

Change starts
The ART of the Possible
our Hearts and Minds



2020

The future
starts here

FORGE
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What is FORGE?

FORGE is a Suncor-led initiative to embed economic, environmental and social sustainability into business decision-making throughout the supply chain, ensuring both Suncor and Canada remain a preferred supplier of trusted energy to the world.

In late February, Suncor launched the FORGE initiative during a two-day event at the Grey Eagle Hotel on the Tsuu T'ina Nation near Calgary. Leadership from Suncor and some of its key suppliers came together to start the conversation on how increasing energy abundance, public demand for clean, low carbon and socially responsible energy, and technological and capital market disruptions are leading to a global energy transition, and how Canada can position itself to lead this transition.

Experts presented insights into how to understand and successfully navigate the current energy transition, how to deepen and transform industry relationships to align around sustainability, how to leverage technology to drive change, and how to integrate Indigenous business into the supply chain.

FORGE participants were challenged to identify forces that may prevent this energy transition and how to counter those forces. They were challenged to identify opportunities for the entire energy value chain to align around sustainability, and to enable technology and innovation to speed the transition and bring about structural change.



**WATCH
VIDEO**

FORGE: The future starts here. Forging a new path with our supply chain partners. Suncor and several supply chain partners came together for the FORGE 2020 conference, the first of many conversations in our efforts to find new solutions and partner on sustainability.



“FORGE brought together key suppliers and partners, including our Indigenous suppliers and communities, that support Suncor’s business,” says Joe Vetrone, senior vice president, Projects, Supply Chain & Field Logistics at Suncor. “It was about new solutions, renewed partnerships, and forging a new path forward.”

The discussions not only challenged Suncor to think differently, but it also set the stage for efforts to co-create a strong future, accelerate innovation and inspired new ways of thinking about energy transition challenges and opportunities.

This report captures the content of the two-day event. It covers the perspectives of the expert presenters and FORGE participants, including the behavioural and process changes they believe are necessary to successfully embed sustainability throughout the supply chain.^{1 2}

Since FORGE, the global COVID-19 pandemic and collapse in demand for oil and gas has put the challenges of the energy sector in an even brighter spotlight. Suncor and its partners have been navigating through extraordinary circumstances while ensuring they continue to provide essential resources and services for communities across Canada while keeping workers healthy and safe.

Suncor plans to build on the momentum from FORGE and the pandemic collaborative efforts with its partners through future FORGE projects and events with suppliers, to embed sustainability and innovation throughout its supply chain as part of a stronger energy ecosystem.

We hope that this FORGE Summary (document and video) will be broadly shared, discussed and used by all recipients to spur learning, reflection and change in thinking, behaviour and actions in all our organizations.

¹ This document contains certain forward-looking statements and actual results may differ materially. Please refer to Suncor’s most recently filed MD&A for a description of the risk factors that could cause results to differ materially and the factors and assumptions used to develop such statements. Suncor disclaims any intention or obligation to publicly update or revise any forward-looking statement, whether as a result of new information, future events or otherwise.

² The contents of this report reflect the comments and ideas expressed at the FORGE conference held on February 27 and 28, 2020.



Leading sustainability through FORGE

Major transformation is nothing new to Suncor Energy.

As Canada's oilsands pioneer, Suncor was the first to transform the vast bitumen resource in northeast Alberta into reserves and production. Suncor then learned how to turn a profit marketing that production. Through the Petro-Canada merger in 2009, Suncor transformed from an oilsands operator to a major integrated energy company connecting the full hydrocarbon value chain from resource to consumer.

Now Suncor is moving on to a greater journey, said president and chief executive officer Mark Little, with a new purpose: *To provide trusted energy that enhances people's lives while caring for each other and the earth.*



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“Business is about more than just dollars and cents; it needs to have a broader impact on society. Companies need to make sure the world is a better place than if they didn't exist. This is the transformation Suncor is targeting.

Suncor has tried in the past to make the transition to a sustainable company alone. We now realize that suppliers need to be part of the conversation, working together, to make progress.

Through FORGE, Suncor can deepen relationships with suppliers and work across the supply chain to leverage creativity to generate new ideas and take action to drive real change.”



