THE 2014 HIGH LEVEL CARIBBEAN FORUM
Unlocking Economic Growth

Paper Presented at forum on "Renewable Energy In The Caribbean: Opportunities And Challenges"-Jamaica

by

Karl Nassief

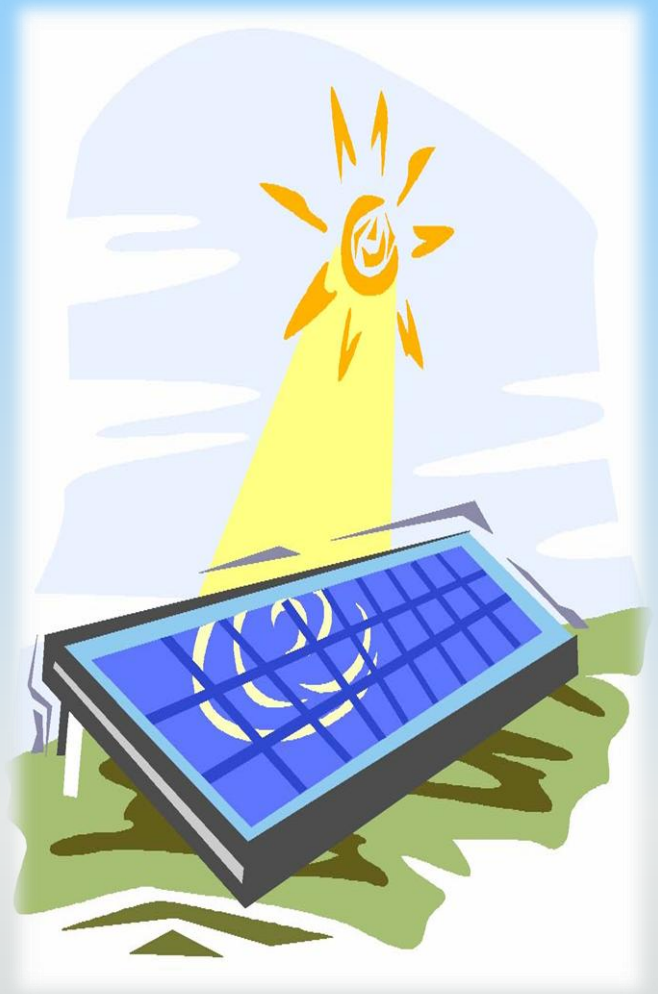
“Renewable Energy In The Caribbean: Opportunities And Challenges”

If there was 1 MWh of electricity produced for every meeting held or 100+ page documents produced on energy, the Caribbean would be energy independent by now.

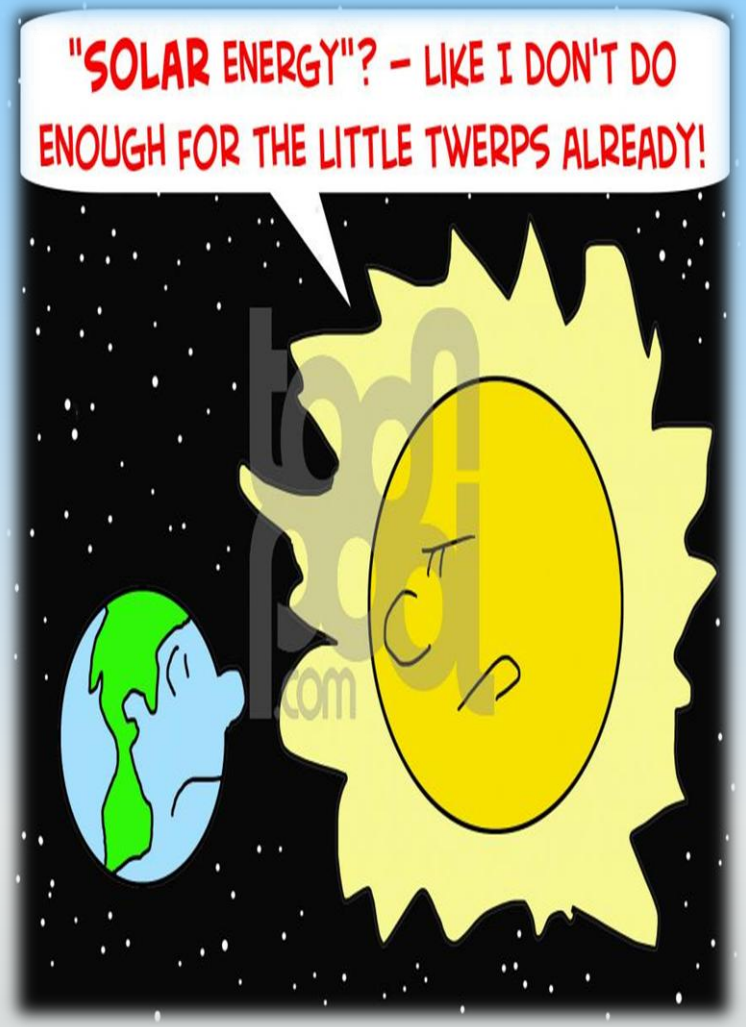
“Renewable Energy In The Caribbean: Opportunities And Challenges”

