



EC-ASEAN ENERGY FACILITY



Capacity Building Projects & Pre-Feasibility Studies

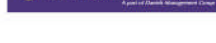
Laurie B. Navarro



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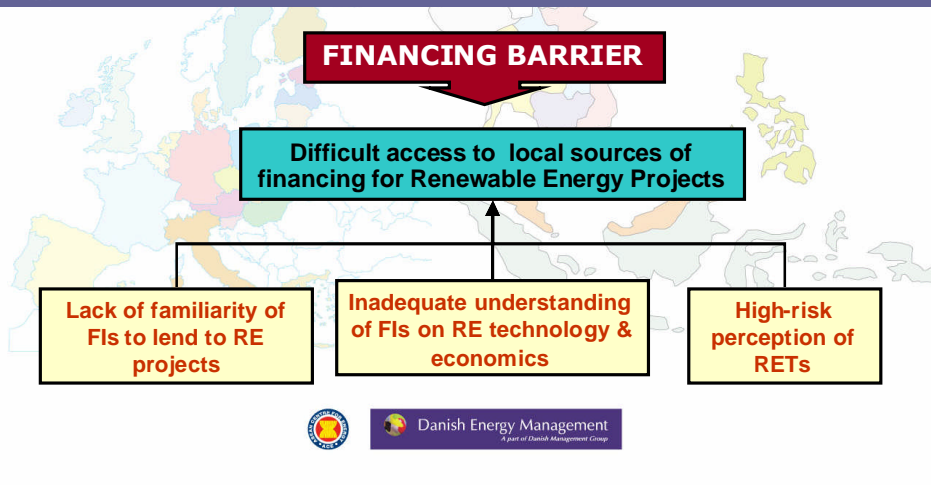
ENERGY CONSULTING NETWORK



EC-ASEAN ENERGY FACILITY



104 – 2004: Increasing Access to Local Sources of Financing for Renewable Energy Investments & Design of Innovative Financing Instruments: Case Study in the Philippines, Exchanging Experiences with Thailand, and Applicability of European Approaches





Specific Objectives

- Increase access to **local sources of financing** for Renewable Energy
- Increase the **security of energy supply of ASEAN countries** by promoting indigenous RE sources as alternative energy supply option
- Increase the **economic exchanges between the European Union and ASEAN countries** by sharing experiences in the financing of RE investments
- **Promotion of renewable energy and design of innovative financing instruments**



