



Policy Issues: Barriers & Enablers

While the previous section illustrates the potential for new employment in the West Coast region's clean economy sectors, it will be essential that barriers and impediments that frustrate the pace of transition be removed to ensure success. In assembling data pertaining to the factors that respectively hinder or enable the achievement of the clean economy, the overarching focus of attention is building on existing strengths in the region and stimulating local job growth.

With respect to job growth, this encompasses both new jobs and jobs that are redefined with new skill sets and/or the use of new technologies and knowledge. While primary job creation is a paramount consideration, secondary and tertiary jobs arising from new investment, trade expansion, and value-added services are also significant considerations.

BARRIERS

Within any economy, there are impediments that can slow or negate structural changes needed to implement clean economy initiatives and accelerate employment growth. Barriers to the realization of the clean economy come in many forms. Lack of financial resources is always a key factor. The most common money-related impediments are budget constraints (particularly at the municipal level); lack of investment capital – both institutional and venture capital; lack of a financial infrastructure; excessive costs of resources and labor restricting living costs; inconsistent or ineffective government incentive programs; and impacts associated with global economic uncertainties and shocks. And, of course, there are always competing priorities that may have a claim on limited financial resources.

Many impediments are non-financial in nature, stemming more from policy or regulatory constraints that must be removed or reduced. Others are embedded in the marketplace or stem from what economists often refer to as “externalities” (e.g., market-based rigidities or political imperatives that impede progress). Non-financial barriers

stem from such factors as: the lack of an over-riding vision or plan; regulatory impediments; policies and programs that work at cross purposes; labor and/or skill set shortages; lack of general public support or “NIMBYism”; competition from other sectors or other countries; lack of appropriate technologies or means of production; and lack of standards that would enable the deployment of new technologies and distributed energy systems.

ENABLERS

Just as barriers to progress come in many forms, measures that can facilitate the transition to a cleaner economy are equally diverse and plentiful. On the financial side, the more common measures that may be considered are actions that create a positive investment climate for investors (domestic or foreign) and include: offering incentives for value-added local businesses; making access to financing for small- and medium-sized enterprises in the clean technology space easier; leveling the playing field between clean and less-clean energy sources by removing outdated subsidies and instituting a realistic price on carbon; greater use of new municipal financing models (including bonds and public-private partnerships); and using the power of public spending to create viable local enterprises that deploy home-grown technologies and new business methods.

Non-financial enablers could involve: articulating clear, stable, long-term policy frameworks and clean industrial strategies that provide greater levels of predictability to business managers and private investors; building the knowledge economy through investments in innovation, education, skills training, and R&D; enabling demonstration projects that showcase innovative products and services; and collaborating with neighboring jurisdictions on program and policy development to maximize public procurement opportunities.

CLEAN ENERGY SUPPLY

IMPEDIMENTS

- The development of district or community-scale renewable energy projects has been negatively influenced by the availability of relatively low-cost, grid-based electricity, either from large-scale hydroelectric sources or from utility-scale electricity generation from high-carbon fossil fuels. In the case of the latter, the negative externalities of GHG emissions are not reflected into price passed on to consumers. Low-cost, grid-based energy is a desired goal, but it can be a disincentive to the development of cleaner alternatives, such as wind, solar, and geothermal, or the deployment of distributed clean energy systems that foster innovation.
- Inefficiencies in the interconnectivity of major components of the electrical grid and the absence of long-term, supply-demand management arrangements encompassing key markets in the West Coast region create uncertainties that limit investment.

ENABLERS

- Early adopter policies for home-grown technologies and the support of demonstration projects for cleaner energy technologies (making use of public facilities ports, hospitals, universities, schools, and colleges) would harness the spending power of governments to facilitate domestic and international sales and the creation of viable, job-creating enterprises.
- An in-depth examination of the feasibility of power sharing arrangements spanning all West Coast jurisdictions could lead to more stable prices and more efficient energy supply management.
- Public awareness campaigns on the benefits of 21st century infrastructure investments, distributed energy systems, and the deployment of energy from renewable sources would dispel resistance to change and promote further investments by large institutional/industrial players.

REGIONAL SUCCESS STORY: California's Million Solar Roofs Initiative



California's Million Solar Roofs Initiative was launched in January 2007 to help drive clean energy generation and is part of a \$3.3 billion investment by the state. California's solar industry is on the cusp of celebrating a major milestone with the installation of more than 1,000 MWs of rooftop solar photovoltaic capacity, and is on track to meet the 2016 goals of 3,000 MWs.

Since the program began, the total cost of installed residential solar energy systems in California has fallen 25%, and the cost of commercial-scale systems more than 40%. California is now home to about 20% of all solar power companies in the US with more than 3,500 firms employing some 25,000 people, more than double its size it was in 2007.

