

Achieving Premier Performance



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*Renewable Energy &
Power Solutions*



American Association of Community Colleges

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Power Solutions



Customer rationale



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Adjacent Physical Offering: One Step Closer to the Vision

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On-Site Generation

Focus: Client's Physical Power Risk

Rationale:

- Maintain Essential Systems- Limit Utility Exposure
- Long-term Fuel Hedge- Solar only
- Regulation readiness- Manage GHG footprint



PACT

Focus: Customer Building Envelope

Rationale: Reduce Expense through reduced Consumption

Comprehensive Solutions

Energy Consultancy

Future State

Focus: Energy Risk Management

Rationale:

- Comprehensive Energy Optimization
 - Integrate:
 - Physical Solutions
 - Commodity Volatility
 - Financial Risk

HVAC Sales and Service

Focus: Equipment

Rationale: Equipment Reliability and Maintenance Expense

Core Service & Sales

Manage Operational Costs

- Electricity
- Natural Gas

Maintain Infrastructure

- Power Quality
- Emergency Capacity

Maximize Efficiency

- Reduce Consumption
- Pollution Compliance

Enhance Organization Value

- Create New Revenues
- Reduce Investment Capital

+ *TEP: Direct Project Investment*

Platform to Partner w/ Customer

Creating New Ways to Participate Within Our Clients Portfolios

Quick Market Facts



Powering 30,000 Homes
Suffolk County, UK
Sita UK Waste-to-Power Plant



92 MW
Newberg, Oregon
SP Newsprint Gas Turbine CHP Plant

The Renewable & Distributed Energy Market is Very Large & Growing

Solar Power

- 67 percent US growth in 2010 equaling ~ \$6.0B of total annual investment.
- 2010 distributed solar: 636MW worth ~ \$4.0B of annual investment....peak powering more than 500,000 homes.

Information from SEIA

Cogeneration (CHP)

- Total market estimated to range between \$100 billion and @200 billion.
- 5,000MW installed, power 3.5 million homes across the USA since 2000.
- 35 - 77,000 MW's potential market, can power 25+ million homes.

Information from Cogeneration & On-site Power Production Magazine

Waste-to-Power

Waste-water / Landfill Gas

- Waste-water : \$1-1.5B (340 MW) market potential; can power 250,000+ homes in small and medium cities across the USA.
- Landfill: estimated \$2.5-3.0B market; EPA identified 500 sites across the USA can power more than 500,000 homes.

2007 EPA CHP Study for WWTF

What TREPS Offers



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Renewable & Distributed Energy Complexities



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*Success requires experienced leaders working as a team leveraging complimentary and **overlapping** skills sets at a **higher level** in critical areas.*

Power and Commercial Customer Sales

- Extensive customer, project and market qualifying capabilities.
- A C-Suite sale that has to intimately integrate with customer's overall energy strategy and contracts
- Position investment return drivers and integration of capitalization structures.
- Must position against power alternatives, energy pricing, operational risks and utility infrastructure.

Power Generation Development

- Skills to design, engineer, procure and construct generating facilities.
- Ability to properly qualify subcontractors, experts and counsel.
- Need to self- integrate for solar projects (D-EPC)
- Ability to negotiate D-EPC, PPA, contracts.
- Ensure back-to-back/flow through/arbitrage terms, LDs, etc.

Financial Acumen

- Monetize federal and state benefits: 20-70% of capital cost.
- Negotiate PPA's, financing documents and capital facilities.
- Analyze all risks, project economics, business economics and funding alternatives.
- Source and facilitate debt and equity investments from qualified investors.

Financial / Technical / Consulting Expertise Beyond Traditional Business

What Does the Industry Need?