Target Beneficiaries



Land Bank of the Philippines

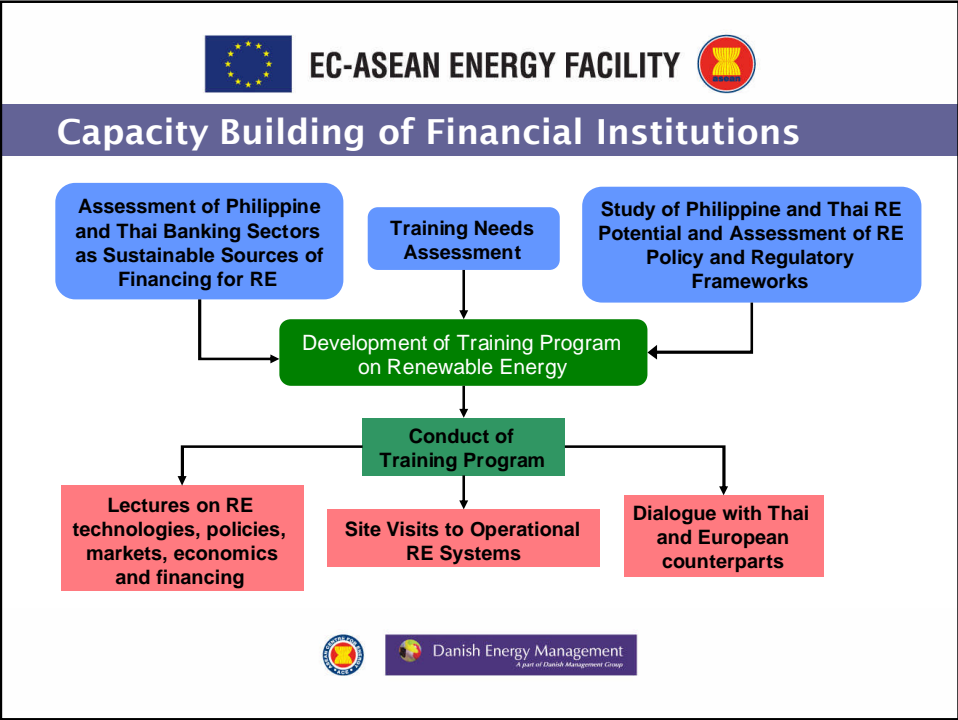




Equitable PCI Bank



First Metro Investment Corporation



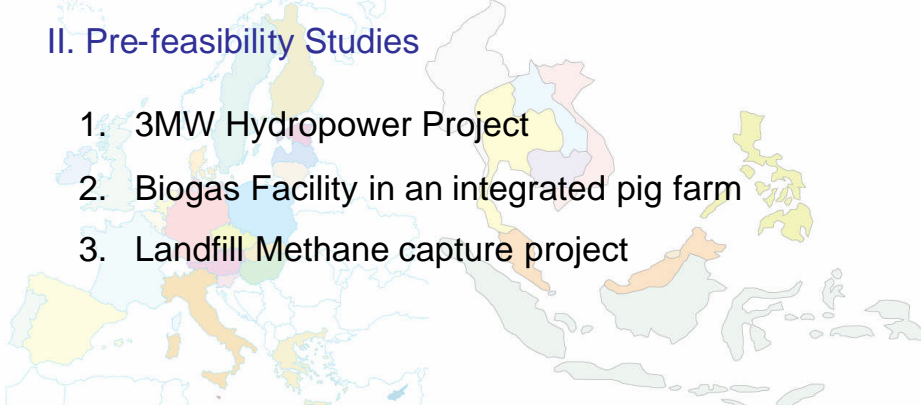





EC-ASEAN ENERGY FACILITY


Project Intervention to generate initial project

II. Pre-feasibility Studies

1. 3MW Hydropower Project
2. Biogas Facility in an integrated pig farm
3. Landfill Methane capture project



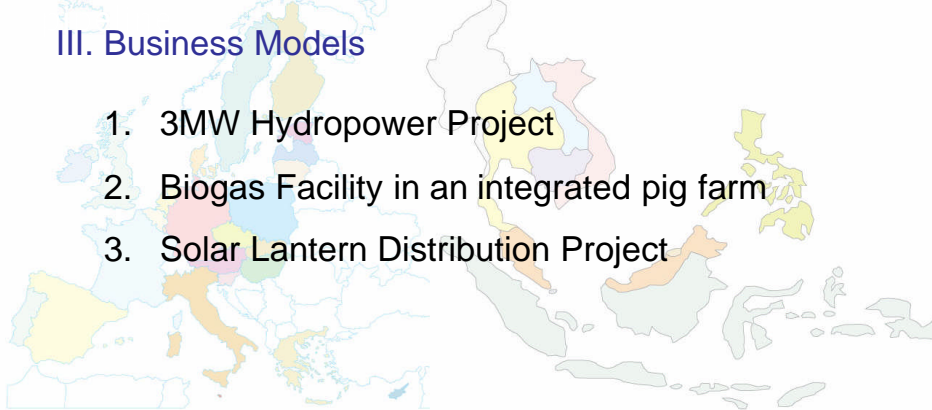





Project intervention to generate initial project

III. Business Models

1. 3MW Hydropower Project
2. Biogas Facility in an integrated pig farm
3. Solar Lantern Distribution Project



Resulting Policy Actions of Beneficiary Banks

I. Formulation of Bank Policies on RE Lending



Landbank in its strategic thrusts and directions for 2006, supports the government's call on energy independence and savings, particularly the development and financing support to agri-based renewable energy and alternative energy projects.