More Information: <http://www.environmentcalifornia.org/energy/million-solar-roofs>

Source: Environment California Research & Policy Center, 2011

ENERGY EFFICIENCY & GREEN BUILDING

IMPEDIMENTS

- The lack of coherent standards and codes for green buildings and existing building codes that do not favor green building practices are a disincentive to public adoption of new energy efficiency technologies and more durable energy saving building products that enable the lowering of upfront construction costs.
- Incentive programs for energy-saving retrofits of homes and commercial establishments are sporadic and inconsistent, resulting in disincentives to trained professionals involved in the process of recycling and upgrading of existing built environment.
- Current financing mechanisms often render upfront costs for building/housing retrofits prohibitive. This is particularly a challenge for rental properties as rent control laws often limit a building owner's capacity to recoup capital investments.
- Deconstruction initiatives are relatively new in practice and lack harmonized standards and protocols to help drive market demand for the industry.

ENABLERS

- Develop long-term incentive programs and building codes that encourage green building processes and greater use of local new or recycled building products and locally manufactured energy saving fixtures.
- Use public buildings to showcase innovative clean technologies in line with public building performance standards.
- Public education and awareness campaigns about the benefits of green building products and methods as a means to adapt to climate change impacts.
- Develop and implement creative financing methods, such as on-bill utility payment or PACE programs.
- Include energy performance in real estate transactions to increase market value of efficient, green buildings and provide valuations with longer-term horizons.
- Work with industry to develop regional deconstruction standards, incentives, and regulations.

REGIONAL SUCCESS STORY: Oregon's Clean Energy Works



Clean Energy Works Oregon (CEWO) is a nonprofit program established to reduce energy waste by encouraging energy-efficiency investments and retrofits among qualified property owners. The program began in Portland in April 2010 when it was awarded \$20 million from the US DOE and has since expanded to the rest of the state.

With CEWO, homeowners can finance up to \$30,000 in energy-efficient upgrades with no money down. Free home energy assessments (worth \$500) are available

for qualified applicants, eliminating the guesswork from potential energy savings, and loans typically can be repaid directly on heating bills.

To date, the program has resulted in 120 direct construction new hires and 700 workers receiving paychecks. By the end of 2013, the program aims to retrofit 3.5 million square feet of commercial space and 6,000 homes, as well as save more than 300,000 MBTUs of energy and reduce CO₂ emissions by 200,000 metric tons.

More information: <http://www.cleanenergyworksoregon.org>

Source: Clean Edge, 2011

CLEAN TRANSPORTATION

IMPEDIMENTS

- Efficiencies in intra-city transportation networks are often impeded by poor land use planning and physical infrastructure constraints that are disincentives to more efficient transit systems or the use of EVs for personal transportation and urban fleet systems.
- Taxation-based municipal budgets make providing more effective public transit services challenging.
- Inter-city mass transportation systems and long-haul trucking in the region are heavily dependent on high cost but heavily subsidized carbon-intensive fossil fuels. If fuel prices reflected their true costs, the impetus for switching to lower cost, lower-carbon alternatives would increase.
- The lack of infrastructure allowing the roll-out of new, cleaner transportation options such as natural gas and hydrogen fuelling stations, as well as EV charging facilities, is a disincentive to change.

ENABLERS

- Improved performance standards and more collaborative approaches to integrated land use planning for transportation.
- Greater use of creative financing mechanisms for public transit and intra- and inter-city rail infrastructure such as public-private partnerships
- Incentives and higher performance standards (e.g., low carbon fuel standards) for promoting alternative fuels and vehicle technologies for passenger car and light-duty vehicle markets, and alternate fuels for long-haul trucking, coastal ferry, and interconnected high-speed rail systems.
- Building code changes for new construction to enable EV charging infrastructure, as well as energy efficiency smart metering installations at malls and public parking facilities to promote the shift toward smarter transportation systems and vehicle sharing programs that reduce congestion and promote non-vehicle mobility options.

REGIONAL SUCCESS STORY: British Columbia's Canada Line



The CAD \$2.05 billion Canada Line rapid transit system opened in Vancouver during August 2009 as a lead up to the 2010 Winter Olympic and Paralympics Games. The trains are fully separated from traffic between the transportation hub at the Waterfront Centre in Vancouver, the heart of Richmond's civic precinct, and Vancouver International Airport, and have transit capacity equivalent to 10 road lanes.

The public-private partnership (P3) business model for the Canada Line has been very successful, according to Translink and InTransit BC, with 2013 ridership goals of 100,000 riders daily already being surpassed by summer 2010.

The success of Vancouver's Canada Line has set high expectations for the next major public mass transit infrastructure project, the Evergreen Line, for which construction began in January 2012.

