





Renewable Energy Project Development & Implementation



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Eustainable Energy and Environment Solutions

Outline of Presentation

About Full Advantage Phils (FAPhils)
 Partnership: FAPhils, REurasia, CPSI
 Offers to distribution utilities







The Full Advantage Company



1. About Our Company

Experience the Full Advantage of... **COMPETENT SERVICE AT ITS BEST**



Advisory and Consulting

business/Project Development

limate Change Activities

Sub-sectors:

- Renewable energy and rural electrification
- Cogeneration and decentralized energy systems
- 🗸 Biogas production and energy recovery from wastewater, landfill and MSW
- 🖌 Energy efficiency
- Biofuels
- Climate Change and Greenhouse Gas (GHG) mitigation activities

Our Service, Your Advantage.

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REURASIA Corporation







REurasia Corporation

OVERVIEW

Permit License Feasibility Study Finance Analysis Risk Analysis Financing

Development

Tendering Tech. & Com. Review Construction & Commissioning Supervision

Implementation

Operation Supervision Process optimization Operation Support

Management







CTI Power Systems Inc. (CPSI)







CTI Power Systems Inc.

ABOUT US

CTI POWER SYSTEMS, INC. (CPSI) is a subsidiary of CITITEL TECHNOLOGIES, INC. (CTI) and its primary purposes includes but not limited to, Testing and Commission of electrical, mechanical equipment and accessories, installation, surveys, trading and all other engineering services.

CPSI have expertise in the field of Electrical Engineering such as: Installation of Substation, Transmission and Distribution Line, Industrial Installation and various maintenance endeavors; it is also competent in delivering high quality Switch Gear, Low Voltage Switch Gear, Panel Boards, Motor Control Centers as part of its product lines.

SERVICES OFFERED

- 1. Design And Estimate
- 2. Installation/Construction
 - Power Transmission/Distribution System
 - Substation
 - Industrial And Commercial electrical facilities

PRODUCT LINES

- 1. Wire and Cables
- 2. Transformer
- 3. Switchgear
- 4. Sub-station Equipment
- 5. Termination Kit
- 6. Power Cables, Steel Wire Armored (SWA)
- 7. Panel Boards







Current Drivers of Development

1. The President's SONA

2. Power Supply-Demand

(energy independence), Renewable Energy Act (RA9513) EO 30 (Energy Project of National Significance)

3. GHG Emission Reduction (COP21 Paris Agreement: Phil target 70% by 2030)

4. Compliance to Laws, Rules and Regulations







Drivers of Business Development

(P⁶F)

- 1. POLICY, laws, rules, and regulations (RA 9513)
- 2. PRICING of (biomass) feedstock
- **3. PERMITTING and licensing procedures**
- 4. POLITICS: favorable environment, social engineering
- 5. PROFIT for all (Corporate Bottom Line, CSR, ER 1-94) 6. PATIENCE capital
- 7. FAITH











Biomass Resource Assessment





FUEL AVAILABILITY Consolidated: 858.2 hectares Required: 120,000 tons per year









SERVICES OFFERED we can tailor-fit!

- Complete Package of Project Development
- Investment & Investment Facilitation
- Feasibility Studies & Conceptual Engineering
- Detailed Engineering, Procurement, Construction and Commissioning
- Owner's Engineering & EPC Management
- Operation and Maintenance







1.5 MW Rice Husk Cogeneration Plant

- Project owner: Titi Serong Sdn. Bhd.
- Location: Perak, Malaysia
- Type of project: 1.5 MW
 cogeneration system
 - boiler: 12 tph, 25 bar, 300 °C
 - turbine type: extraction condensing
- Services provided:
 - Grant financing
 - Technical support
 - Performance monitoring of the system







USE SUBJECT OF CONTRACT OF CONTRACT.

2.5 MW Rice Husk Cogeneration Plant

- Project owner: Chia Meng Co., Ltd.
- Location: Nakornrachasima, Thailand
- Type of project: 2.5 MW cogeneration plant
 - steam boiler : 17 tph, 35 bar,
 420 °C
 - turbine type : condensing
- Services provided:
 - Technical support
 - Training of operators
 - Performance monitoring









2.0 MW Rice Husk Cogeneration Plant

- Project owner: Angkor Bio Cogen Location: Ang Snoul, Cambodia Type of project: 2.0 MW power plant - boiler: 17 tph, 40 bar, 380 °C - turbine type: fully condensing Services provided: - Pre-Feasibility Study - Full Feasibility Study - Grant and loan financing - CDM and carbon financing - Preparation of tender specifications Tendering and bidding process - EPC contract preparation Project management during construction
 - Provide O&M key personnel









10 MW Rice Husk Cogeneration Plant





Project owner: Patum Rice Mill

Your Partner in Progress...

- Location: Pathumtani, Thailand
 - Type of project: Upgrading from 2.8 MW to 9.8 MW cogeneration system
 - boiler 1: 35 tph, 19 bar, 360 °C
 - boiler 2: 20 tph, 19 bar, 360 °C
 - turbine type: fully condensing
 - Services provided:
 - Pre- Feasibility Study
 - Full Feasibility Study
 - Conceptual Engineering
 - Preparation of tender specifications
 - Tendering and bidding process
 - Preparation of documentation/

application for NEPO

subsidy (SPP 2000)

- Preparation of documentation for PPA application





OWER SYSTEMS, INC.

We have built Biomass/Waste Power Plants (5-20 MWe) All availed of FIT rate!

MSW Energy Recovery is a more logical option than making a lot of SLFs because MSW is the Residuals for disposal

Most Sustainable Feedstock

12 MWe Biomass Power Plant

12 MWe Biomass ENERGY CORPORATION 12 NWe Biomass Power Plant

BEC

GHG ER = 42,976 tCO2/yEF 0.2686 tCO2/MWh

Total Investment: US\$ 40 M Equity: 20% Rice millers

Debt: 80% BDO

- Advisory, Business/Project
 Development on Renewable
 Energy and Environment
- USAID B-LEADERS Project
- USAID PFAN Asia
- Biomass Projects

Project Development and Implementation

Permitting & Licensing Process

VANTAGE

Australian Government

Private Financing Advisory Network (PFAN)

Key Resources

Resource	Link / Location
Website Promo	http://cti-pfan.net/event/call-for-proposal-pdfi-asia-8/
RFP & Prospectus	http://cti-pfan.net/wp/wp- content/uploads/2017/05/PFAN_PDFI-Asia-8_RFP_final.pdf
Proposal Guidelines	<u>http://cti-pfan.net/wp/wp-</u> <u>content/uploads/2014/04/PFAN_ProjectProposal_Guidelines.</u> <u>pdf</u>
Help Desk	Application@pfan.net
Registration & Application	https://climate-invest.fluxx.io/apply/pfan_registration

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Country Coordinator

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Renewable Energy is a Sunrise Industry!

OWER SYSTEMS, INC.

Thank You!

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