Defining the challenge



“Global energy demand is climbing. Demand for reducing greenhouse gas emissions is intensifying. And Suncor and Canada’s energy industry need to show leadership and develop real solutions,” said Suncor’s new chief sustainability officer Martha Hall Findlay.

Martha Hall Findlay recently joined Suncor after serving as president and chief executive officer of the Canada West Foundation, where she advocated for effective public policy on issues of critical importance to Canada’s economic and social prosperity. She also served as a Member of the House of Commons and has 30 years of business, legal and corporate governance experience in the private sector. She plans on using this wide-ranging experience to help Suncor and Canada become the world’s preferred energy supplier.

Getting there is going to be a challenge, she said. On the emissions side, companies and entire countries are setting net zero goals by 2050. Achieving these goals requires a huge amount of engagement, cooperation and collaboration across supply chains, she noted.

Suncor, because it is an integrated energy company reaching from production to the consumer, is in a unique position to lead, said Hall Findlay. With five million consumers as part of its Petro-Canada loyalty program, the company has a major opportunity to engage with consumers to lower emissions.

This opportunity is one reason Hall Findlay returned to the corporate world at Suncor. Her role as chief sustainability officer provides the opportunity to not only lead in transitioning the company and its supply chain to a sustainable future, but to also help Canada and the world move to that future.



On energy transitions and the forces of change

Global energy transitions are nothing new, said Peter Tertzakian, managing director, ARC Financial and deputy director of the ARC Energy Research Institute.

Within the last 200 years, steam ships replaced sailing ships, electric lights replaced kerosene lamps, natural gas replaced wood and oil replaced horsepower, Tertzakian pointed out.

Today, we are once again undergoing an energy transition, driven by climate change concerns and an abundance of low-cost energy alternatives. Tertzakian said:

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“Canada’s hydrocarbon industry can stay relevant in the current transition, if it understands the forces of change disrupting global energy markets and overcomes the forces of resistance blocking it from competing successfully.”

Canada’s oil and gas industry is facing disruption from three sources, he explained. The first is disruption within the industry driven by the shale boom in the United States, and growth in renewable energy

globally. The world has moved from energy scarcity to energy abundance, resulting in price deflation.

The second force of change is disruption that displaces the industry. This includes public demands for clean low-carbon energy and social concerns surrounding Indigenous rights.

Disruption in capital markets is also challenging industry, with fossil fuel divestment campaigns being one example. Another is artificial intelligence (AI) in trading that evaluates a company’s environment, social and governance (ESG) performance in its investment algorithm.

These forces of change can turn into forces of resistance, he explained. The goal is to move from the current state to an aspirational state where industry has successfully navigated these forces of resistance. This means decarbonizing the oil and gas supply chain.

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“It means being the lowest cost, safest, cleanest, and quickest energy source, with the focus on being the cleanest without compromising the other factors.”

FORGE COMMENTARY:

Internal forces of resistance

Following Peter Tertzakian's presentation, FORGE participants identified the following forces of resistance within the supply chain:

- **Lack of shared vision:** A shared vision of what the aspirational state looks like is not being communicated across the supply chain. This results in a lack of alignment across the supply chain.
- **Lack of true collaboration:** There is a lack of consistency on how industry collaborates in the current environment. There is no formal structure around collaboration.

- **Cultural resistance within organizations:** There is significant investment in the traditional model of working with both suppliers and owners that is difficult to change
- **Cost of change:** Industry is focused on traditional forms of results and capital restrictions, so sustainability issues are not prioritized
- **Risk management:** There is a need to better manage risk. Leaders have risk-averse mindsets and therein are resistant to change
- **Lack of capability building:** There is a need for employees to learn new skill sets or hire new employees with the necessary skill sets to transition successfully
- **Making the transition economical:** Technology is not a limiting factor. It's the inability to translate the new technologies or innovations into an economical framework. A common

framework is needed. There needs to be a shift from cost to value creation.