Sources: Transport Canada, 2007. <http://www.tc.gc.ca/eng/mediaroom/releases-nat-2007-07-h241e-1405.htm>
Translink, 2011. <http://www.translink.ca/en/About-Us/Media/2011/August/Canada-Line-Service-Increase.aspx>

ENVIRONMENTAL PROTECTION & RESOURCE MANAGEMENT

IMPEDIMENTS

- Market distortions that prevent the true cost of resources and carbon from being reflected in the price of basic public goods and services. The fact that consumers are not paying for their inefficient and wasteful use of increasingly scarce natural resources such as water, arable land, and forest products is a disincentive to change.
- Uncertainties in the national and regional policy landscape with respect to GHG emissions create disincentives for businesses and industry to embrace low carbon practices and technologies.
- Competing industry demands for finite natural resources increases the vulnerability of sensitive ecosystems.
- General reluctance to adopt extended producer responsibility and local content rules in products and packaging stems from the risk of differentiating price structures relative to competitors in nearby jurisdictions.

ENABLERS

- Incentives, programs, and codes to promote greater reuse and recycling of scarce urban clean water supplies through the adoption of grey water systems; promotion of urban agriculture and urban forest areas; ecological restoration programs; more intensive solid waste minimization and recycling systems.
- Clear, long-term policies and programs that encourage GHG reduction commitments by businesses and industry.
- A natural capital index for the West Coast region would provide policy makers with a better understanding of the true value that different land uses can provide.
- A common set of guidelines and regulations throughout the West Coast region will help to ensure a level playing field for adopting extended producer responsibility (EPR) and will increase local processing jobs.

REGIONAL SUCCESS STORY:

Washington's Puget Sound Initiative



In many areas, Puget Sound's seemingly clear, pristine waters actually contain a soup of chemicals from runoff which originates from roads, lawns, roofs, farms, fields, and other developments that ring its 2,500 miles of shoreline, that is also home to 67% of Washington's population.

In December 2005, Governor Gregoire and the Legislature launched the Puget Sound Initiative, a comprehensive effort by local, state, federal, and tribal governments, business, agriculture, and environmental communities;

scientists; and the public to restore, protect, and preserve Puget Sound by 2020. The Washington Department of Ecology is a crucial partner in "Saving Puget Sound" and the \$20 billion of economic activities the Sound generates. The approach being used focuses on improving water quality; reducing toxic threats; keeping the waters flowing; protecting shorelines; and restoring and preserving habitats.

By 2009 the project had been successful in cleaning 732 contaminated sites, and was in the process of cleaning 423 more. The Northwest Straits Foundation has also been able to restore more than 645 acres of marine habitat.

Source: <http://www.psp.wa.gov>

KNOWLEDGE & SUPPORT

IMPEDIMENTS

- There is a widespread lack of knowledge about potential benefits of the clean economy which is limiting the full impact that changed consumer behavior and demand would have in terms of creating new markets for a new generation of skilled workers, managers, and professionals.
- A lag time exists between the supply of education and training programs for clean economy jobs in response to the needs of industry. Curriculum standards also vary by region.
- Innovation support programs are sporadic, generally short term in focus, and imperfect in terms of commercializing the innovative technologies that will drive the machinery of the low carbon economies of tomorrow.
- Lack of sufficient private sector R&D investment in the clean economy.

ENABLERS

- Broad-based public awareness and K-12 education programs that build wider appreciation of the importance of the knowledge and clean economy and better prepare today's youth for tomorrow's jobs. Use schools as demonstration sites for clean technologies and practices such as urban agriculture.
- Support programs that are tied to the commercialization of market-ready technologies and that provide for the sharing of research and commercialization demonstration opportunities with the West Coast region.
- Promoting innovation as the driver to change and investment in the knowledge economy through innovative partnerships and regional collaboration through centers of excellence.

REGIONAL SUCCESS STORY:

University of British Columbia's Sustainability Initiative (USI)



The University of BC's Sustainability Initiative (USI) exemplifies the university's commitment to sustainability. Established in January 2010, this strategic management group promotes and unites UBC's sustainability efforts in teaching and learning, research, and campus operations. While the new Center for Interactive Research on Sustainability (CIRS) is a high-performance building and acts as the foundation for

transforming the campus into a "living laboratory", the initiative goes beyond school boundaries. The second part of the initiative sees the university as an "agent of change", and focuses on UBC's role beyond campus in facilitating dialogue and fostering partnerships among individuals, businesses, and governments close to home and around the globe.

Strategic Alliance Partners are involved in many aspects of CIRS, including testing and demonstrating building technologies and systems, training and certification programs, collaborative research, tenancy, and sponsorships. This has attracted involvement from leading organizations, including Honeywell, BC Hydro, Haworth, and Modern Green (One of China's largest property developers). CIRS has also benefitted from collaboration with the provincial government and various other organizations, including Stantec Consulting, the City of Vancouver, and the David Suzuki Foundation.

Source: <http://sustain.ubc.ca>