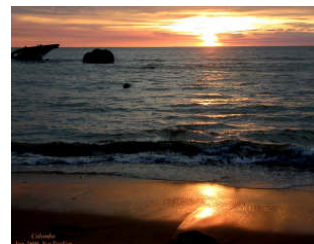




BETTER ENERGY SOLUTIONS TODAY

**“Sustainable Solutions for Development
with Renewable Energy”**





Sustainable Development Solutions with Renewable Energy

- GREEN DEVELOPMENT
- MILLENIUM DEVELOPMENT GOALS
- CARBON EMISSIONS REDUCTION
- COMMUNITY EMPOWERMENT
- LIVELIHOOD IMPROVEMENT
- CORPORATE SOCIAL RESPONSIBILITY

Contained Energy provides a wide range of solutions for sustainable development with renewable energy, from simple and cheap solutions for individual households to systems for communities, villages or even small towns (or islands).

To ensure that development programs and assistance are sustainable, it is essential that 'green' solutions with renewable energy are mobilized, not only to conserve environment and the planet, but most importantly to avoid common 'social' problems that have hampered development efforts so often: unreliability of grid-power or gensets, 'sharing' bills for energy, maintenance of gensets, and so on.

The following is a 'menu' of sustainable development solutions that should be considered in development programs.

Some of these solutions are available as 'one-of' purchases, others will best be deployed in programs that include training and business coaching.

As a socially conscious, experienced, motivated and success/service oriented company, Contained Energy is available to partner with organizations for the supply and implementation of these solutions.



Community Level Solutions

1) Solar Water Pumping

Solar Water Pumping for communities is a well-proven sustainable solution to provide water from deep- or surface wells. No maintenance, no operational costs.



Costs : *From US\$2,500 up*
Applications : *Community Empowerment*
Green Development
Corporate Social Responsibility Projects

2) Solar Water Purification

Self-contained mobile or stationary units to purify contaminated non-saline water sources with capacity from a few hundred liters to tens of thousands of liters per day. Simple to operate and maintain.



Costs : *From US\$15,000 up*
Applications : *Disaster Relief*
Community Empowerment
Green Development

3) Solar Reverse Osmosis Desalination

For locations where only brackish or salt water sources are available, similar units are available with energy-efficient reverse osmosis components.



Because these units do not have ongoing operational costs for fuel or electricity, the cost of water produced is very low.

Costs : *From US\$25,000 up*
Applications : *Disaster Relief*
Community Empowerment
Green Development Programs



4) Solar Public Lighting

Bringing some light in the dark, it is amazing how a few simple solar public lighting poles can have an effect on a village's social life and sense of security. In the event of black-outs, resulting from disasters or otherwise, the lights stay on and people know where to gather. These basic units are very robust with non-corroding, durable polyester poles, long lasting light bulbs and no operational bills.



Costs : *Around US\$ 1,000 per unit, installed*
Applications : *Community Empowerment*
Green Development
Corporate Social Responsibility Projects

-
- 5) Solar Clinic Power Systems
 - 6) Solar School Power Systems
 - 7) Solar Govt. Office Power Systems

Community services can be hugely improved with reliable energy supply that is not dependent on unreliable grid conditions or expensive gensets.

Typical examples include clinics (vaccine fridges, lights, fans), schools (laptops, lights, fans), and government offices (computers, communications, lights fans).

Costs : *Starting from US\$10,000*
Applications : *Community Empowerment*
Green Development
Corporate Social Responsibility Projects





8) Solar Dryers for Produce

Farmers and cooperatives can increase their income by bringing a higher, more consistent, quality product to markets, especially now with initiatives in the 'Fair Trade' arenas for coffee, cacao and the likes.



Properly controlled drying chambers result in better quality control, and higher capacities when compared to 'street drying'.

Costs : *Starting from US\$10,000*
Applications : *Community Empowerment*
Green Development
Corporate Social Responsibility Projects
Livelihood Improvement
Fair Trade Projects

9) Biodiesel Production for Gensets

Small bio-diesel plants for coconut oil or Jathropa, in combination with a bio-diesel genset, possibly in a solar/genset hybrid system, can make remote communities independent from fuel supplies. Also suitable for fishing boats engines.