- **Need to make sustainability front and centre:** In safety, industry says, if it is not safe, don't do it. It needs to also say, if it is not sustainable, don't do it.
- **Data challenges and lack of technology:** The value of data isn't understood. It is protected or locked down rather than shared throughout the supply chain because of this lack of understanding. Part of the resistance to sharing data stems from not understanding common goals and aligning around these goals and the lack of investment in technology.
- **Long lead times to make change:** The industry is looking for "moonshots" to reduce emissions and mitigate other environmental issues. This is high risk and it's scary to be making changes that won't have an impact until 10 years into the future.

- **Fear of the future:** People are worried about their place in the future. The pace of change and the challenges of understanding the changes already under way are intimidating. Many people are concerned they will be left out.
- A key economic force of resistance is the huge initial investment needed to be early adopters of new technologies. The group said companies could not do transformational change alone. They need to rely on an ecosystem to de-risk technologies.
- **Size of partners matter:** Small to medium suppliers are more resistant to change and need guidance to adjust. Smaller companies can be more agile but do not have much impact on the entire operation. Larger companies take longer to implement changes but can have more impact longer term. How do you blend the advantages of both large and small companies?

FORGE COMMENTARY:

External forces of resistance

FORGE participants identified the following forces of resistance external to the supply chain:

- **Investor sentiment:** Some investors and banks are saying they are not willing to invest in and support the fossil fuel sector. This creates an access to capital issue.
- **Overall economy and business environment:** Industry depends on a growing, healthy economy and positive business environment to sell its products
- **Government policies:** Government is driving energy choices through subsidies and taxes. These subsidies and taxes are influencing energy choices.
- **Regulatory roadblocks:** Navigating the regulatory process is challenging, making it difficult to get approvals for unique projects. Regulators are not implementing policy that supports industry innovation. Industry can move faster on implementing environmentally friendly processes and technologies provided a regulatory framework drives certainty for project approvals and investment.
- **Public benefits:** There is a belief that a larger amount of society should be sharing in the benefit of energy. There is a value overlay that needs to be considered. Shared prosperity needs to be a consideration. Resource projects cannot only benefit the people involved.
- **Public opinion:** The political opinions of Canadians were identified as one key force of resistance. There is a need to educate the public on its energy choices so it will push politicians to develop the right policies. There is also a growing polarization of opinions as people only get news that reflects their opinions of the industry.
- **Generational gap:** Younger people have different concerns than older generations. They demand more answers and proof of responsible operations.
- **Consumer demands versus reality:** There is a disconnect between what the consumer says it wants and its willingness to pay for the product. How does industry produce products cheaper or help the consumer understand the higher investments and costs needed to produce a lower carbon, cleaner product?



Technology and talent as a transformational tool

Jason Hermitage (Microsoft), Rob Massoudi (ABB) and Arlene Strom (Suncor) participated in a panel discussion facilitated by Peter Tertzakian about the forces of change and resistance. They concluded that digital technologies can play a major role in helping Canada's oil and gas industry overcome the forces of resistance and transition to a sustainable future. But to get there, industry must find ways to develop the human talent to drive change as well.

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“Embedding digital technologies into business processes creates a network effect that can shift the business relationship from an owner-vendor model to a partnership model,” said Rob Massoudi, SVP, Digital Transformation, at globaltechnology company ABB.

Under this model partners can share data, creating a supply chain of information that can be used to collaboratively create solutions that work for everyone. The new business ecosystem can also help spread risk across the supply chain, he added.

One possible outcome of this shift in business structure is that industry moves away from selling oil and gas as a product to selling energy as a service, like how software companies have transformed their business, he said.

The oil and gas industry is in the early stages of this transformation and there are forces of resistance that must be overcome. There are still challenges in standardizing data so it can be used across the supply chain. Data models are still being fine-tuned. There is social resistance to digital technologies like automation that could put people out of work. Industry needs to view the digital transformation

as more of a marathon than a sprint, working together to overcome these obstacles, said Massoudi.

Jason Hermitage, Enterprise Commercial Lead, Microsoft Canada, said Microsoft has set an ambitious goal of removing all the carbon the company has ever produced out of the environment within the next decade.

The company has started this journey by measuring its emissions and creating transparency throughout its operations, so everyone understands the challenge. It is asking what it can control internally and what it can invest in externally to reach its goal.