Introduction

From an energy security standpoint, a more diverse energy supply utilizing indigenous resources as far as possible will reduce the overall vulnerability of the sector.



“Renewable Energy In The Caribbean: Opportunities And Challenges”



Introduction

What is lacking is an investment climate which recognizes these realities and promotes private sector “risk taking” and innovation.

“Renewable Energy In The Caribbean: Potential And Barriers”

Private sector investment into RE projects is hampered by economic, technical, land use, social and environmental barriers.

Indicated by the continued domination of fossil energy sources.

“Renewable Energy In The Caribbean: Potential And Barriers”

Numerous studies carried out shows renewable energy can be a competitive energy alternative, but the Caribbean market is hampered by:

- The lack of firm enabling policies
- Access to relevant data and awareness on the part of investors/technology adopters to identify and implement viable RE solutions

RENEWABLE ENERGY CHALLENGES

Lack of firm enabling policies

Countries	Grid-Tie System Allowed	Net Metering/Billing Allowed	Rates of Energy Sales to Utility	Allowable max capacity of RE into grid
Antigua and Barbuda	Yes –up to 50kW	Yes-Net metering	Same as purchase prices	No one Knows
Dominica	Yes- up to 5% of peak demand	Net Billing	Avoided cost of fuel	Maybe 5%
Guyana	No	No	No	No
Barbados	Yes-up to 7% of demand	Yes	1.68 x avoided fuel cost	FTC 7% but political indicates 29%
St Lucia	Yes-up to 25 kW	Yes-net metering	Same as purchase prices	?

