Energy Cluster

The following niche market opportunities were identified at the Energy Cluster kick-off session at John A. Logan College on Tuesday, February 10, 2009. As members of the Energy Cluster Team, one of your primary tasks over the next few weeks is to review and prioritize these niche market opportunities prior to the conference call on March 3 so that the research team has clear direction on where to put their research efforts. Please contact Cary Minnis with any comments or additions.

Energy Cluster Niche Market Opportunities and Hypotheses

1. Algae Bio-Fuels
   H1: SI has sufficient assets to support an Algae Bio-Fuel industry
   H2: SI has CO2 resources available for use as a growth enhancer for Algae in a Bio-Fuel production system
   H3: SI has basic and advanced R&D in the use of CO2 in the conversion of Algae into a Bio-Fuel oil.
   H4: SI has the indigenous assets for R&D to support an Algae Bio-Fuel industry.

2. Waste to Energy
   H1: SI has a waste stream of sufficient volume that can be diverted from traditional landfill disposal into energy production.
   H2: SI has landfill gas (methane) resources of sufficient quantity and quality for distributed energy generation.

3. Co-Generation opportunities
   H1: SI has sufficient coal bed methane available for energy generation
   Q1: What resources in SI might be available but unutilized which might support co-generation opportunities?

4. Smart Grid
   H1: Electric Utilities serving the SI market area are committed and capable of implementing Smart Grid strategies across their service areas.
   H2: There are undeveloped opportunities to develop applications, services and technology for implementation of Smart Grid electric distribution systems under Net Metering and Real Time Pricing (RTP) strategies.
   H3: SI has indigenous resources for R&D, product, application and service creation and delivery to support Smart Grid strategies.
   Q1: Who needs to be at the Table in SI to discuss and implement a strategy for Smart Grid applications and services? Innovators, R&D, Manufactures, etc.
5. Electric Vehicle Market
   H1: There are undeveloped technology and market opportunities to enable efficient market coordination and utilization of emerging EV technology. (How can the EV “talk” to the electric grid for efficiency, pricing, and billing?)
   H2: SI has indigenous R&D assets to develop applications, services and technology for the emerging EV market.

   The following market opportunities were contributed via email following the kick-off session.

6. Demand Side Markets Opportunities
   H1: There are conservation opportunities on the “customer side” of the electric meter.
   H2: Significant energy savings are possible through improved building envelope and systems design.

7. Photovoltaic (PV) Installations
   H1: PV panels can be added to new or retrofitted building at a reasonable ROI.
   H2: New Net-Metering opportunities reduce the length of time needed to recapture investment in PV.
   H3: SI has sufficient solar energy days throughout the year to justify PV investments.
   H4: SI has workforce training opportunities to prepare a workforce skilled in PV installations.

8. Wind Energy Component Manufacturing
   H1: SI has excess manufacturing facility capacity that could be converted to manufacture of windmill components (fiberglass blades, etc)
   H2: SI has available skilled workforce.
   H3: SI has indigenous R&D in advance composite materials.