The bank has no specific credit policies for RE financing, but in lieu of this, all lending units have been formally notified that the Bank can finance Renewable Energy – related projects.



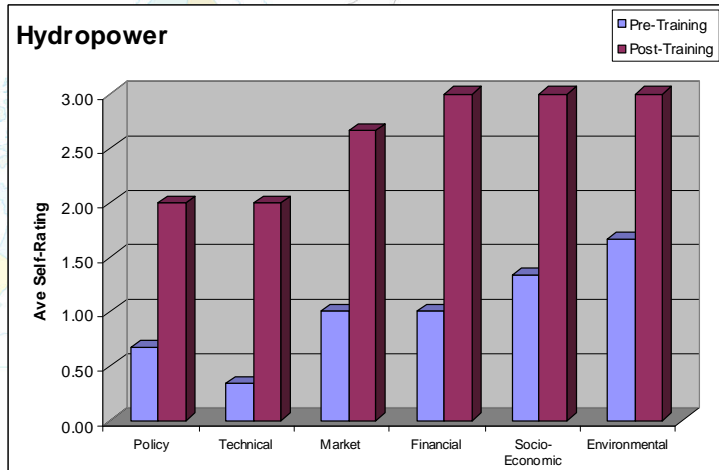
First Metro Investment Corporation will be a leading and respected financial institution specializing in investment banking services and a prime mover in the development of the Philippine capital markets. It intends to be at the forefront of developing financial instruments for Renewable Energy projects and eventually enticing capital market participation.





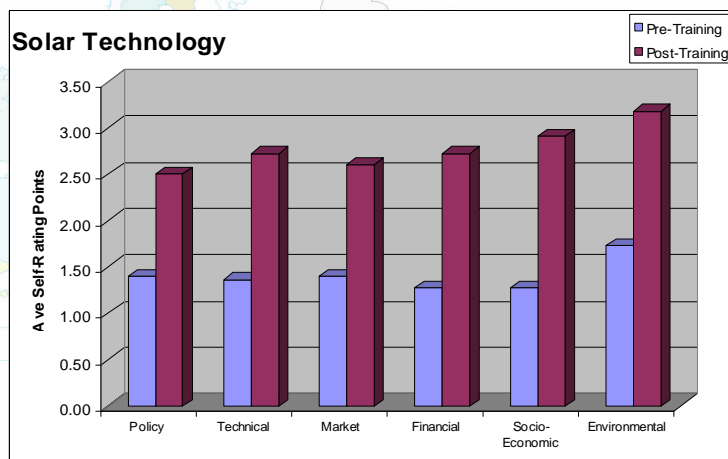
Impacts of Project Interventions

1. Increase in knowledge of project beneficiaries



Impacts of Project Interventions

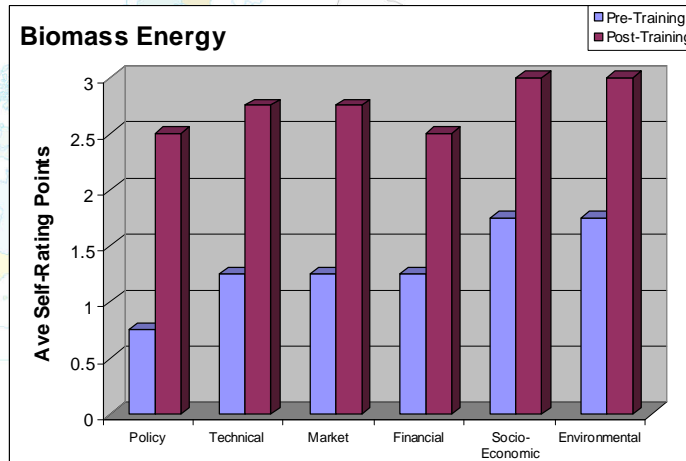
1. Increase in knowledge of project beneficiaries