Unlocking Renewable Energy Potential In The Caribbean

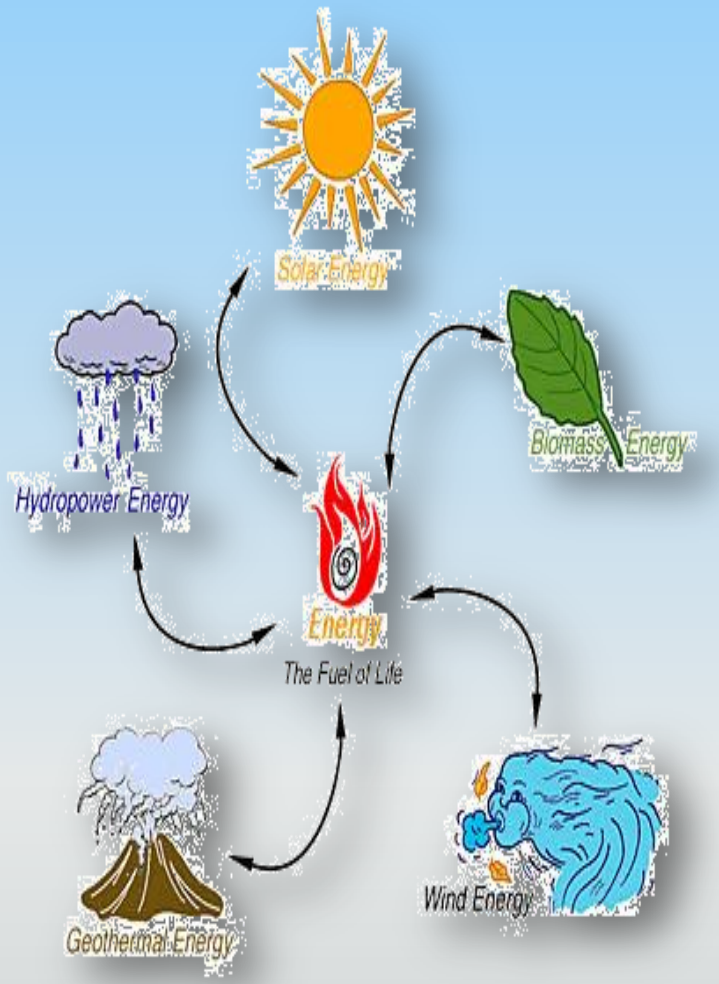
- The lack of diversified power generation leaves Caribbean islands vulnerable to commodity market volatility.
- The lack of new developments in the energy sector leaves islands reliant on outdated, sometimes unreliable power plants/grids.

Unlocking Renewable Energy Potential In The Caribbean

- The key to reducing and stabilizing electricity prices on Caribbean islands is therefore to develop and install a diversified and modern electrical generation portfolio.
- Such a portfolio is similar to a stock portfolio and must be balanced to perform efficiently and without excessive volatility.

Unlocking Renewable Energy Potential In The Caribbean

A balanced energy portfolio can be achieved by carefully choosing both traditional and renewable generation to supply each island's unique generation profile.



Unlocking Renewable Energy Potential In The Caribbean

- RE can help to diversify electrical generation while stabilizing electrical prices and supply for islands.
- Challenges to be addressed and overcome include scale, grid stability, and access to capital.

The Necessary Input Of The Private Sector

- Balance between the public infrastructure expenditures, and private sector financial discipline.
- Private commercial initiatives to create increased momentum in the RE Sector
- Strong technical expertise by the industry players

Necessary Input From The Public Sector
Legal and Regulatory Framework In Place

RE development is fostered through a balanced economic and regulatory framework by the public sector:

1. Independent Power Producer Status (IPP)

2. Technical feasibility of RE into the grid (grid vs stand-alone)

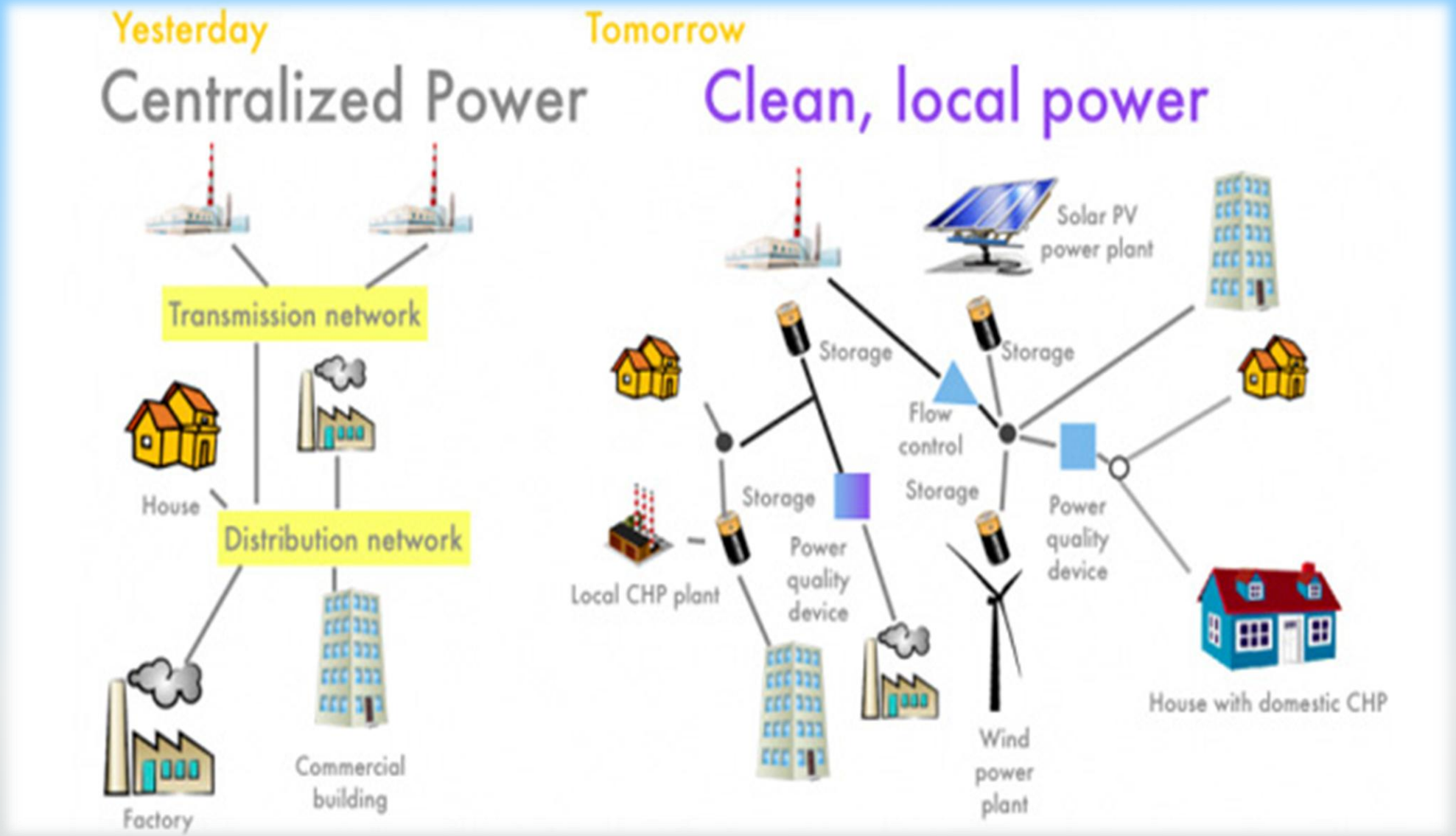
3. Creation of off grid system where it saves the cost of the utilities to others.

