

Quality Urban Energy Systems of Tomorrow

Responses

1. Economic Recovery and Growth

Given the current climate of federal and global fiscal restraint, what specific federal measures do you feel are needed for a sustained economic recovery and enhanced economic growth in Canada?

QUEST recommends that the federal government facilitate and contribute to community-scale home energy retrofit pilot programs in coordination with QUEST – Quality Urban Energy Systems of Tomorrow. Energy is a fundamental input to the economy. By implementing energy efficiency measures that reduce long-term energy costs the federal government can help every homeowner and business with their bottom line. Realizing energy efficiency gains will achieve all the economic benefits of a broad-based stimulus program without the need for significant federal spending. Energy efficiency gains and economic growth can be enhanced by developing a community scale home retrofit program that:

- Applies successfully recognized financial tools through pilot initiatives, such as on-bill financing and local improvement charges (LICs) for conservation and energy efficiency; and,
- Moves away from supporting non-replicable pilot projects and towards practical funding models that can be delivered by the private and public sector.

QUEST is a collaborative network of stakeholders who are actively working to make Canada a world leader in the design, development and application of Integrated Community Energy Solutions (ICES), which are all about creating smart energy communities by linking energy use with land use, buildings, transportation, waste, water, and wastewater. Canada is at a cross-road for its communities. With up to 80% of us living near or in an urban centre, more demand is being placed on already overburdened and aging infrastructure. Along with increased density and infrastructure demands, Canadian communities – urban, small, rural, and remote – are now the dominant source of domestic energy consumption (60%) in Canada, according to the report Integrated Community Energy Solutions – A Roadmap for Action released by the Council of Energy Ministers in 2009. The Roadmap called for the federal government to direct efforts at supporting the establishment of Integrated Community Energy Solutions, which can be achieved by developing a community scale home retrofit program. Pilot programs in Nelson, BC for on-bill financing and Whitehorse, YK using LICs to finance municipal infrastructure should be expanded and replicated in each province and territory. Where they are demonstrated to be cost-effective and support policy objectives, long-term commercial programs should be established.

2. Job Creation

As Canadian companies face pressures resulting from such factors as uncertainty about the U.S. economic recovery, a sovereign debt crisis in Europe, and competition from a number of developed and developing countries, what specific federal actions do you believe should be taken to promote job creation in Canada, including that which occurs as a result of enhanced internal and international trade?

QUEST recommends that the federal government advance Integrated Community Energy Solutions as part of the new long-term municipal infrastructure investment plan to make Canada a global champion of smart energy communities in cooperation with QUEST and the Federation of Canadian Municipalities. Being competitive in keeping and attracting talent, and ensuring a competitive export market will require Canadian federal investments in infrastructure and community assets to be made in a tactical manner, to allow communities to take a giant leap forward for sustainability but also benefit from

creating needed jobs, driving investment, and generating innovation. Canada's long-term competitive future hinges on our ability to create and showcase our communities as exciting places for economic investment and prosperity. A 2010 study conducted by QUEST quantified the benefits of taking an integrated approach to land use, energy and transportation. Without accounting for the benefits of other major opportunities like sewer, water, waste and freight movement, it was estimated that Canadian communities could take up to \$29 billion off of their capital, labour and energy bills by 2050 simply through the aggressive implementation of Integrated Community Energy Solution policies. This would in turn generate an increase in GDP of 0.3-0.9% and an increase in employment levels of up to 0.4%. But ICES make more than just good business sense. The same study calculated environmental savings in the order of a 5-12 percent reduction in greenhouse gas emissions per year. The Government of Canada is committed to ensuring competitive communities across Canada by investing in critical infrastructure. A new long-term municipal infrastructure investment plan should:

- Include a focus on community infrastructure and implementing Integrated Community Energy Solutions (ICES), including for example district heating and cooling systems; and,
- Help municipalities, industry and utilities streamline access to energy data, studies and useful analysis to facilitate decision-making purposes.
- Contribute to the development of training, internships and capacity building programs that would leverage infrastructure investments to meet local energy needs;

QUEST considers community builders to be anyone involved in the planning, designing, financing, insuring, servicing and building of a community.

3. Demographic Change

What specific federal measures do you think should be implemented to help the country address the consequences of, and challenges associated with, the aging of the Canadian population and of skills shortages?