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Challenges and needs for Distributed Gen to be successful

- Better understanding of T&D system/integration with DG
- Sophisticated remote monitoring and operation of assets
- Better understanding of securing stable fuel supplies
- Commercialization of energy storage technologies

“Course Grabbers” – Initial courses for building an Energy Curriculum

- History and future of America’s Utility Grid system
- Emerging technologies – application & commercialization
- Financial & technical modeling – understanding all the costs & operating risks
- Understanding the fuel markets – risks and opportunities

Project Transaction Structure

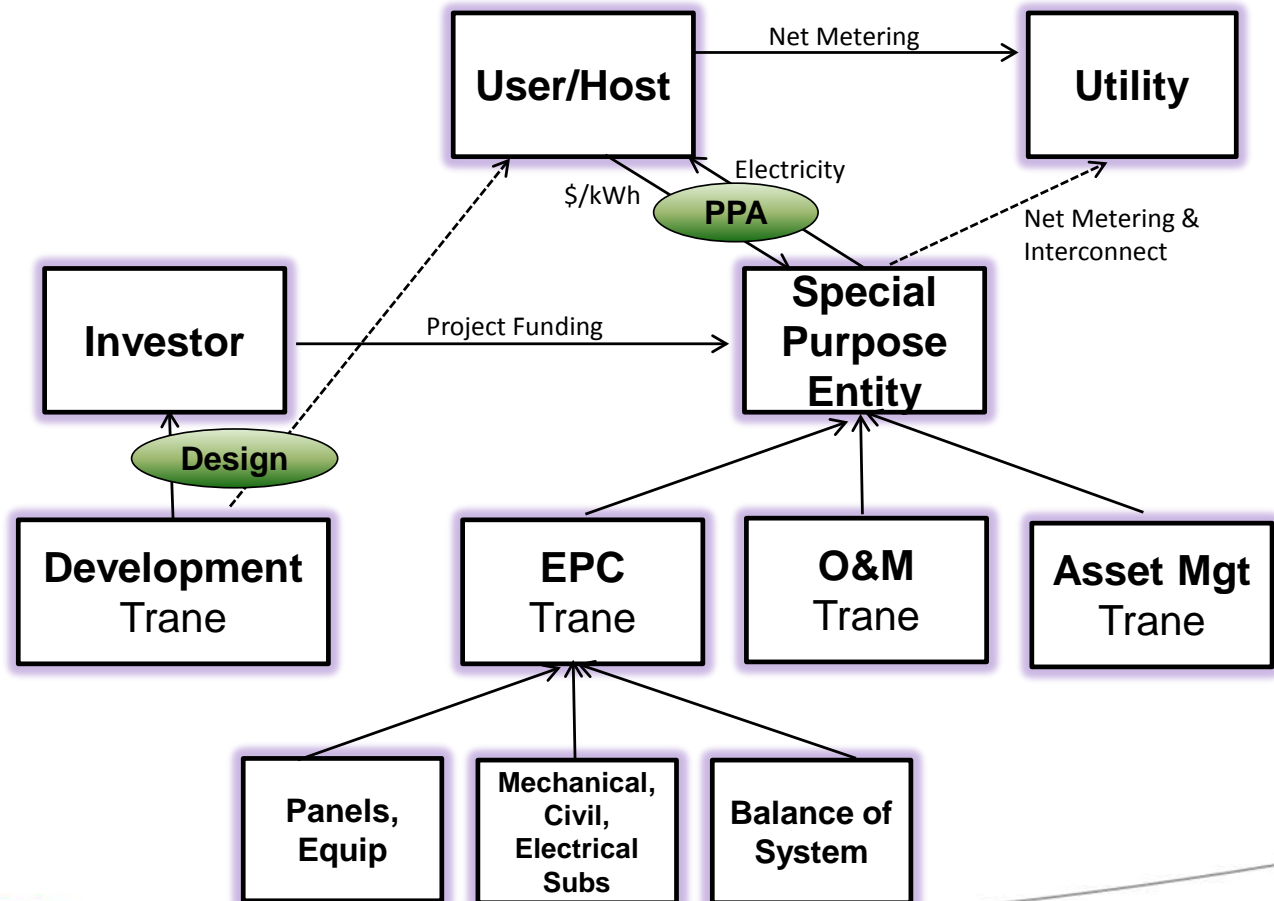


Comprehensive Development

Involves engagement in *every* aspect of the project as illustrated.



Includes feasibility and design-stage participation.