Impacts of Project Interventions

1. Increase in knowledge of project beneficiaries



Impacts of Project Intervention

2. Increased access to local funds for RE finance



Land Bank of the Philippines

1. In a competitive bidding process, selected as **Program and Fund Manager of a Project Preparation Fund** for RE projects, set up by the UNDP and the PhDOE.
2. Established a **Carbon Finance** program
3. Currently evaluating loan proposals on biomass for power projects (industrial-sized biogas plant using hog wastes and others on ricehull for electricity production)





Impacts of Project Intervention

2. Increased access to local funds for RE finance



Equitable PCI Bank

1. Syndicated a loan with the Development Bank of the Philippines to finance a Biomass Cogeneration project in Negros Occidental (Visayas region)
2. Financing a sugar mill's conversion into an ethanol production plant



First Metro Investment Corporation

1. Looking into financing a 30MW wind farm in the Visayas region and possibly, biomass for power projects



Project Implementers



International Resources Group - Philippines



Energy Economy Environment Consultants



UNEP Risoe National Laboratory



IT Power Ltd.





156 – 2005: Capacity Building for Local Government Units, Public Market Vendors and Households in Calaca, Batangas on the Sustainable Operation and Maintenance of a Biogas Facility Fuelled by Biodegradable Solid Wastes: Learning from European and ASEAN/ Thai Best Practices



Calaca Municipality, Batangas Province

- Calaca a 2nd class municipality in the province of Batangas, Philippines, south of Metro Manila, 2-3 hrs by land travel from Makati City
- Composed of 40 barangays with a population of 58,100 people
- Has a total land area of 11,270 hectares



Current Situation in Calaca, Batangas

1. High power rate per kilowatt hour compared to other Philippine municipalities (e.g. PhP 7/kwh for domestic users and PhP12/kwh for industrial and commercial users)
2. Faced with continuous accumulation of improperly managed municipal solid wastes from households and public market
3. Non-compliant with the Ecological Solid Waste Management Act of 2000 (RA 9003)





Objectives

- Provide knowledge and skills to **LGU personnel, public market vendors, and households in six (6) poblacion barangays** (the target beneficiaries) on the **operation of a biogas facility using biodegradable solid wastes from households and the public market**
- Build capacity of local institutions such as the LGU and public market vendors' association **to undertake renewable energy projects**
- Initiate link of LGU to **local and foreign sources of funding** for biogas facility and related SWM projects



Towards the Objective of Capacity Building...

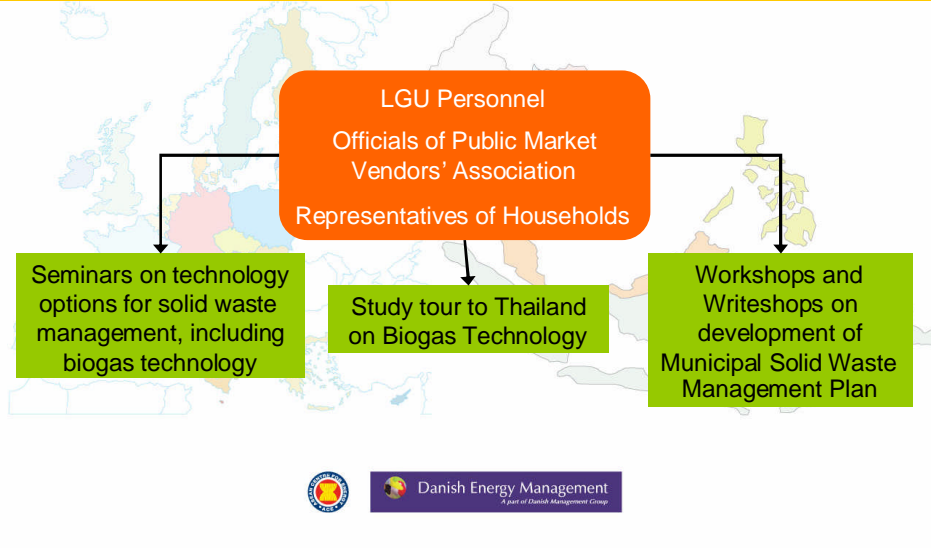
Conduct of seminars on biogas technology as option for municipal solid waste management:

