

SUDBURY ECO-INDUSTRIAL NETWORKING STRATEGY

EIN OPPORTUNITY ASSESSMENT
& ECO-INDUSTRIAL PLANNING

CITY OF GREATER SUDBURY, ONTARIO, CANADA

Project Goal

The City of Greater Sudbury, one of Canada's largest mining centres, is developing an Eco-Industrial Networking Strategy, reflecting principles of reduction and recycling of wastes, local self-sufficiency and ecological sustainability. The Strategy will encompass EIN opportunities within a 100 km radius in the region. Examples of potential opportunities may include by-product and waste heat synergies; co-ordinated logistics; and collaborative renewable energy installations. The project also includes the development of an innovative new GIS-based tool to help businesses identify and evaluate opportunities.



Photo Courtesy of INCO Ltd.

Work Completed To Date

Our approach begins with a **resource assessment** of the region's ecological, community, and industrial resource base materials, energy, human and land resources, as well as the environmental, political and economic frameworks in place. Our team has completed the first progress report. Data collection has been initiated and **partnerships** have been established with different stakeholders.

We have also begun compiling detailed business lists, and are preparing a survey that will be circulated to 200 selected businesses. The results of the resource assessments and surveys will then be used to **identify EIN opportunities**, such as the diversion of waste from some businesses to serve as feed materials for other facilities, and options for renewable distributed energy systems.

The project will include the creation of a public **online GIS-supported tool** that will allow interactive querying for potential synergies between businesses. We have begun building the electronic structure for this system.

SNAPSHOT



PROJECT SCALE

- Municipal & Regional
- Initial Focus: < 100 km

CLIENT

The City of Greater Sudbury, pop. 155,000, was created in 2001 from the amalgamation of 7 towns and cities and 9 unincorporated townships. Historically a mining town, the City now represents a major service hub for northeastern Ontario.

PARTNERS

- City of Greater Sudbury
- Greater Sudbury Development Corporation
- FedNor
- FCM Green Municipal Funds
- Geospatial Consulting
- CIAL Group
- Sage Collaboration

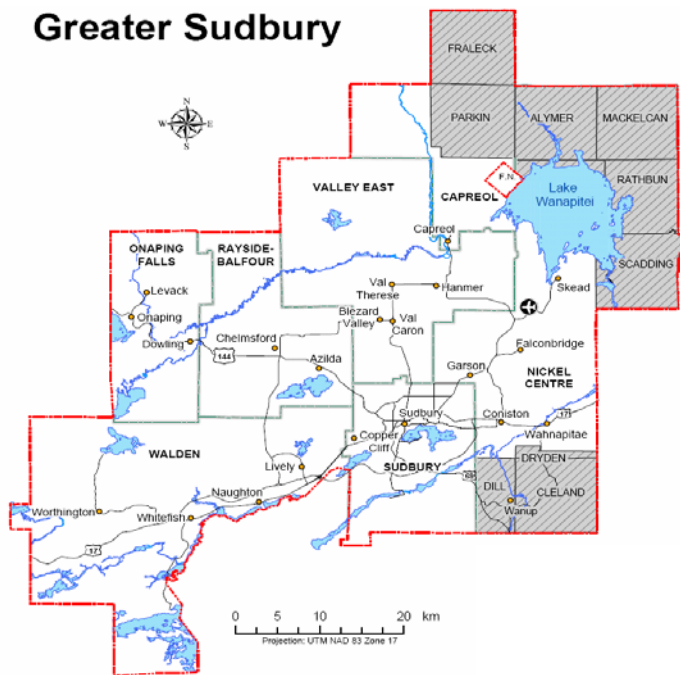
TECHNIQUE / TECHNOLOGY

- Multi-stakeholder process
- Material & Energy Flow Analysis
- Renewable Energy
- EIN and Demand Side Management opportunity assessment

Achievements

- ❖ The largest eco-industrial networking undertaking in Canada, covering a 100 km radius around Greater Sudbury (encompassing 31,400 km²!)
- ❖ EIN supported by an award winning Local Action Plan
- ❖ EIN supported by a comprehensive Economic Development Strategy
- ❖ Project will result in the creation of the first GIS-based eco-industrial networking tool in Canada
- ❖ Strategy will be “by-product synergy PLUS”, with objectives to identify a variety of EIN opportunities, such as:
 - ❖ Renewable energy
 - ❖ Collaborative energy and water efficiency efforts
 - ❖ Wastewater re-use and cascading
 - ❖ District energy for industrial areas
 - ❖ Better land use planning to maximize value & options, protect ecological features, and ensure efficient movement of goods and people

Greater Sudbury



WHAT IS ECO-INDUSTRIAL NETWORKING (EIN)?

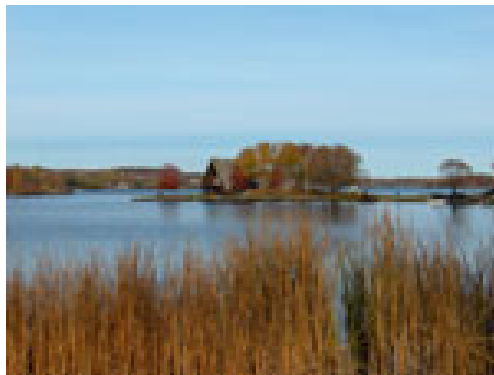
EIN embraces a systems approach and lessons from nature. In practice, EIN creates collaborative relationships (networks) between businesses, governments, and communities to more efficiently and effectively use resources, such as materials and energy, but also including land, infrastructure, and people.

In practice, this results in:

- “Waste = food” synergies
- Multi-objective infrastructure systems (utilities / services)
- Sustainable economic development;
- More efficient land use planning
- Green buildings, technologies & practices
- Greater returns for capital investment
- Leveraged partnerships between public and private organizations; and
- Integral consideration of ecological, social, and economic impacts



World's Largest Nickel (Source: City of Greater Sudbury)



Ramsey Lake, Sudbury (Source: Pure Life Pictures)



Community Trails (Source: City of Greater Sudbury)

Next Steps

The EIN Strategy, including GIS-based tool, will be completed early Fall 2006. Implementation of EIN opportunities, especially lower-cost ‘spontaneous’ ones, will begin Summer 2006.

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