4. Meaningful feed in tariffs, tax credit and subsidy policies to be established

5. Financing capacity enhanced through subsided finance.

The Benefits of Distributed Generation

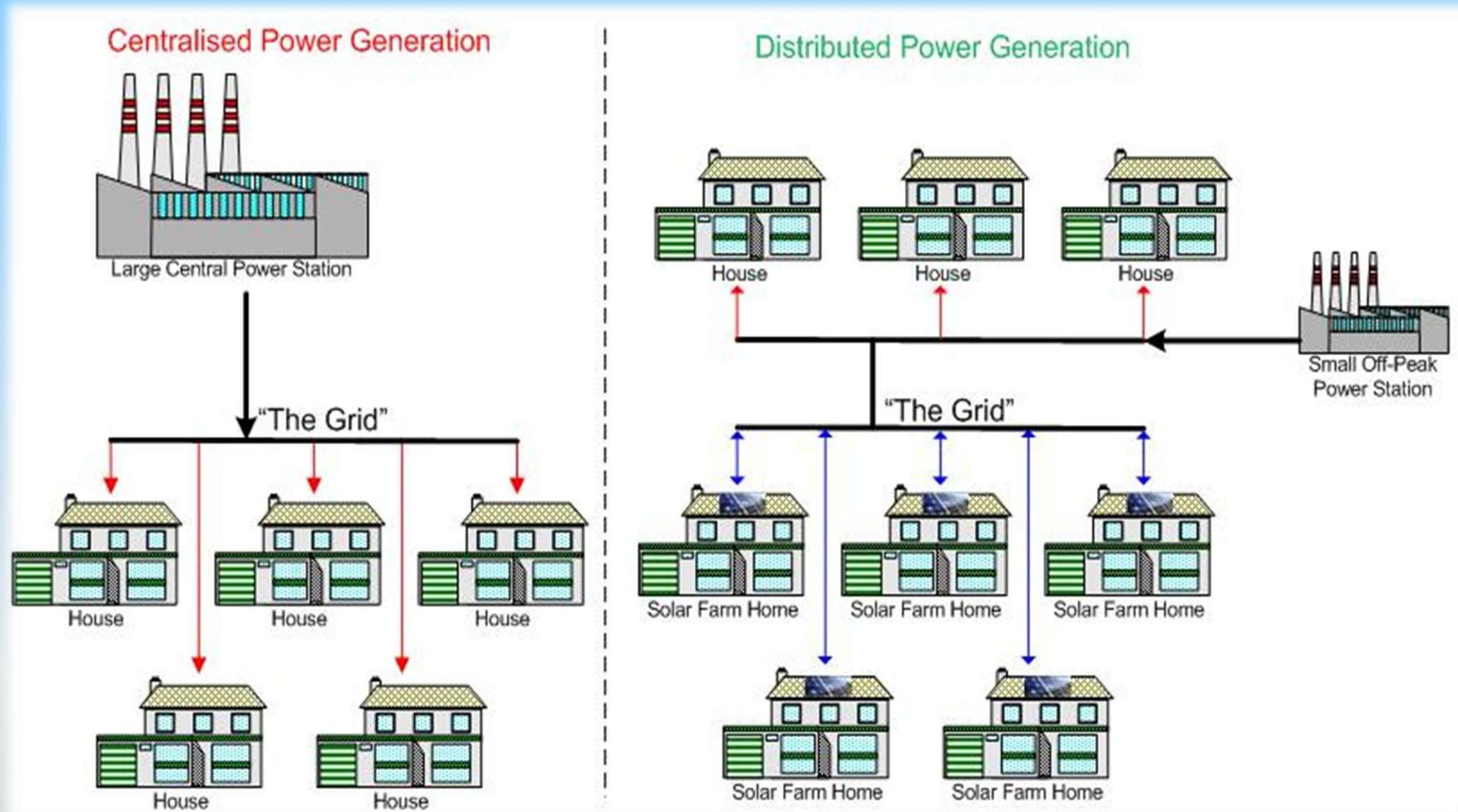
- Distributed Generation refer to the energy generated by consumers themselves, typically on-site, and tied to the distribution system.
- The chief benefit of distributed generation is, of course, harnessing the clean, renewable energy of the sun to supply the regions ever growing need for electricity at a local level.
- In addition to being good for the environment, there are other benefits for communities