1. Poblacion Barangays (1 – 6) Households (>300 participants)
2. Public market vendors (>50 participants)
3. Local Government Unit personnel (>50 personnel)
4. Secondary schools (>300 participants)
 - Paterno Memorial National High School
 - Dacanlao G. Agoncillo National High School
 - Calaca Academy





Capacity Building



Towards RE Project Development

I. Study of technology options for processing biodegradable solid wastes from households and public market

- Sorting combined with composting and leachate treatment
- Sorting and Anaerobic Digestion/ Biogas Treatment
- Thermal Gasification of Yard Wastes
- Composting of Biodegradable Wastes





Towards RE Project Development

II. Potential Sources of Financing for LGU's Biogas Facility and other SWM Projects

Conducted initial discussions with the following agencies to identify their existing programs or facilities where biogas facility and other solid waste management projects may be eligible:

- **Land Bank of the Philippines**
 - Program Lending Group
 - Lending Centers
- **Development Bank of the Philippines**
 - Solid Waste Management Program
 - NRE Technologies Window



Towards RE Project Development

II. Potential Sources of Financing for LGU's Biogas Facility and other SWM Projects

- **Asian Development Bank (ADB)**
 - Infrastructure Division, SEA Department
- **World Bank**
 - Support for Strategic Local Development and Investment Project
 - Local Government Finance and Development Project
 - Community Based Resources Management





Towards RE Project Development

III. Development of an Integrated Municipal Waste Management Plan

- Creation of a Technical Working Group for the development of a SWMP
- Development of a preliminary municipal solid waste management plan through guided workshops and writeshops that considers Biogas technology option for processing biodegradable municipal solid wastes, among other technologies



Impacts of Project Interventions

- LGU is presently discussing with Balayan Alcohol Distillery for access of distillery's biogas effluent for feeding into the municipal biogas digester in combination with biodegradable MSW as a component of the LGU's 10-yr MSWMP
- Created a Technical Working Group responsible for the enhancement of the LGU's initial 10-yr MSWMP for compliance with the provisions of RA 9003
- Development of a preliminary MSWMP through guided workshops and writeshops that considers Biogas technology option for processing biodegradable municipal solid wastes among other technologies as LGU's initial compliance to RA 9003





