Presentation for Manila Meetings – Executive Summary

Specific theme: Self-Powered Communities and Renewable Energy Sources

SECTION A

SPC Model (Business Model Methodology)

A.1. Market Model for Rich and Poor

A.2. Communities in the Current World

A.3. Synergy and Management of Portfolio of Drivers

A.4. Why Three Drivers

A.1. Market Model for Rich and Poor

- Market model for Rich
  - Rules for: Leadership, Consensus, Impacts, Solution

- Market model for Poor
  - Rules for: Top (Leadership, Consensus, Impacts, Solution)

A.2. Communities Position of the Current World

- Business rules for 4/5 population
  - Leaders and Top of the Pyramid
  - BOP (Bottom of the Pyramid)

- Actual social trends:
  - From National to Global Industry
  - From Nature to National Industry

- Relevant initiatives:
  - Comeback to Nature.
  - Self-Sustained Communities (SSC)
  - New Rules

- Education, Jobs, Health, Food, Drinking Water, Electricity

- Internal needs
  - Education, Jobs, Health, Food, Drinking Water, Energy

- External needs
  - Water, Energy, Corn Land, Air

- Universe, Atmosphere, Landscape

- Drives
  - Five tasks
  - Five senses
  - Five risks

- It was as is to be

SPC Model

World population 4/5 population POOR 1/5 RICH

Leadership, Consensus, Impacts, Solution

Drivers

Education, Jobs, Health, Food, Drinking Water, Electricity

Internal needs

External needs

Universe, Atmosphere, Landscape

Drives

Five tasks

Five senses

Five risks

It was as is to be

Electricity, Drinking water, Construction Material
**A.3. Synergy and Driver’s Portfolio Management**

*Synergy:* “let two or more things functioning together to produce a result not independently obtainable”. Synergy for practical use (e.g. three sisters model)

**Proposed portfolio drivers:**
- **Electricity** (measurable indicator kWh per person)
- **Drinking water** (measurable indicator litters per person per day)
- **Construction material** (for new land planning and architecture)

...in Business model use

- **Business model**
  - Motivation
  - Process
  - Organization

- **Business environment**
  - Influencers
  - Base

...in any cause and result understanding

**Cause (source):**
- Electricity production
- Forest management
- Waste management

**Results (Consequences):**
- Governance
- Crime
- Diseases

**High** — Functional

**Low** — Critical

**A.4. Why Three Drivers**

**Atmosphere**

- **Clean air**
- **Brown air**

**Earth**

- **Drinking water** coming from natural sources

- **Electricity**

- **Sun**

**Material**

- **Waste**

**Infrastructure**

- **Self-Powered Community**

**SECTION B**

Management and R&D (Examples of Management of the Key Drivers)

- **B.1. Sector Management and R&D**
- **B.2. RES Management and R&D**
- **B.3. Water Management, Hydro Energy and R&D**
- **B.4. Waste Management and R&D**
- **B.5. Architectural/Construction Materials and Components and R&D**

**B.1. Sectors Management and R&D**

**R&D** — **RES Management**

**Drivers**

- **Water Management**
  - Self-Powered Community
  - **R&D**

**Architectural/Construction Components**

**Other**

**Research & Development** — Patents, technical solutions, proprietary technologies
B.2. RES Management and R&D

Solar power
- Solar
  - PV
- Thermal
- Hydro power
- Hydro power (HP)
- Micro HP
- Small HP

Biomass
- Production
- Waste

Wind power
- Plastic
- Used tires
- Batteries

Geothermal power
- Wind power
- Geothermal power

Example of PV Thin Film Technology

B.3. Water Management, Hydro Energy and R&D

Water Management
- Surface Water
  - rivers, lakes
- Underground Water
  - watershed
- water leakages
- Rain, Rainstorm (Typhoon)
  - dams, dikes, weirs
- floods and water retention

Hydro-energy example from the Philippines
- A small hydro-power plant

B.4. Waste Management and R&D

Electric power generation:
- Combustion: Steam production for
- Gasification: Gas production for
- Pyrolysis: Gas production for

Power Accumulation:
- Heat tanks for production
- Waste heat for production
- Recycling of batteries + storage of electricity

B.5. Architectural/Construction Materials and Components and R&D

PV panel as an architectural component

Electroforming: Metal materials as an architectural component for buildings (beams)

Metal materials for infrastructure: water or waste water pipes, etc.
SECTION C

SPC Factory Strategy (SPC Industry Specific Unit Proposal)

C.1. SPC Factory current and future products
C.2. SPC Factory – virtual concept
C.3. SPC Factory functions / SPC Factory products
C.4. SPC Factory products / Technologies
C.5. Example of a production line for SPC Factory – part 1
C.6. Example of a production line for SPC Factory – part 2
C.7. SPC Factory products
C.8. SPC technologies under development
C.9. SPC Factory Business Model and Business Plan

