

## **Funding Support for Commercialization of New Technology**

The potential for new jobs, through proven new technology is not being achieved in Canada as gaps continue to exist to fund important final stages of commercialization development. There is some government funding available for pure research and applied research. This funding can be applied for bench and pilot scale facilities/testing.

Often provincial programs like the Ontario Innovation Demonstration fund (which covers 50 percent of eligible expenses to a max of \$4 million) provide good funding support for a pilot (small scale) plant. However, they often do not provide sufficient funding to build a demo plant (next step after pilot). Often the fund's existence is not well known in local communities.

Depending on the technology or process being considered, funding for a demonstration plant may or may not be available. The size and magnitude of a demonstration plant often is a barrier to successful funding. Demonstration level funding could be found for an innovative manufacturing process that was limited to a single machine for a few \$100,000. However, the problem many communities face is trying to replace multi-billion dollar facilities.

A demo plant could cost several \$10s of millions. Something like a new waste gasification to chemicals or new bio based power generation technology or a next generation bio-diesel plant or a next generation chemical pulp mill has a huge chasm to bridge between funding for a bench/pilot scale plant which might be available and funding for a demonstration plant.

All businesses that supply products or services to present day facilities could be affected. If Canada cannot replace present day traditional technology facilities, and replacement new technology facilities are built elsewhere in the world, Canada will lose all of the support businesses as well as lose work for businesses that would be involved in building the facilities - fabrication, construction etc.

This is a broad based sector issue. This issue is not limited to one sector; rather it includes industries having similar characteristics re: complexity, scale up, economic size of facilities. Refining, petrochemical, pulp & paper, mineral processing and their potential replacements, e.g. bio-fuels, chemicals/fuels from waste and innovative power generation technologies that are bio-based, are a few examples.

The first step in moving from a lab/pilot scale to a demo facility is to perform the detailed engineering to develop a commercially viable plant design and the detailed work required to prepare an accurate estimate of the capital cost of the facility. To do this could cost more than \$1 million. This level of information is required before the proponent can approach any 'commercial' funding bodies (bank, angel investor, larger company, etc).

### **Recommendations**

That the federal government:

1. Work with other levels of government, private sector lenders, innovator companies, trade associations and venture capital firms to develop a strategy/action plan to promote and finance the development of new technologies.
2. Work with provinces and territories to expand the awareness of existing innovation funds.