Project Implementers



International Resources Group - Philippines



Center for Economy Energy Environment Resources Development



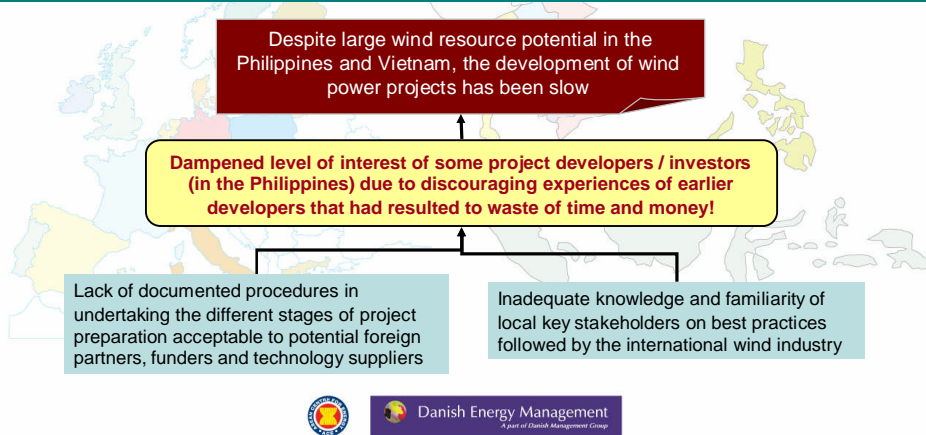
Centric Austria



Energy Consulting Network



157 – 2005: Capacity Building for Wind Project Developers, Providers of Engineering Consulting Services and Government Planners on the Conduct of Preparatory Activities for the Development of Wind Power Projects in the Philippines and Vietnam, and Adopting European and International Standards



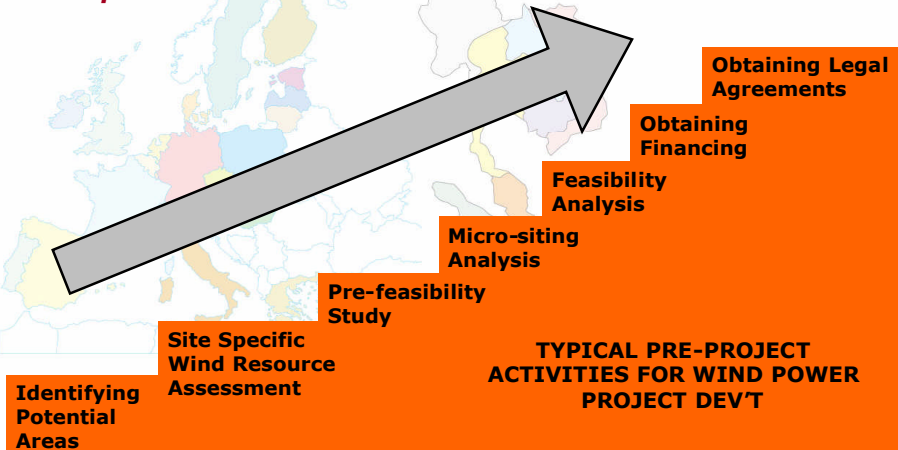


Objectives

- Capacitate **wind project developers, consultants/eng'g services providers and government planners** (target key stakeholders) in the Philippines and Vietnam on the **internationally-accepted procedures and standards for undertaking wind energy development activities**
- Capacitate the Philippine and Vietnamese energy planners and technology promoters in the **systematic identification of priority wind sites for promotion** to project developers
- **Document the internationally-accepted procedures and standards** for undertaking the different stages of wind energy development activities



Training on internationally-accepted procedures for carrying out the preparatory activities in wind power project development



