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GLOBE Advance 2020:

Taking the Fossil out of Fossil Fuels
—Defining Hydrocarbons' Role for
Future-Fitness

SUMMARY REPORT | GLOBE Advance Workshop | FEB. 13, 2020 | 9:30 a.m.-12 p.m.

Introduction

As part of the inaugural GLOBE Advance, which took place on the last day of GLOBE 2020 in Vancouver, GLOBE Series, The Delphi Group, and the Energy Futures Lab—with support from sponsors Enbridge, Suncor, and WestJet—co-hosted the *Taking the Fossil out of Fossil Fuels—Defining Hydrocarbons' Role for Future-Fitness session*.

The workshop was co-facilitated by Delphi and the Energy Futures Lab and featured a presentation from the UK-based **Future-Fit Foundation**. It brought together over 100 participants from across the Canadian energy and adjacent sectors to discuss the role of hydrocarbons in the transformation of our global energy system.

Given that energy and other primary natural resources have historically been the foundation of the Canadian economy, and Canada's role as a G7 country, we have a unique opportunity to demonstrate how to successfully transition to a low-carbon emissions future. By playing a leadership role in this transition, Canada will be able to shape the agenda in a way that is beneficial to Canada and Canadians.

During the COVID-19 pandemic, energy systems have become even more volatile. With each swing of the market, competing interests advocate for their own silver-bullet solution. It has become increasingly evident that there is no single answer to the challenge of building an energy system that is fit for the future. Developing a common understanding of the multiple pathways and principles for the transition will be critical to success—and to achieving the transition over the next decade.

The overarching goals of the GLOBE Advance session were to:

- Identify a common vocabulary for discussing how hydrocarbon resources can be used in new ways that are consistent with a low-carbon emissions future—a future that allows humanity to thrive on Earth for the foreseeable future.
- Identify how the value of hydrocarbons, both in terms of economics and energy density, can be leveraged to accelerate the transformation of our energy system and be part of a successful transition to a more sustainable society. How can they be developed so that they do no harm and help us thrive in the future? This question is at the heart of their future-fitness.
- Develop a list of specific initiatives that could be implemented or further supported to transform the energy system in the next decade, while mitigating the disruption to Canadians' quality of life.

Context

Future-Fitness as Systems Change

Energy Transformation was a key program stream of GLOBE 2020. Throughout the Forum, a central theme of systems change emerged as useful context for exploring the role that various aspects of our current energy landscape will play in the future. By viewing energy transformation as a systems change activity, we recognize the importance of the past, present and future, even though these viewpoints can seem conflicting. In discussions on the future of energy, the role for hydrocarbons is still undefined and unclear. This workshop was convened to explore the role that these resources play in our current energy system and identify the principles through which they can be developed in a way that does no harm and enhances our ability to thrive in the future. That is the essence of what it means to seek future-fitness.



> **Social norms, global governance and economic growth** drive the pursuit of future-fitness

SOURCE: Future-Fit Foundation

Background

The Energy Futures Lab and Future-Fitness

The session was co-hosted by and sought to integrate the pivotal work of the Energy Futures Lab (EFL). Convened in 2015, the EFL brings together a diverse fellowship of stakeholders in order to help them (1) find common ground for innovation and collaboration within the energy sector, and (2) grapple with the challenges of energy transformation, especially as it relates to regional economic health in areas highly tied economically to conventional (fossil-fuel based) energy activities, such as Alberta. The EFL does this through a combination of facilitated dialogue, rapid experimentation, and the deployment of transition-related initiatives across many dimensions of the energy system, including technology, policy, and culture.

A major breakthrough of the EFL has been enabling stakeholders with differing perspectives to find common ground on the polarizing topic of the future of fossil fuel-based energy. On this topic, the EFL discovered how to achieve common ground: exploring the concept of Future-Fit hydrocarbons was their means of achieving that

The concept of Future-Fit hydrocarbons is aligned with the principles and goals outlined in the Future-Fit Business Benchmark. It has helped focus collaborative action on innovation and emission reduction aspirations, particularly among stakeholders who have felt—or foresee—significant disruption as society continues to pursue energy alternatives.

Innovation pathways for Future-Fit hydrocarbons include:

- Carbon capture, utilization, and storage (CCUS), i.e., turning carbon emissions from a waste into a useful material.
- Bitumen Beyond Combustion (BBC), i.e., instead of using bitumen as a combustible fuel, turning it into carbon fibres, other products and built materials. This reframes the carbon density of bitumen from a liability into an asset.
- Hydrogen, i.e., using natural gas resources in combination with CCUS technologies to drive the concept of clean (blue) hydrocarbon energy.

Using principles identified in the Future-Fit Business Benchmark as a guide, participants identified characteristics that could shape how hydrocarbon resources are employed in a future Canadian energy system. The Break-Even Goals of the Future-Fit Business Benchmark have been developed over many years of collaboration with leading business and academic experts. They help organizations understand the many ways that business impacts contribute to unsustainable outcomes, and how they could contribute to a thriving future.

