



Paul Savage, CEO

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The Evolution of Distributed Electrical Power

Centralized Generation (Power Plants)



Long Distance Transmission



Site Based Renewable Energy – Distributed Generation



Zero Energy Buildings



Electric Vehicles (Bi-Directional)



1860s

All Inductive & Resistive Loads

1970s

DC Semiconductors ⇔ Power Electronics

1980s

1990s

2000s

80% of all AC electricity is used by DC based power electronics

Today

Direct Coupling® /DC Microgrid

SIMPLE EFFICIENT DIRECT

DC / Semiconductor Based Loads



DC



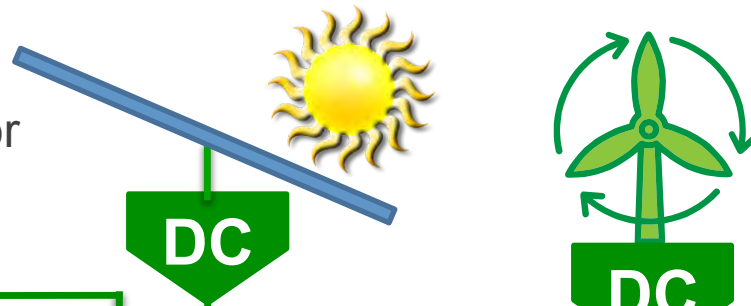
DC



DC



DC



DC sources

DC storage



DC



AC Grid

- Lower Operating Expense
- Safer
- Higher Efficiency
- Fewer Components
- More Reliable
- Less Real Estate
- Reduced Carbon Footprint

Rapidly Expanding DC Domain Segments





PARADIGM
SHIFT AHEAD

A Gigantic Opportunity Emerges: Wholesale Transformations in



Buildings
Controls – Displays
Lighting



Vehicles
Drivetrain –
Charging Infrastructure



Computing
Bigger Cloud - more
Thin Clients - IoT



Developing World
DC microgrids for energy access

Solid, Understandable ROI Foundation

- **Power Use Efficiency 10% to 40%**
- **Power Storage 15% to 35%**
- **Save Time, Increase Safety, Reliability**
- **Increase warranty to 10 years**

- **Lower change-over cost to almost 0**
- **Lower wireless control cost 90% psf**
- **Lower the installed cost of lighting by 30% with solar PV**



FROM ONE PLATFORM, MANY PRODUCTS

(experienced AC to DC product translation services for customers like)



**TOP 5
GLOBAL
AUTO**

**TOP 5
NATIONAL
RETAILER**



Governing Members



FOCAL POINT



The IEEE Pilot in Haiti



\$0.01/per person/per day



Electrically Less Dense; Essentially the Same