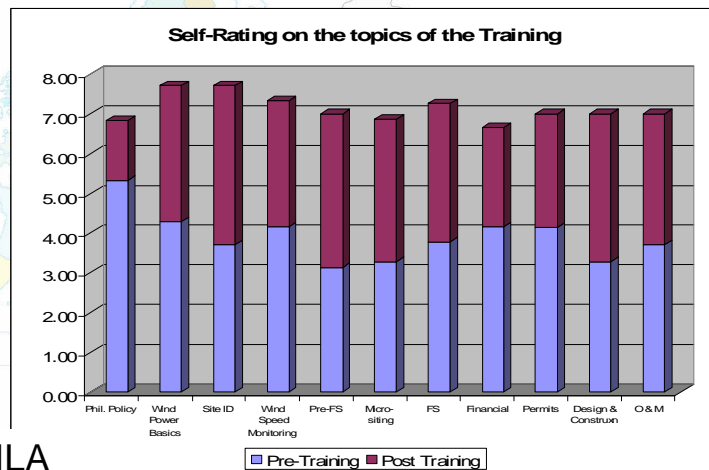


Capacity Building



Impacts of Project Interventions

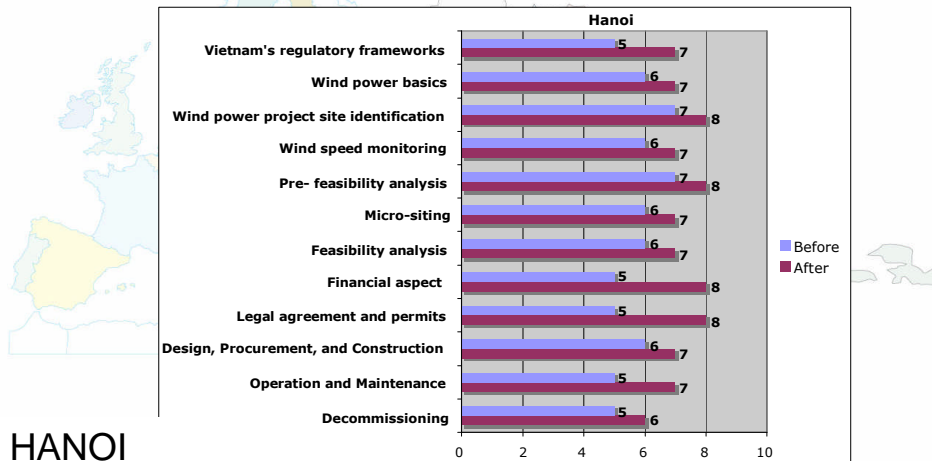
1. Increase in knowledge of project beneficiaries





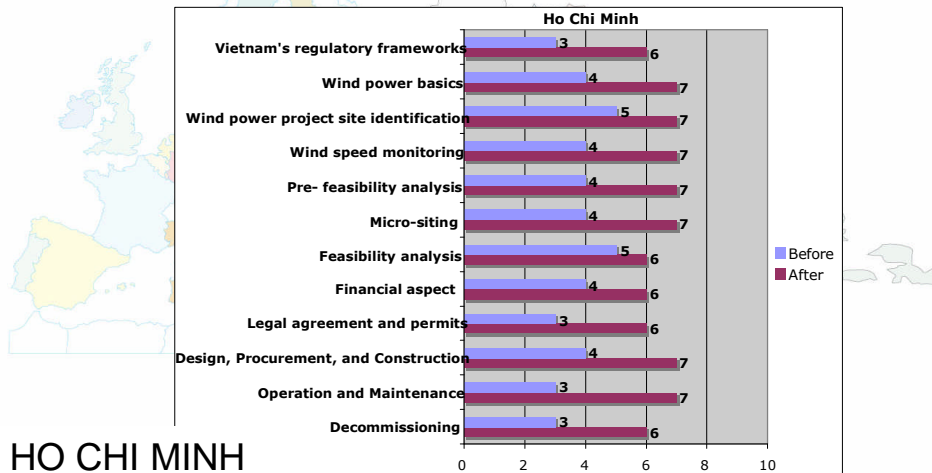
Impacts of Project Interventions

1. Increase in knowledge of project beneficiaries



Impacts of Project Interventions

1. Increase in knowledge of project beneficiaries





Impacts of Project Interventions

2. For the Philippines, the Guidelines for Implementation of Project Preparation Activities for Wind Power Projects developed by the project has caught the interest of the PhDOE and private sector. Consultants have expressed interest in using proposed guidelines.
3. Project developers who now are much more technically and financially aware on project viabilities have realized need for policies and incentives needed by private investors; they are looking into pooling themselves as a body to have personality and voice to air their concerns to the government and financing sectors.



Project Implementers



International Resources Group - Philippines



Center for Economy Energy Environment Resources Development



Energy Consulting Network



Universität Karlsruhe (TH)
Research University • founded 1825



Institute of Industrial Production
(University of Karlsruhe)





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Thank you!

IRG Philippines

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