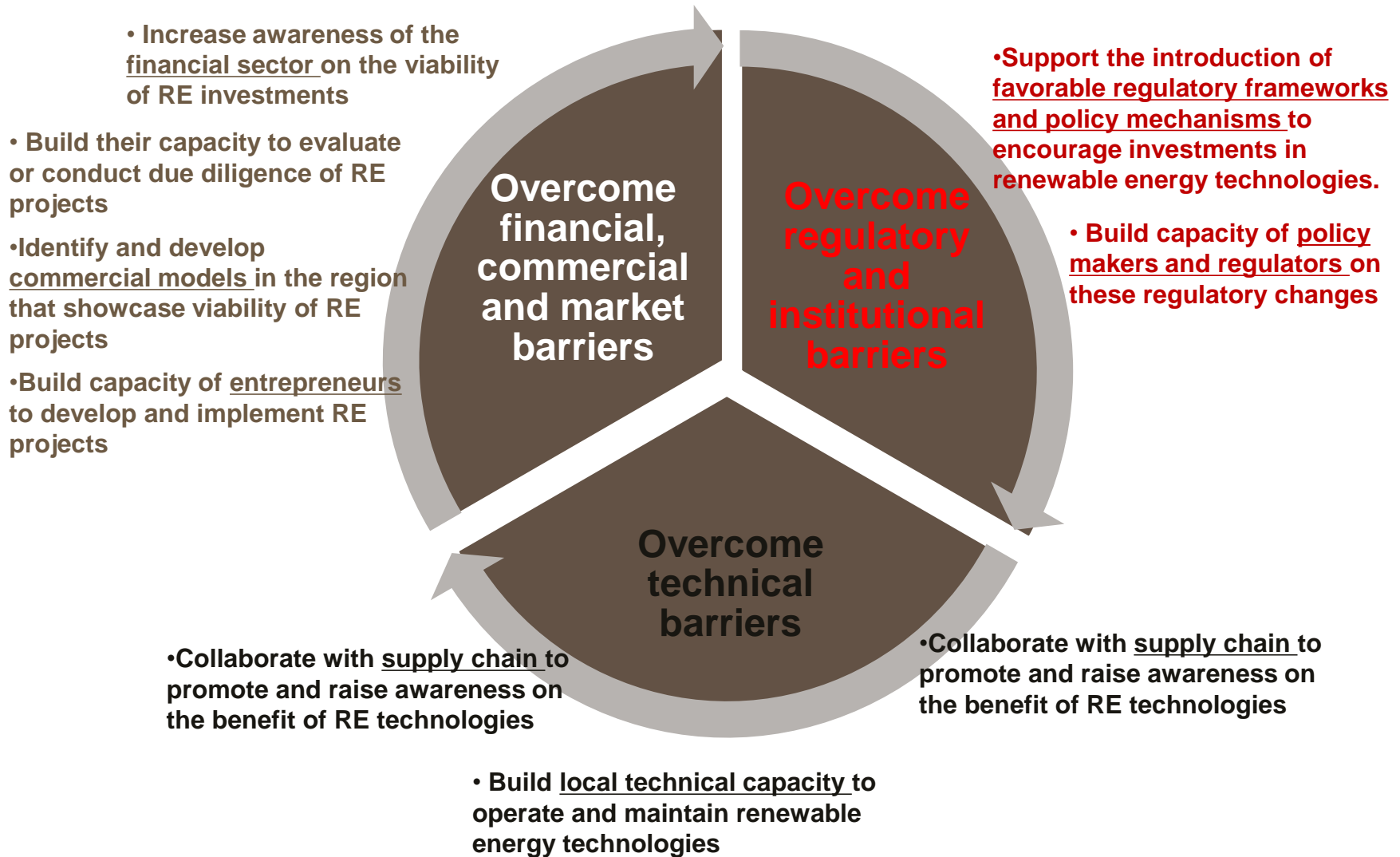
- Overcoming barriers to renewable energy deployment

Target groups

- Power utilities, policy makers, regulators, financial institutions, service providers, industry associations