At the same time, it is looking to help its customers meet their sustainability goals through its cloud. One key point that needs to be understood by customers, said Hermitage, is that it is not the amount of data companies have that matters, but if it can make sense of that data and use it effectively. He said cloud computing can help manage this data.

Microsoft is investing heavily in online training to help its customers. It offers artificial intelligence (AI) training for business leaders. It is also helping industry workers reskill through its online training presence.

Arlene Strom, chief legal officer and general counsel for Suncor and chair of the Suncor Energy Foundation, said the scope and scale of the sustainability change requires organizations to come together.

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“Carbon and climate change are huge pieces of the puzzle, but there are also social impacts and relationships with Indigenous communities, and the need for inclusion and diversity in the workplace.”

Strom said it takes people who understand the business to lead transformation and then to identify what talent and technology is needed to move the process forward. It is an opportunity for young people to step into industry and have influence in solving some of the most important complex challenges of our time, she added.

FORGE takeaways

- Industry needs to view the digital transformation as more of a marathon than a sprint and needs to value working together to overcome the obstacles
- Embedding digital technologies into standardized, simplified business processes creates a network effect that can shift the business relationship from an owner-vendor model to a true partnership model
- It is not the amount of data companies have that matters, but whether it can make sense of data and use it effectively
- It takes people who understand the business to lead transformation and then to identify what talent and technology is needed to move the process forward



The art of the possible

FORGE participants got an insider's view of how four global companies view and think about sustainability and how they are currently building it into their business practices and supply chains. They were then asked to present their own views of where these ideas can be integrated into the oil and gas supply chain to drive sustainability throughout the industry.

1.

Creating responsible profit

Schneider Electric is a company with a 185-year history. To ensure future success, its management has thought a lot about what it needs to do to maintain its relevance and its partner's relevance, said Elias Panasuik, Senior Director, Services Sales & Digital Transformation North America.

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“One major factor in staying relevant is proving to shareholders the company is responsible with their dollars. This means showing both profitability and sustainability,” Panasuik said.

Schneider provides digital solutions to improve energy efficiency. Industry hasn't done a good job on energy efficiency with consumption increasing and generation becoming more inefficient, more siloed, and more complex. How industry answers these challenges will determine its success with shareholders in the future, he said.

Schneider is targeting net zero emissions in 30 years in its supply chain. It plans to use technologies like automation, cloud computing and data analytics, and digital modeling of projects and operations, along with moving from individual practices to integrated communities, to reach its goal.

2.

Future proofing today's projects

KBR was created in 1998 when M.W. Kellogg merged with Brown & Root Engineering and Construction creating one of the world's premiere engineering, procurement, construction (EPC) and services companies.

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Project operators typically spend three times more on operations expenditures and maintenance than they do on building facilities. By focusing on total ownership costs rather than just capital costs, they can greatly improve project economics, while increasing sustainability and future proofing projects,” said Arthur Delargy, chief technical advisor, KBR, Inc's Facilities Transformation Team

Remote operations are one way to lower total ownership costs, he explained, pointing to the Angel gas processing platform offshore Australia as an example. Designed with lifecycle costs in mind, Angel has 75% less maintenance than manned platforms. Workers only visit the platform once every 12 weeks.

Engineers need to think differently when designing projects with future proofing in mind. They need to simplify and delete components. They need to design equipment for reliability, use plug and play equipment and layout the facility to minimize the use of scaffolding and rope access for maintenance tasks, he said.

The operator and contractor need to work together in teams towards a goal of zero maintenance. Operators must look at vendors differently and evaluate vendors on lifecycle costs, and incentivize vendors to achieve reliability, and incentivize around performance.

3.

Creating value through the circular economy

Suez changed the focus of its business from disposing water and waste to reuse, recycle, and recovery. As a result, it has generated 2.1 billion cubic metres of alternative water supply, 8.7 TWh of alternative energy, and 4.2 million tonnes of secondary materials for reuse.

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“By turning waste streams into value streams, Suez Group has been able to create several new businesses in the circular economy while improving industrial and municipal sustainability,” said Anne Pedretti, growth synergy leader - SUEZ Water Technology & Solutions.

