

# Effective demand-side energy measures

## Aligning utility incentives with B.C.'s climate and energy goals

Author: Jessica McIlroy, Betsy Agar, Tom-Pierre Frappé-Sénéclauze

### Background

The Province of B.C. is proposing changes to the Demand-side Measures Regulation, the framework by which the B.C. Utilities Commission (BCUC) assesses the adequacy and cost-effectiveness of the gas and electric utilities demand-side management (DSM) programs. DSM programs are designed to encourage customers to reduce their energy consumption and/or change their consumption patterns to manage supply. This is achieved through actions such as providing incentives to carry out efficiency improvements, awareness and education campaigns, and programs that reduce energy cost burdens on low-income households. The utilities set rates according to the costs they need to recover to provide those DSM programs, and these must be approved by the BCUC.

The new Demand-side Measures Regulation is expected to be released in mid-2023, with changes that respond to direction by the B.C. Government provided through its CleanBC Roadmap to 2030. While DSM programs have been in place for decades, the Roadmap indicates they must also be designed to stimulate market readiness in preparation for future efficiency standards. It also places more emphasis on electrification and on ensuring affordability for households and businesses.

### Recommendations

The Pembina Institute is supportive of the many changes proposed for the updated DSM regulation and their potential for ensuring utility DSM programs help to increase deep retrofits and decrease buildings emissions in helping the province meet its climate objectives. This paper identifies recommendations for the B.C. government and relevant agencies to ensure effective implementation of demand-side policies and plans and that the right investments are made to get B.C. to net-zero by 2050.

#### Phase out incentives for furnaces and boilers

We support the rapid phase-out of incentives for conventional gas equipment. Equipment performance standards set under B.C.'s Energy Efficiency Act already require high levels of efficiency but like-for-like equipment replacements produce only minimal energy cost savings and greenhouse gas (GHG) reductions because they encourage replacement of old equipment with similar but only

---

slightly more efficient equipment. In short, subsidizing conventional heating equipment locks in inefficient fossil fuel-based equipment that can never reach 100% efficiency.

The phase-out of incentives for conventional gas furnaces and boilers (while ramping up support for heating equipment that is 100% efficient) should take effect as early as possible. It should apply to existing programs to avoid customers rushing to prematurely replace their equipment in order to access existing incentives, resulting in a counter-productive peak in furnace/boiler installations. Phasing out incentives for conventional equipment could happen prior to the new DSM plans being in place if gas utilities were to develop substitute offerings (for hybrid systems, for example) and request an amendment to the existing plan filed with the BCUC that requests a re-allocation of funds.

### Apply this phase-out equally to market and non-market housing

Offering an exception that allows utilities to continue to incent conventional gas equipment in the non-market (such as social and income-qualified) housing sector not only works against our province-wide climate goals but could also have a *negative* impact on affordability. Compounded by a general shortage of skilled HVAC contractors, this gap could saddle affordable housing with higher-than-average maintenance and operation costs, which would go against the intent of the proposed exception. While allowing these incentives would alleviate some of the pressure to cover upfront costs of renovations, it is not clear that continuing to operate gas burning equipment is in the long-term financial interest of the sector.

Gaseous fuels are unlikely to remain the cheaper fuel to heat buildings for most of the life of any new conventional heating equipment. As the cap on utilities requires putting a greater fraction of renewable gases into the system, the cost of gaseous fuels is expected to rise significantly. This cost-of-operation differential is further compounded in non-market housing owned by public sector entities whose building operations are required to be carbon-neutral. In these cases, carbon offsets would need to be purchased for ongoing combustion of fossil fuels, thereby incurring additional costs.

