



St. Lawrence College



ST. LAWRENCE COLLEGE
SUSTAINABLE ENERGY
APPLIED RESEARCH CENTRE

Education and Training for the New Green Energy Economy

“Joint SEI/OSEA Community Power Conference session”

Nov.15, 2011

Adegboyega (Babs) Babasola

Lead Researcher, SEARC

ST. LAWRENCE COLLEGE

- Three Campuses in Brockville, Cornwall and Kingston



ST. LAWRENCE COLLEGE

- #1 in the province for grad employment and employer satisfaction.
- 89.3% of our graduates found employment within six months of graduation.
- 94.9% of employers were satisfied with the quality of the educational preparation of SLC graduates.
- 83.5% of our graduates were satisfied with the usefulness of their SLC education in achieving their goals after graduation.

Key Performance Indicators, April 2010.

- St. Lawrence College Goes “Green”
 - Kingston Campus, over 1200 solar modules are being installed on three separate rooftops(250kW)
 - Brockville campus, approximately 442 solar modules will be installed on the rooftop (100kW)

- St. Lawrence College Goes “Green”
 - recent upgrades to our campus facilities results in \$585,000 in energy savings annually,
 - reducing our utility consumption and GHG emissions by 1,400 tonnes per year.

PROGRAMS AT SLC

- Energy Systems Engineering
Technology/ Technician Program
 - Focus on energy efficiency and
sustainable energy technologies
 - Energy House, RELab



PROGRAMS AT SLC

- Wind Turbine Technician
 - Knowledge and experience with electrical and mechanical components



- **Geothermal Technician**
 - coming September 2012
 - trained to work in the geoechange field as systems installers and designers.
 - designed in cooperation with the Canadian GeoExchange Coalition

APPLIED RESEARCH AT SLC – FUNDING

- **CONII: on-going**
 - \$90k/year for 12 projects
- **FedDev: expires 31-Mar-12**
 - \$155k for 3 - 5 projects
- **NSERC: expires 2015**
 - \$2.3 million for on-going research
 - renewable energy focus

APPLIED RESEARCH AT SLC - SEARC

SEARC (Sustainable Energy Applied Research Centre)

- \$2.3 million grant through NSERC-CCI (College and Community Innovation Program)
- Collaborate with industry in areas of: Wind, Solar, Geothermal, Bio-energy, Conservation, efficiency improvement.
- Activities include: Engineering Design, New Technology Development, Product Testing, Proof of Concept, System Optimization, Problem solving.
- Leveraging SLC resources: Researchers, Faculty, Students and Equipment .



Solar Projects:

- Queen's- St. Lawrence College outdoor PV study: Investigate practical performance of commercial PV panels in local Ontario climate: collaboration with 16 companies.



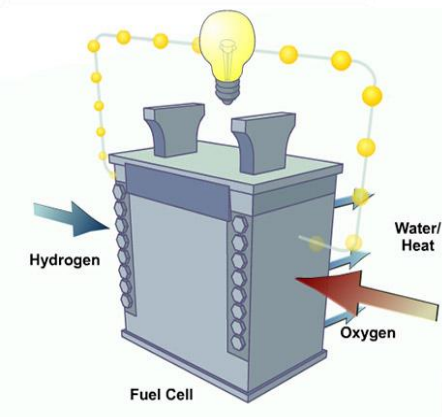
APPLIED RESEARCH AT SLC – OTHER PROJECTS

❖ Energy Optimization:

- Trenton Cold Storage: Optimization of electricity consumption for cost savings and conservation.

❖ Hydrogen Delivery System:

- Kingston Process Metallurgy: Development of a hydrogen delivery system for fuel cell applications.



KINGSTON SMART GRID RESEARCH CONSORTIUM

- A focus group of industry representatives, local utilities, and academic personnel developing RD&D projects and exploring public policy concerning grid modernization, connection and integration.
- St. Lawrence College – SEARC
- Queen’s University
- RMC
- Kingston Utilities
- Several private companies

SMART GRID AREAS OF INTEREST

- EV charging station demo
- Utility Scale Storage Technology
- Large Scale Integration of Renewable Energy Systems
- Demand Response Management
- Communications and Information Systems
- Policies



SEARC Industry Partners:



HELIENE



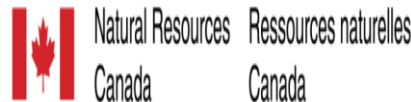
**NSERC
CRSNG**



NANOFILM



SCHÜCO



UC Solar

Thank You for your time!

Questions please...