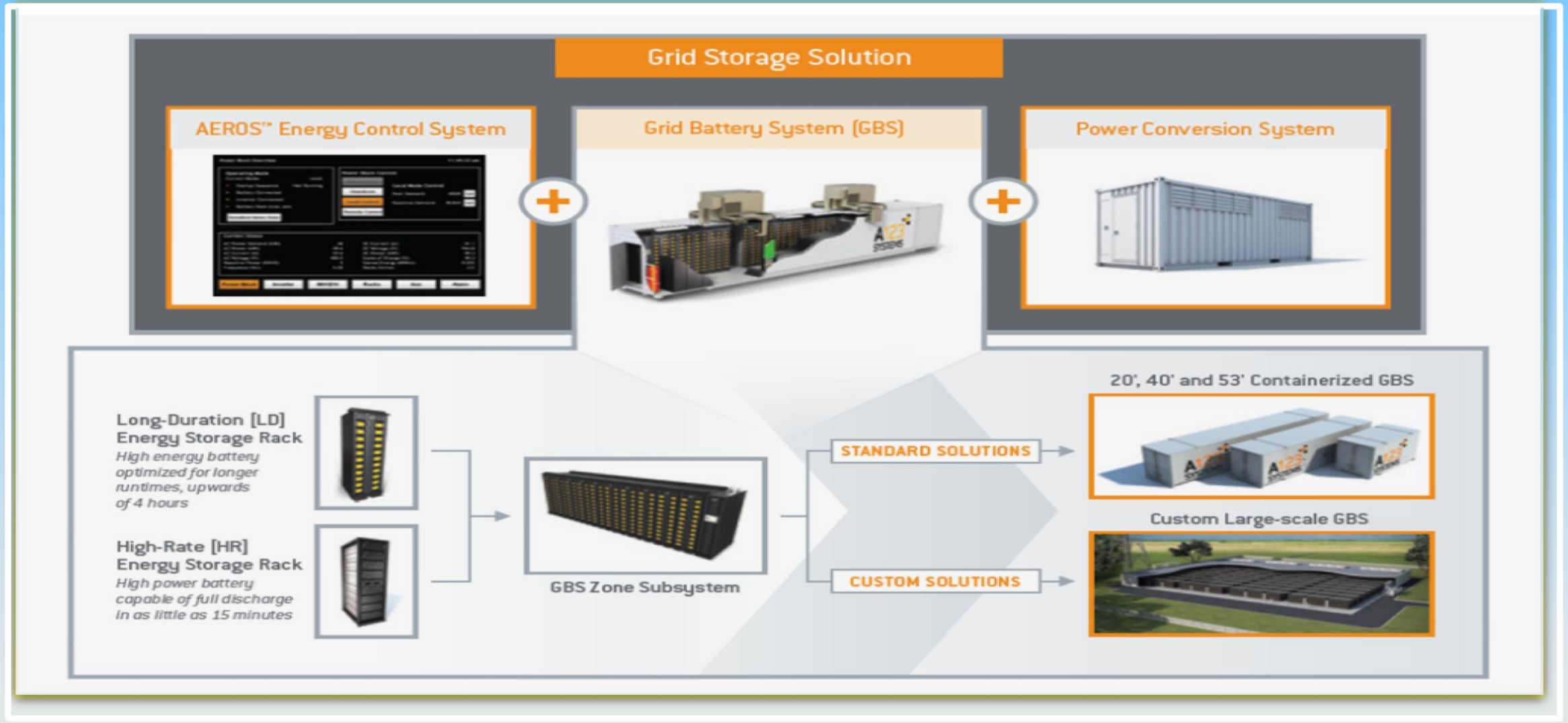

Yesterday
Centralized Power
Transmission network
House
Distribution network
Factory
Commercial building
Tomorrow
Clean, local power
Solar PV power plant
Storage
Storage
Flow control
Storage
Storage
Power quality device
Power quality device
Local CHP plant
Wind power plant
House with domestic CHP

The Benefits of Distributed Generation

Why Locally Produced Solar Is Good For Communities in the Region

1. Employs local tradespeople
2. Creates small businesses
3. Supports local financial markets
4. Reduces energy transmission over long distances
5. Increases tax revenues