Break-Even Goals

What every company *must* strive to do to *avoid slowing down* society's progress



ENERGY	<ul style="list-style-type: none">▪ Energy is from renewable sources
WATER	<ul style="list-style-type: none">▪ Water use is environmentally responsible and socially equitable
NATURAL RESOURCES	<ul style="list-style-type: none">▪ Natural resources are managed to respect the welfare of ecosystems, people and animals
POLLUTION	<ul style="list-style-type: none">▪ Operational emissions do not harm people or the environment▪ Operations emit no greenhouse gases▪ Products emit no greenhouse gases▪ Products do not harm people or the environment
WASTE	<ul style="list-style-type: none">▪ Operational waste is eliminated▪ Products can be repurposed
PRESENCE	<ul style="list-style-type: none">▪ Operations do not encroach on ecosystems or communities
PEOPLE	<ul style="list-style-type: none">▪ Community health is safeguarded▪ Employee health is safeguarded▪ Employees are paid at least a living wage▪ Employees are subject to fair employment terms▪ Employees are not subject to discrimination▪ Employee concerns are actively solicited, impartially judged and transparently addressed▪ Product communications are honest, ethical, and promote responsible use▪ Product concerns are actively solicited, impartially judged and transparently addressed
DRIVERS	<ul style="list-style-type: none">▪ Procurement safeguards the pursuit of future-fitness▪ Financial assets safeguard the pursuit of future-fitness.▪ Lobbying and corporate influence safeguard the pursuit of future-fitness▪ The right tax is paid in the right place at the right time▪ Business is conducted ethically

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Key Takeaways

GLOBE Advance participants were asked to answer the question: **“What would it take to make hydrocarbons Future-Fit to help protect the possibility that all of humanity can flourish forever?”** The diverse range of participant experiences, backgrounds, and opinions on the future of energy led to robust discussions.

The participants identified four key considerations for Future-Fit hydrocarbons:

- Net-zero environmental impacts over the complete life cycle of the hydrocarbons, with all production and processing waste streams used to their highest value.
- The hydrocarbons have a positive community impact, including the creation of jobs, affordable energy for all, and the incorporation of multi-disciplinary collaboration.
- The hydrocarbons are turned into a product that is reconfigurable (i.e., can create a circular economy).
- Adherence to an international standard for Future-Fit hydrocarbons that includes considerations for enforcement, tracking, and accountability.

The following considerations were also raised by participants:

Circular economy and product life cycle:

- Excess carbon is monetized through carbon capture, usage and storage.
- Regenerative end use that improves social and ecological systems.
- Traceable, transparent life cycle.

Societal:

- Supports workforce transition as uses change.
- Reduces economic disparity.

Ecological:

- Protects biodiversity.
- Protects watersheds.
- Not combusted or emitted to atmosphere.
- Restores land, air and marine ecosystems.
- Operations emit no GHGs.
- Carbon neutral.

Markets and value creation:

- Distributed profits across value chain.
- Multipurpose transportation infrastructure (pipelines).

Regulation and governance:

- Policy is insulated from political cycles.
- Incentives to drive effective management decisions.
- Comprehensive, life-cycle-based regulatory oversight that provides social acceptability for Future-Fit uses.

Outcomes and Next Steps

In light of the pandemic, interested parties are evaluating the best ways to advance this dialogue and identify actions to support transition activities. Next steps include:

- 1** The Energy Futures Lab will continue to advance initiatives and innovation pathways toward Future-Fit hydrocarbons. The output of the GLOBE Advance session will be shared with EFL stakeholders and feed into future EFL initiatives, including an initiative being developed on the connection between transition finance and Future-Fit hydrocarbons.
- 2** The Future-Fit Foundation (based in the United Kingdom) is developing working groups within industry to tackle the toughest questions related to the pursuit of future-fitness. The feedback from this GLOBE Advance session, in terms of the characteristics for Future-Fit hydrocarbons, will be brought to upcoming meetings of the Foundation.
- 3** GLOBE Series held a webinar to build on the conversation from the GLOBE Advance session. Speakers discussed the innovation pathways needed for Future-Fit hydrocarbons and how transition finance could best support this innovation. GLOBE Series is working to further this discussion with additional virtual events in the future.

During the GLOBE Advance session, we were able to break through the polarization that typically characterizes conversations about Canada's energy future and agree on a common vision. Going forward, we need to continue to build on this alignment. Future-Fit hydrocarbons are aspirational, and we need to create a broader understanding and acceptance of this concept while the innovation pathways are developed in real time. Overall, this means taking a long-term view and working step by step toward a shared vision.

Notes

1 The Future-Fit Foundation has developed a comprehensive benchmark for understanding the requirements for the pursuit of future-fitness. We recognize that the use of hydrocarbons in our current energy system does not align with these Future-Fit principles, and there is still much work that needs to be done to articulate how these resources can align with the Future-Fit Business Benchmark. In this report, we use future-fitness as a concept to support the work of exploring how hydrocarbon resource development can eliminate negative impacts and help us thrive in the future. When we refer to Future-Fit hydrocarbons, we are envisioning the ways in which these resources can be incorporated into the goals of future-fitness, allowing that some use-cases may not ultimately align with these principles. Any discussion of future-fitness that deviates from the specific requirements of the Future-Fit Business Benchmark is unintentional and we encourage readers to reach out with feedback on ways to improve alignment.

Please contact **Matt Beck** at mbeck@delphi.ca with any questions or comments.

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