Target countries

- Mainly Indonesia, Malaysia, Philippines, Thailand, Vietnam, China, India



Milestones and key outputs - Selection

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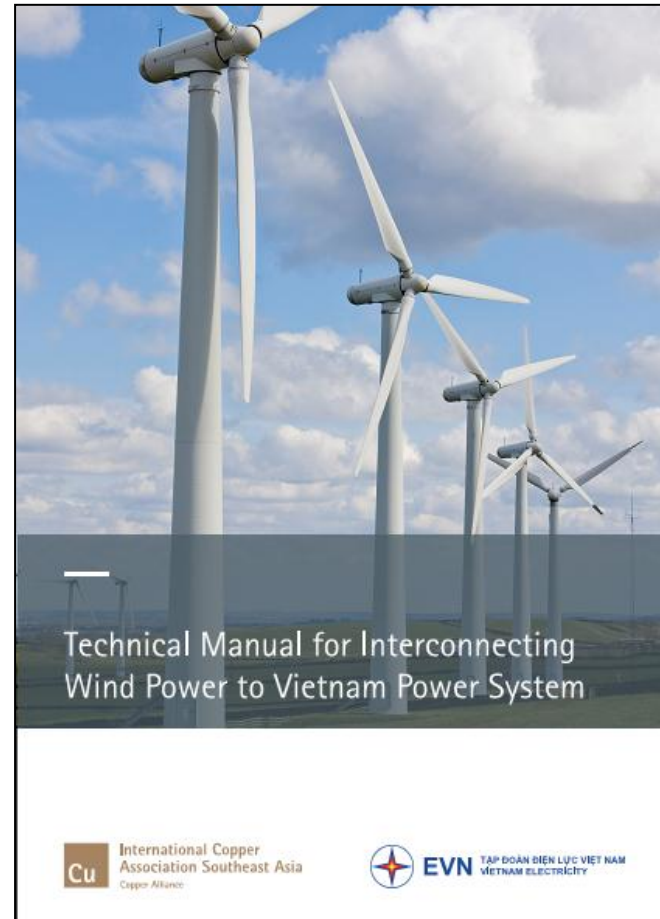
- Partnership with USAID, ADB, Sun Power, DOE, and others for a rural electrification program in Mindanao, 2011-2013
 - National certification programs on solar PV design, installation, and servicing and maintenance
 - All Women Solar PV Training (Technical and Organizational)
 - Organizational and technical training for rural electrification village enterprises
 - Teaching renewable energy in primary schools
 - Development of micro-hydro projects



Milestones and key outputs - Selection

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- Technical cooperation with Vietnam Electricity (EVN) towards integration of wind into Vietnam power system, since 2012
 - *Technical Manual for Interconnecting Wind Power to Vietnam Power System*
 - Grid Impact Studies
 - Draft Wind Grid Code



- **Technical cooperation with Danang Department of Science and Technology (DOST)** for the development and implementation of Danang City solar energy road map, since 2012
- **Partnership with GIZ, DOE, Manila Electric Company, Philippine Solar Power Alliance (PSPA),** and others for the dissemination of new net metering rules and opportunities of rooftop solar PV, since Jul 2013
- **Establishment of industry alliances** in China (electric vehicles, motor systems, heat pump water heaters, power quality, solar heating technologies, RE for DG, ...)
- **Training programs for installers, designers** (solar PV, solar water heaters, heat pump water heaters, ...)
- **EE standards development** (heat pump water heaters)
- **Support to policy makers** for promoting RE technologies (heat pump water heaters, RE for DG, ...)

- **Complete grid impact studies and develop the wind grid code for Vietnam**
- **Disseminate wind interconnection guidelines throughout Asia (APEC proposal)**
- **Develop pilot solar PV project in Danang City (Vietnam)**
- **Continue dissemination of new net metering rules and opportunities for rooftop solar PV in the Philippines**
- **Develop national standards on solar PV in the Philippines**
- **Disseminate opportunities for renewable energy embedded (distributed) generation among electric cooperatives in the Philippines, and capacity building of electric cooperatives and banks**
- **Support Thailand Solar Power Roadmap**
- **Support market development of rooftop solar PV (overcome barriers): APEC proposal**

Specific goals 2014

- **Assist Ministry of Agriculture conduct “1,000 Beautiful Villages” campaign on promoting RE in China rural area**
- **Accelerate the establishment of two provincial policies—“the Guidelines for developing DG in Chongqing” and “the Guidelines for developing DG in Sichuan Province”**
- **Revise two national standard—“Design Requirements for Small-Scale Wind Power Generator Set” and “Small-Scale Vertical Axis Wind Power Generator” in China**
- **Promote RE & DG by co-holding 2014 World Wind Energy Conference with China Wind Energy Equipment association**

- **Strong synergies due to common goals (promotion of RE technologies and RE-based systems) and common approaches (policy and standards development, capacity building, experience sharing, support to market development)**
- **ICA is an international non-profit organization and has a strong implementation capacity; it also brings significant co-funding**
- **Interest of APEC cooperation for ICA: forum, network, influence to accelerate RE promotion**
- **Advantage of ICA-APEC cooperation: put human and financial resources together for a better impact**
- **Earlier cooperation ICA-APEC has been very successful**

Thank you

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