QUEST recommends that the federal government support energy affordability for seniors and grow the green economy of Canada by encouraging the adoption of Integrated Community Energy Solutions in cooperation with QUEST. By 2031 Canada's senior's population is estimated to be about 9 million, or 25% of the total population which will mean that 1 in 4 Canadians will be over the age of 65. Aging in Canada is a serious issue, not just for healthcare, and maintaining long-term skills need, but also for ensuring a high quality of life with dignity and mobility. Some of the gravest obstacles that we face as we age are physical. Most of our senior population – 61% - will be living in suburbs and destined to wake up one morning to find that, no matter what they need or where they want to go, they can no longer get there from here having lost the capacity (and sometimes the right) to drive a car. To prepare Canada for an older population, we will have to begin by rethinking the built environment. For example, we can start by retrofitting traditional suburban neighbourhoods to allow seniors the ability to age in place by providing more options for younger seniors to transition from single-family dwellings to apartments located to meet the needs of all ages. Energy costs are typically the second-highest expense (after rent) that families and seniors facing financial hardship need to address, often amounting to 30% of total family income, just to keep the lights on. The Government of Canada is committed to meeting the needs of seniors in Canada. Ensuring energy affordability and growing the green economy for Canada should involve:

- Supporting the development of age-friendly communities as part of the new long-term infrastructure plan for municipalities to ensure opportunities for health, participation and security to enhance quality of life;
- Utilizing existing Federal services, such as Energuide Rating program, to provide energy efficiency home audits for seniors and link to incentive programs; and,
- Working with other levels of government to assess the opportunity to expand energy affordability tax-credits for seniors.

4. Productivity

With labour market challenges arising in part as a result of the aging of Canada's population and an ongoing focus on the actions needed for competitiveness, what specific federal initiatives are needed in order to increase productivity in Canada?

QUEST recommends that the federal government grow national productivity by ensuring a consistent and predictable decision-making environment through tax programs, standards, regulations and data needs for Integrated Community Energy Solutions. Value for money is fundamentally about making sound investments that are informed by the best available information, tap into emerging opportunities and actively leverage limited government dollars to encourage broader private sector investment. For Canada to continue being productive we need to be attentive to where markets and opportunities are headed and get there first. This means investing in approaches, such as Integrated Community Energy Solutions that drive wealth creation across Canada. QUEST study revealed that ICES policies contribute to Canada's GDP of 0.3-0.9% and an increase in employment levels of up to 0.4%. Interest in the application of ICES has grown steadily over the past few years, but there remain information gaps that create challenges for the evaluation of supportive policies and opportunities, technology standards and industry initiatives. Current taxation structure is inadvertently creating a disincentive for ICES development. Property tax structures do not capture the added value provided by ICES systems, resulting in less revenue for municipalities and a lower value for homeowners and businesses alike. Urban systems such as transportation, water and waste are still thought of and developed independently of the systems which supply the energy they require to run. Increased efforts are needed to build understanding of the energy costs associated with urban system operation and to promote the opportunities and benefits associated with addressing them. The Government of Canada is committed to enhancing productivity for all Canadians. Growing national productivity by ensuring a consistent and predictable decision-making environment for ICES should involve:

- Ensuring federal support is directed to Canadian exporters of ICES technology, products and services;
- Extending accelerated capital cost allowance provisions to cover all ICES-related activities; and,
- Making available support for research and innovation to address tax disincentives for ICES;
- Enabling Federal departments and agencies to work with QUEST to resolve conflicting codes, standards, regulations and guidelines that limit the application of ICES.

5. Other Challenges

With some Canadian individuals, businesses and communities facing particular challenges at this time, in your view, who is facing the most challenges, what are the challenges that are being faced and what specific federal actions are needed to address these challenges?

QUEST recommends that the federal government work with QUEST to address remote urban, rural, First Nations, Inuit and Métis community energy needs through cross-departmental federal cooperation and action to establish capacity required for the planning, design and implementation of integrated energy solutions. Energy planning in remote urban, rural and First Nation, Inuit and Métis communities requires special consideration, largely due to the lack of regional infrastructure, historical management practices, cultural traditions, smaller populations, and lack of community capacity. Most power and heat production in Canada's remote communities is managed by federal or provincial/territorial agencies. Long-term integrated energy planning and demand side management programs (designed to reduce energy-use for power and heat) have not been extensively implemented in remote urban, rural and First Nation, Inuit and Métis communities in Canada. The level of energy used within a community largely determines the cost to live within that community (from travel to the purchase of food to the heating and cooling of a home). Remote urban, rural and First Nation, Inuit and Métis communities depend on expensive, energy intensive sources and systems. The Government of Canada is committed to ensuring

the sustainability of remote communities across Canada. An integrated energy demand management partnership for wealth and job creation in remote urban, rural and First Nation, Inuit and Métis communities in Canada should:

- Support federal cross-departmental initiatives to establish capacity required for the planning, design and implementation of integrated community energy solutions;
- Initiate integrated energy demand management partnerships for wealth and job creation in remote urban, rural and First Nation, Inuit and Métis communities in Canada;
- Encourage the use of innovative financing models that rely less on government support and encourage access to new sources of private equity – particularly from the utility and technology sector; and,
- Showcase the use of diverse energy supply sources and technologies in communities and military bases.

Investment in Canadian remote communities, particularly along coastal areas and arctic locations would further enhance the capacity of Canada to uphold its access to natural resources and further define and assert sovereignty.