QUEST

December 21, 2021

Re: Input on your advice for the Government of Canada's 2030 emissions reduction plan

Dear Net-Zero Advisory Body experts,

Thank you for the opportunity to provide input on your advice for the Government of Canada's 2030 emissions reduction plan, including on key guiding principles to help set targets for the oil & gas sector.

QUEST is a national non-government organization that works to accelerate the adoption of efficient and integrated community-scale energy systems in Canada by informing, inspiring, and connecting decision-makers. The organization commissions research, communicates best practices, convenes government, utility, and private-sector leaders, and works directly with local authorities to implement on-the-ground solutions.

Answers to your questions follow. We would welcome the opportunity to discuss these ideas with you further at your earliest convenience.

How should the NZAB implement or refine its existing 10 values and principles to help ensure 2030 puts Canada on the mostly likely pathways to net-zero by 2050?

The 10 values and principles established by NZAB are well articulated, useful and appropriate for achieving Canada's net-zero emissions target. However, they leave out a couple of important factors - economics, energy security, and trade-offs.

While it is without question that we must identify methodologies to reduce emissions as quickly as possible, we also must ensure that it is done in a fiscally responsible manner, in a way that increases energy security for all Canadians, and with an understanding that all options have trade-offs.

Canada's momentum on emission reductions must be maintained and increased through the duration of getting to net-zero and that momentum must be sustained once we get there. The only way to ensure this is the case is to place equal priority on emission reductions, economic stability and energy security, and to have transparent discussions on the trade-offs that are embedded in our decisions.

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What key guiding principles should the NZAB consider in its advice on milestones for the oil and gas sector?

There are many Canadians who believe that the oil and gas industry should be eliminated as quickly as possible to achieve net-zero emissions but we must consider that the sector provides significant contributions to our economy beyond the combustion of the products they extract, and the consequences of pulling Canadian oil and gas from international markets aren't inconsequential as the demand will be filled by other countries often with less ethical practices.

Canada's oil and gas resources are safely and responsibly developed with world-leading standards, under comprehensive regulatory oversight and emissions regulations. The sector's significant technology investments are critical to creating innovative solutions for some of the more challenging sectors to abate emissions from and the solutions they develop are often useful in other sectors.

The issue that Canada faces with oil & gas is that the sector's standards and regulations have not evolved to keep pace with our net-zero objectives. In addition, with significant investments already in place the primary guiding principles the NZAB offers should include both short-term and long-term considerations so we are maximizing the value of the infrastructure that we have already invested in while also taking a longer term approach to achieving system wide innovation that enable the oil & gas sector as contributors to our net-zero future. They also must acknowledge the important role that Canadian oil & gas plays in international markets and how their products serve Canadian needs beyond combustion.

The oil and gas sector needs updated standards and regulations that are aligned with our net-zero targets, and principles that are framed by a timeline that maximizes the value of established infrastructure and that empower them to be low-emission contributors to our society and to our global economy.

What key guiding principles should the NZAB consider in its advice on the transportation sector?

The transportation sector is evolving relatively quickly. There are some strong mechanisms in place to drive the sector's transition such as incentives for electric personal vehicles, investments in electric charging and alternative fueling stations, investments in urban transit infrastructure, to name a few. And additional investments in long-haul transportation and aviation.

Energy efficiency in the transportation sector is not often discussed, however in the personal, urban, and inter-city transportation space, there are a number of factors that are frequently

overlooked - land use, urban design, integration with buildings and grids, and customer needs - that directly impact the efficiency and emissions from the transportation sector.

Land-use is the biggest contributor to our transportation emissions. The further we have to travel in our daily lives the more energy we need and with internal combustion engines, regardless of engine efficiency, the more emissions we produce.

Urban design also plays a significant role. Communities that are built around the car as the predominant transportation mechanism encourage more use of vehicles thereby increasing emissions. Communities that are built around people rather than cars encourage walking, biking, the use of public transit and other forms of transportation that support a healthier lifestyle, are more equitable and reduce emissions from the sector.

While there has been a concerted effort to transition our personal transportation to electric vehicles, discussions on integration with buildings and our electric grid are still relatively nascent. In order to strengthen grid reliability without a requirement for significant increases in grid capacity, electric vehicle integration with buildings and grids is needed.

Lastly, we must appreciate that customers have very different needs and they need choice. While electric vehicles are no doubt going to be the predominant form of personal transportation in our cities, we need alternative zero or low-emission solutions for rural, and remote communities and for fleet operations.

The principles that NZAB puts forward need to ensure they don't inadvertently encourage more energy use despite reducing emissions.

What key guiding principles should the NZAB consider in its advice on the buildings sector?

The building sector offers a lot of opportunities to reduce emissions but there is currently a very narrow approach to achieving the outcome. In many circumstances the focus of the sector is fuel switching to electricity and while this will certainly reduce emissions especially if Canada achieves net-zero electric grids by 2035, without also addressing energy efficiency of the building envelope and implementing smart technologies, electricity demand and cost will become problematic.

There are a number of low-carbon thermal solutions that need to be brought into discussions such as alternative energy supply from renewable natural gas, geothermal, hybrid heating systems, heat pumps and combined heat and power systems, to name a few. Additionally, there are neighbourhood or community scale solutions that enable further energy efficiency and leverage waste heat by the sharing of energy between buildings such as district energy systems.

While these solutions are not applicable in all circumstances, taking a broader perspective on the built environment and working with local governments to identify the most suitable solution to the local context is needed.

Canada is still struggling to find effective solutions to drive deep energy retrofits of our current building stock and incentives are proving to not be as effective as we hoped. There are however examples from other countries that we should consider. For instance the UK implemented an Energy Performance Certificate requirement at the point of sale of a building that has stimulated a retrofit economy and while we do have Energy Star certification for commercial and industrial buildings in Canada they are not a requirement and there is no similar certification for residential buildings.

Lastly, for new buildings our building codes while improving in some provinces are mostly not aligned with our net-zero goal. A solution could include minimum energy performance standards in building codes applicable across all sectors nationwide.

The principles that NZAB puts forward need to ensure that while they drive changes they don't inadvertently leave off the table the robust suite of solutions that are available today.

Thank you again for the opportunity to provide input to this important discussion and please don't hesitate to reach out to us directly for any clarification or further input. I can be reached directly at tleach@questcanada.org or via cell at 613-797-8998.

QUEST looks forward to contributing to further NZAB engagement opportunities in the near future.

Sincerely,

Tonja Leach
Executive Director