Costs : *Starting from US\$25,000*
Applications : *Community Empowerment*
Green Development
Corporate Social Responsibility Projects
Livelihood Improvement



10) Solar Icemaking and Refrigeration

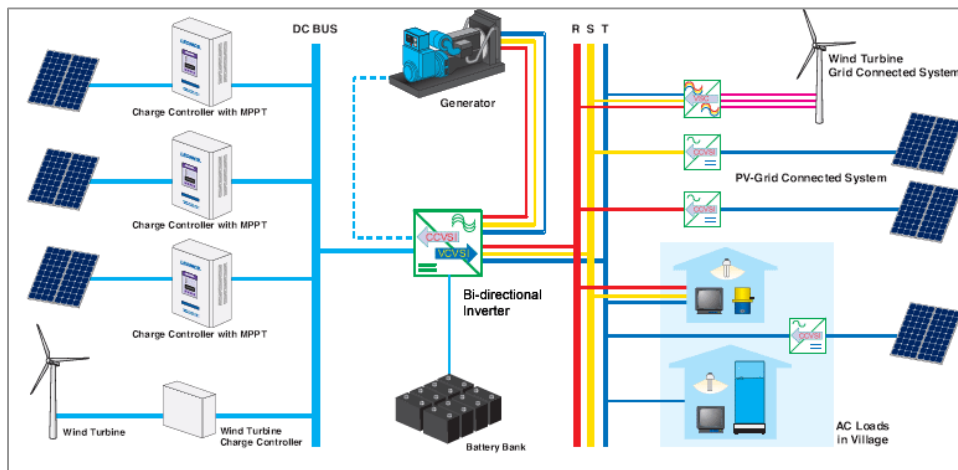
Having ice and/or refrigeration available, improves household lives considerably and in many case can improve livelihoods as well.



There are 'commercial' solutions as well as smaller solutions.

Costs : Starting from US\$5,000
Applications : Community Empowerment
Green Development
Corporate Social Responsibility Projects
Livelihood Improvement
Fair Trade Projects

11) Solar/Biodiesel Hybrid Community Mini-Grid Power

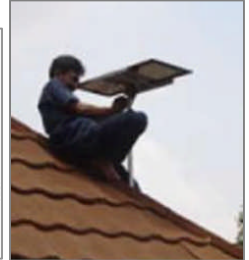
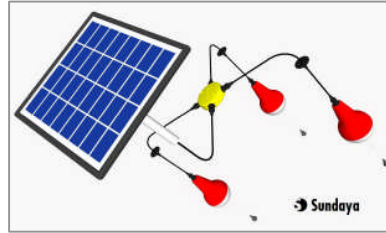


For island communities, or other remote communities, the answer to energy, and water, issues may consist of an independent community power station, with a portion of the energy coming from solar/wind power, and the remainder from (bio-) diesel gensets, with the objective of minimizing the use of expensive diesel fuel that may have to be shipped in by boat.

Household Level Solutions

12) Small Solar Home Systems

The work horse of renewable energy solutions for livelihood improvement. Over 100,000 people in Indonesia do not have access to the grid and are now reliant on kerosene lights.



A new generation of Small Solar Home Systems is twice as efficient and costs half the money of the 'conventional' systems based on a 50Wp module and a car battery. Because they have 'proper' integrated batteries and charging intelligence, these systems will also last considerably longer in the field. The system can be expanded and also includes an optional small LED TV



Costs : From US\$99 for a one-light system, to US\$250 for a four-light system
Applications : Community Empowerment
Green Development
Corporate Social Responsibility Projects
Disaster Relief

13) Solar Distillation of Drinking Water

The simple Water Cone makes up to 1,5 liters of clean drinking water from ANY water source, including polluted and salt water, from the sun. It evaporates the source water and collects 100% clean, sterilize, distilled water from the condensation.



Costs : Around US\$99
Applications : Community Empowerment
Green Development
Corporate Social Responsibility Projects
Disaster Relief



14) Solar Sterilization of Drinking Water

The award-winning Solvatten Water Purification system makes 20-30 liters of safe drinking water per day from most fresh water sources. Durable, easy to use and low-cost solution for disaster relief or household use.



It also produces hot water for cooking.

Costs : *Around US\$300*
Applications : *Community Empowerment*
Green Development
Corporate Social Responsibility Projects
Disaster Relief

15) Energy Efficient Cooking Stoves

Energy efficient stoves fueled by pellets, originally developed in India and introduced in Indonesia by Mercy Corps Indonesia, these stoves save money and carbon emissions. They are suitable for a sustainable business model whereby the pellets are distributed by cooperatives or small businesses.



Costs : *T.b.a.*
Applications : *Community Empowerment*
Green Development
Corporate Social Responsibility Projects
Disaster Relief



16) Solar Dryers for Fish or Produce

These simple, cheap and basic solar dryers improve production capacity and hygiene and produce quality, compared to traditional drying on tarpaulins. Various sizes can be made and villages or communities can be trained to make their own units.



Costs : *From US\$250*
Applications : *Community Empowerment*
Corporate Social Responsibility Projects
Livelihood Improvement
Fair Trade Programs

17) Biogas Digester for Cooking and Light

Low-tech, low-cost biogas digesters for individual households, clusters or small villages can provide clean gas for cooking and lighting. Communities can be trained to construct their own units.



Costs : *From US\$500*
Applications : *Community Empowerment*
Green Development
Corporate Social Responsibility Projects
Livelihood Improvement