C.2. SPC Factory – The Virtual Concept

SPC Factory functions:  
- R&D
- Engineering
- Production Line
- Component Import
- Final Products Assembly Line
- Wholesale System Structure
- Retail Control System

- Philippines
- Pacific
- EU (CZ)

C.3. SPC Factory functions / SPC Factory products

Examples of products:
- Solar generator system for simple use in building (housing, services, shops)
- Solar PV panel as an architecture element in tropics and sub-tropics construction industry
- Off-grid electricity power generation units for 24/7 operation (rural and peri-urban areas)
- Small power plants (based on RES) selling electricity to the central grid (urban areas)
- Post-harvesting industrial units for food drying and production of drinking water (countryside), biomass (crop ends) for electricity production

C.1. SPC Factory: Current and future products

SPC Factory: The current products (details in Sec. D)
C.4. SPC Factory products / Technologies

Examples SPC Factory products:
- Solar generator system for simple use in building (housing, services, shops)
- Solar PV panels as an architectural elements in tropics and sub-tropics construction industry
- Off-grid electricity power generation units for 24/7 operation (rural and peri-urban areas)
- Small power plants (based on RES) selling electricity to the central grid (urban areas)
- Post-harvesting industrial units for food drying and production of drinking water (countryside), biomass (crop ends) for electricity production
- RES management
- Waste management
- Construction management
- Metallurgical electro forming
- Water management

C.5. Example of a production line for SPC Factory – part 1

(see Section D)

C.6. Example of a production line for SPC Factory – part 2

C.7. SPC Factory products

Solar generator system for a simple use in building (housing, services, shops)

Solar panels as architectural or structural elements

PV panels as architectural elements

PV panels as a construction element
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**C.8. SPC technologies under development**

- Biomass Power Plant
  - Collection Yard
  - Biomass
  - Combustion
  - Power Generation
  - & fertilizers

- Fruit (Foodstuff) Dryer
  - Fruits (Foodstuff)
  - Dryer
  - & final products

- Solar generator operating with reused batteries
- Revitalization of used batteries
- Old Battery Dealer Services
- Rebuilt Battery Workshop
- Battery waste disposal

**SECTION D**

Technologies (Proposed Technologies)

D.1. Metallurgical electro-forming
D.2. Waste heat management and thermal turbines
D.3. Waste management and pyrolysis

**C.9. SPC Factory Business Model and Business Plan**

- Business Model (BMM)
  - Business process
  - Business Organization
  - Business Motivation

- Mini Business Plan
  - The Strategic Plan
  - The Operational Plan
  - The Organizational Plan
  - The Resources Plan
  - The Contingency Plan

- If the project idea is feasible
- Full Business Plan
  - Executive Summary
  - Company Description
  - Product and Services
  - Market Analysis
  - Strategy and Implementation
  - Management Team
  - Financial Analysis

**D.1. Metallurgical electro-forming**

(New metal construction materials)

1. Electrolyte bath storage
2. Filtration
3. Working bath
4. Nest
5. Pipe - product
6. Direction of pulling tubes
7. Anodes
**D.2. Waste heat management and thermal turbines**

Energy storage and thermal turbines

Thermal Panel

Heat accumulation

**D.3. Waste management and pyrolysis**

Waste Collection Yard

Plastic

Used Tires

Biomass

Pyrolysis unit 1

Pyrolysis unit 2

Pyrolysis unit 3

Cogeneration

Thermal Turbine

**SECTION E**

SPC Factory Financing (National Revolving Fund Proposal)

E.1. Community savings and Revolving Fund system

E.2. SPC Revolving Fund for communities

E.3. SPC Revolving Fund and PPP mechanism

**E.1. Community savings and Revolving Fund system**

Current Community saving and collateral mechanism (for SPC Factory in operation)

Family

Entrepreneurs

Community savings

Community Collateral

Basic revolving fund mechanism

Private sector

Administrative Expenses

Debt Capital

Insurance

Borrower

Public sector

Capital Grants

SPC Fund
E.2. SPC Revolving Fund for communities

Private sector:
- Administrative Expenses
- Debt Capital
- Insurance
- Family
- Entrepreneurs
- Community Collateral

Public sector:
- Capital Grants
- Community savings
- SPC Fund
- Borrower

E.3. SPC Revolving Fund and PPP mechanism

Private sector:
- Administrative Expenses
- Debt Capital
- Insurance
- Borrower

Public sector:
- Contributed Capital
- Interest subsidy and loan loss reserve

Public Private Partnership (PPP) Investment mechanism for SPC Factory’s current and future products