### Allow exceptions for deep retrofit programs

The province should work with FortisBC to enable the transition of its deep retrofit pilot program into a long-term standard offering. Expectations should be set on the depth of the GHG reductions to be achieved by such a program. We recommend a minimum of 80% GHG reductions at the portfolio level. The necessity to include ventilation and active cooling for health and safety should also be considered. These carbon reduction targets should be attained independent of any potential reductions that might result from the purchase of renewable natural gas. This means assessment of the carbon reduction targets should result from a combination of efficiency upgrades and switching space heating equipment from gas to electricity, not from the use of renewable natural gas. This would ensure that this program is indeed incentivizing deep retrofits, not just ‘topping up’ average retrofits by purchasing renewable natural gas to meet a portfolio-level emissions reduction target.

## Allow gas utilities to provide incentives for hybrid systems

We support DSM regulations that allow gas utilities to continue pilot programs that test the effectiveness and value proposition of hybrid systems as a means to reduce emissions and energy use while allowing natural gas as a backup fuel. As discussed in our recent paper on [Regulating the Gas System to Achieve 2030 and 2050 Climate Goals](#), we believe hybrid systems powered by low-carbon gaseous fuels could play an important role in managing rapidly increasing demands on the electricity system on our way to a net-zero B.C. Further research, and incentive-backed pilots, are needed to test these technologies and understand how they can effectively be deployed with gaseous fuels as backup or peaking fuels, consistent with electrification plans.

Important changes in rate structures will be needed to mitigate the risk of hybrid systems being employed in gas-burning mode most of the time, rather than only at time of peak electrical demand, as intended. Rates need to ensure heating with electricity is cost-competitive with heating with natural gas. Most successful hybrid, dual-fuel systems rely on price signals to encourage building operators to run the systems as expected. For example, Hydro Québec's dual-energy and time-of-use rates provide a lower electricity rate than the alternate fuel on a base load basis as an incentive, and a much higher electricity rate at peak time, ensuring a bill-conscious customer would run on clean electricity most of the time. These rates and/or contract terms issues need to be resolved before hybrid system programs move from pilot to standard offering.

## Beyond DSM regulations: more clarity is needed in planning

While we are generally supportive of the proposed changes as they help tilt market forces toward outcomes that are more aligned with B.C.'s net-zero goals, the main levers to climate and equity lie outside of DSM regulations. For example, the main policy levers to increase energy equity (who pays vs who benefits) and to repair historic harm done to Indigenous communities and vulnerable and underrepresented groups lie mostly with regulations and laws such as the [Clean Energy Act](#), the recently updated [Greenhouse Gas Reduction Regulation](#), and the [Utilities Commission Act](#). These three pieces of policy provide direction on the measures utilities should and must take to reduce emissions, support low-income households, and provide energy opportunities for Indigenous communities. If used effectively together, these regulations will be a determining factor in whether utilities are facilitating B.C.'s energy transition away from fossil fuels and setting the province up to be competitive in a net-zero world.

Provincial energy plans must look beyond the 2030 horizon and examine net-zero scenarios in the years leading up to 2050 because this is when we expect the fastest uptake of electrification and renewable energy systems. These scenarios must be used in evaluating long-term resource plans and short-term actions by utilities, as well as provincial and federal decisions on major industrial projects such as LNG export terminals, to ensure they are compatible with the preferred net-zero path on the road to 2050.

To ensure utility demand and supply side measures are better aligned with B.C.'s climate and social development objectives, the province must also give greater policy direction and clarity to the BCUC on how to achieve interrelated policy objectives and weigh benefits and risks across multiple provincial objectives. The BCUC has a lot of discretion currently on how it evaluates plans across different objectives set in the Clean Energy Act: climate protection, Indigenous reconciliation, protecting affordability for families, and encouraging economic development. Some decisions made on demand side, supply side, or rate design will necessitate trade-offs.

As we look forward to the next three decades of unprecedented systemic change, including a rapidly unfolding energy transition, a warming climate, shifting demographics, and continued housing and labour shortages, DSM plans and the regulations that guide them will need to continue to evolve to keep pace. To inform these next steps and ensure effective implementation of the proposed changes, it is crucial that the province develop a 2030 to 2050 energy plan outlining different net-zero scenarios and equip the BCUC and utilities with a revised regulatory framework that better informs where and how utilities need to invest to get B.C. to net-zero by 2050.