Types of Disciplines are needed for Energy



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Engineering

- **Project Development – mechanical, electrical, civil**
- **Project Management – construction, industrial**
- **Design Engineering – mechanical, electrical, process, civil**
- **Startup & Operations – field engineering, technicians, operators, maintenance**

Business

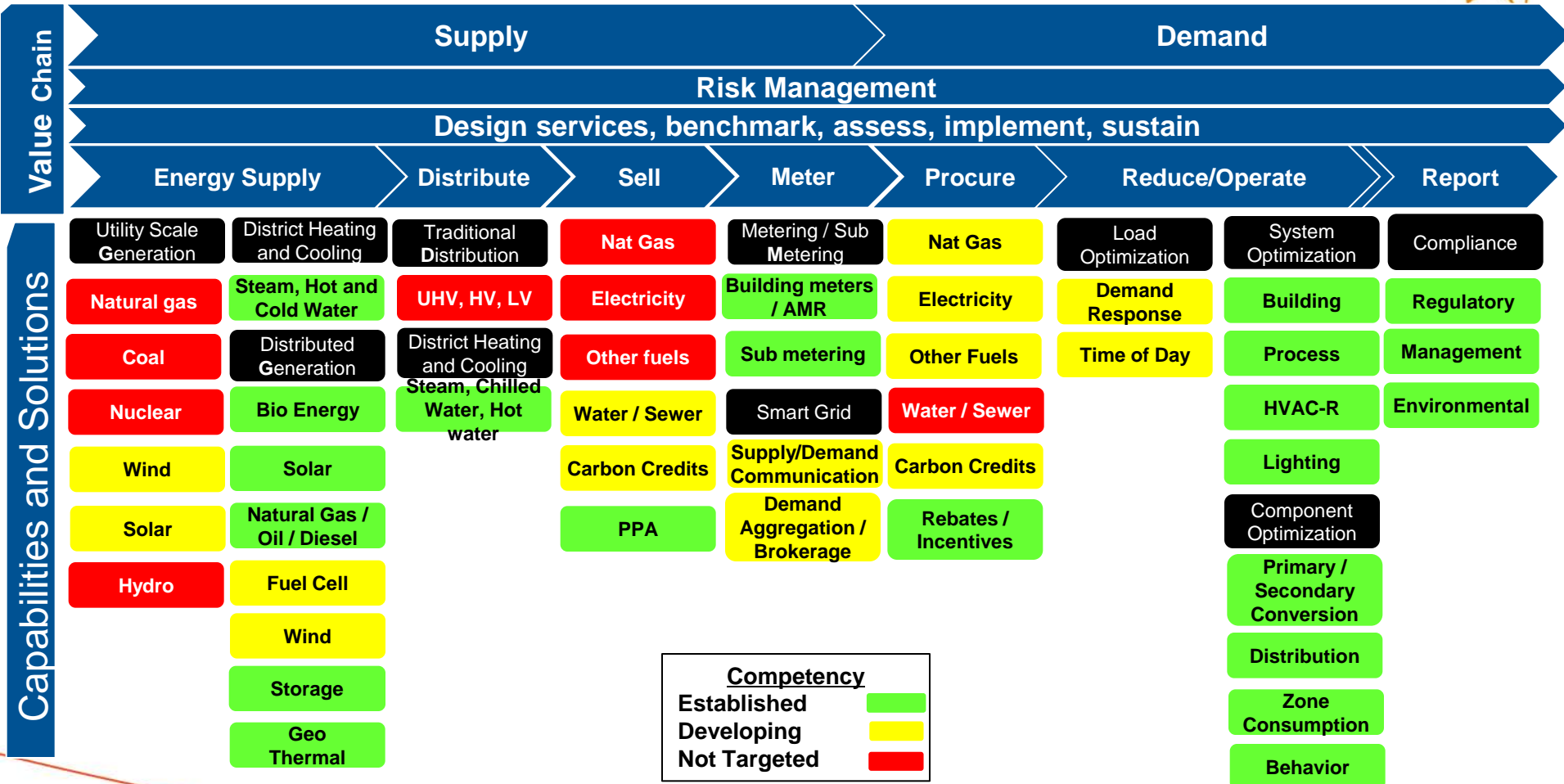
- **Commercial – sales, business development, asset management**
- **Finance – accounting, capital sourcing, investment banking**
- **Legal – contracts, regulatory, litigation**
- **Admin and IT – documentation, remote monitoring, reporting, diagnostics**

Commercial Energy Chain



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Ingersoll Rand / Trane Expanding Comprehensive Energy Risk Management Capabilities

A vision...



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<http://www.youtube.com/watch?v=mQ24JRI6hHE&feature=youtu.be>