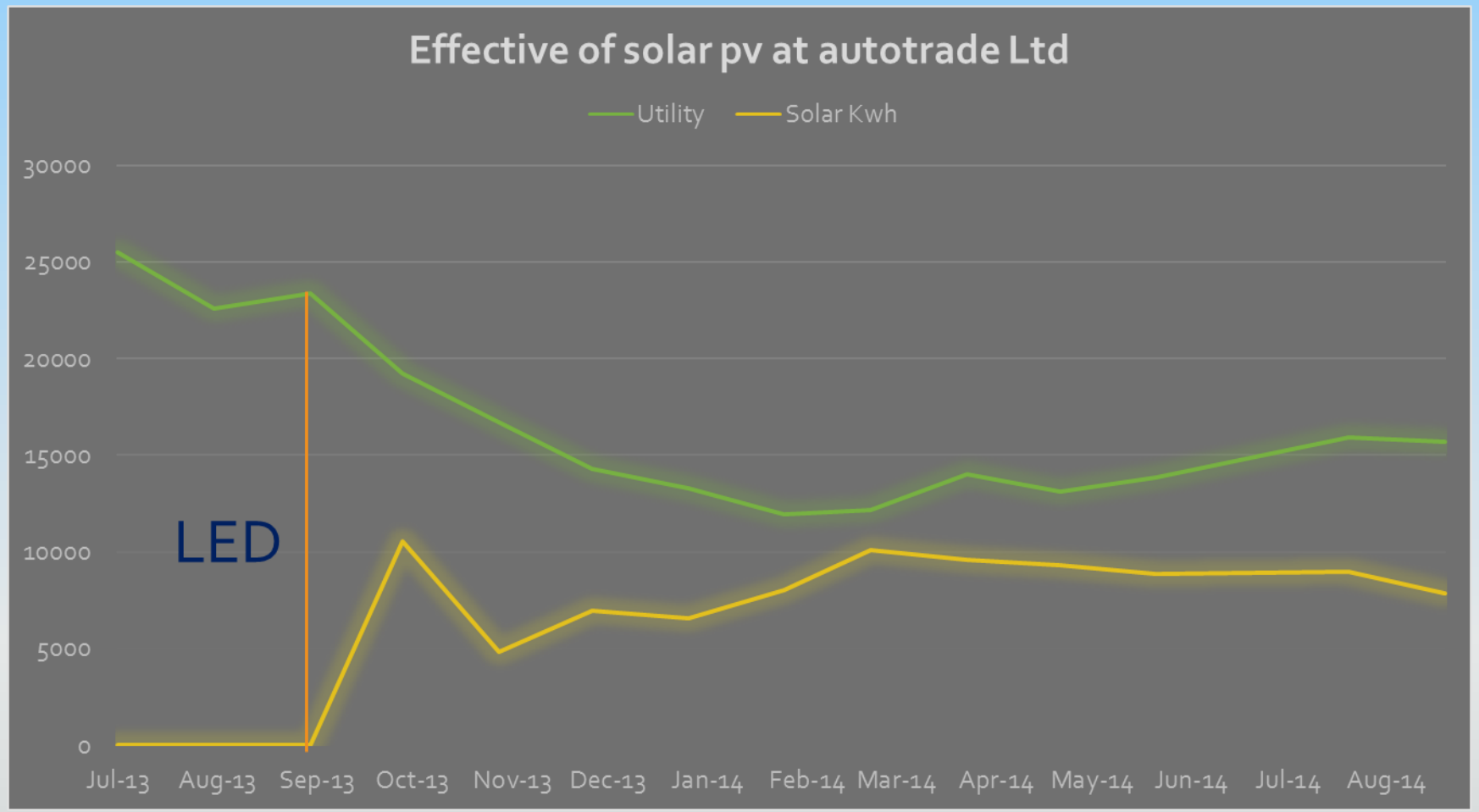

Centralised Power Generation
Large Central Power Station
"The Grid"
House
House
House
House
House
Distributed Power Generation
House
House
House
Small Off-Peak
Power Station
"The Grid"
Solar Farm Home
Solar Farm Home
Solar Farm Home
Solar Farm Home
Solar Farm Home



One concern expressed by utility companies and policy makers is the intermittent nature of renewable energy especially solar energy during cloudy or rainy days.

There are already solutions coming out in the market dealing with energy storage and increased energy efficiency to address this issue.

Effects of Energy Optimization Initiative



Average monthly consumption before Solar PV from utility 26,000 kWh
Average monthly consumption after Solar PV from utility 13,000 kWh

Grid Tie System Challenges

1. Application for Grid Connection Delayed due to unavailability of establish procedure for handling these initiatives.
2. Lack of adequate technical competence for testing Grid-Tie System resulting in delays in processing.
3. Reluctance of electric utility to entertain Grid-Tie Systems initially as well as to increase capacity of renewables on the Grid.
4. Lack of enthusiasm from the Regulatory Body to support the integration of adequate levels of intermittent RE into the National Grid.
5. Reluctance on behalf of all parties (Government, Regulator, Utility) to upgrade to accept higher RE capacity.

Thank You