Its circular economy strategy relies on strong ecosystem of partners, said Pedretti. The company uses digital strategies to build and maintain partnerships. It has a digital hub that accelerates 15-20 potential investments every six months and an open innovation platform where large customers and suppliers test new solutions they co-develop and market together.

4.

Technology and partnerships in a sustainable future

Microsoft has a bold sustainability strategy. Unlike other companies' targets to become carbon neutral, Microsoft plans on being carbon negative by 2030.



Mark Speaker, industry solutions executive for Microsoft, said **“the carbon negative goal is a moonshot for Microsoft. The company doesn't have all the answers on how it will get there but it does have a clear goal and a culture that empowers people and enables success.”**

An example of this is an internal carbon fee that has served as a mechanism for holding all business groups accountable for reducing their carbon emissions. The carbon fee was an industry first, said Speaker. It sparked a virtuous cycle of awareness, efficiency, and innovation across the company.

The company is looking at investing in carbon capture and storage (CCS) and direct air capture of emissions to remove emissions from the atmosphere for green energy opportunities. It is looking at the circular economy, how its products are produced, consumed, and recycled, to find emission-reduction opportunities.

Microsoft has helped its partners reduce emissions using cloud computing and AI. This includes offering its carbon emissions calculator that can be used by any of its Azure customers.

FORGE takeaways

- **Circular economy:** There are ample opportunities across the oil and gas value chain to build a viable circular economy, including recycling or repurposing consumable packaging, chemicals, oil waste, heat waste, water, tailings minerals, sulphur and even well pads to create new sources of energy or other valuable products
- **Shaping internal culture:** Setting stretch, long-term sustainability targets and holding leaders accountable for attaining the results, collaborating with 'competitors' throughout the energy value chain to achieve sustainability results, and incentivizing and adopting front-line employee ideas are tangible steps we can all take to bring more trust and creativity to our industry
- **Future proofing projects:** Rethinking the approach to screening and designing projects by considering the total cost of ownership, having common key performance indicators (KPIs) for all parties involved, the same people owning capital and operating and maintenance budgets with incentives for reliability, and building standardized, unmanned assets with predictive maintenance all make sense
- **New partnerships:** Embedding technology and sharing data into business practices, rewarding sustainability measures in procurement and working together to tell our stories to key stakeholders, including investors, about our energy transition and circular economy are opportunities for us to improve our collective sustainability performance and the reputation of our industry

See **Appendix A** for full commentary on: 1) how to promote an internal culture shift, 2) how to improve project screening and what might be barriers to moving forward, 3) the opportunities and forces of resistance to the viability of a circular economy in oil and gas markets, and 4) what role business partners play in contributing to sustainability performance in the energy industry.

Integrating Indigenous companies into the supply chain

Could the energy supply chain be the conduit for Canada's Indigenous communities to reconcile with broader Canadian society?

J.P. Gladu, president and chief executive officer of the Canadian Council for Aboriginal Business (CCAB), believes it's possible. Indigenous entrepreneurs are growing revenues and transforming communities, he said. The combined income of Indigenous households, businesses and government sectors reached over \$30 billion in 2016, the last year of available numbers.

The wheels of positive change remain in motion, despite the downturn in energy development over the last few years, Gladu added. One positive signal is that socio-economic barriers to working with Indigenous businesses, once viewed as obstacles by industry are increasingly being viewed as opportunities, he noted. Indigenous businesses themselves are also hungry for the opportunity to expand their operations to both corporate and federal contracts and supply chains.

Gladu said the goal of Indigenous communities is to generate wealth through their people, land and businesses for their own sustainability. To do so, Indigenous entrepreneurs say they need access to opportunities and access to supply chains.

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“They see supply chains as an opportunity for reconciliation, he said, noting supply chains offer the opportunity to build relationships across cultures. Canadians see the same opportunities,” he added.

Eddie Courtoreille, chief executive officer of the Mikisew Group of Companies, said his community has come a long way in the last few years working with industry to advance its economic interests. The Mikisew own three enterprises employing 1,000 people and are involved in nine joint venture partnerships employing another 1,200 people.

The goal is to build equity in the Mikisew Nation and use that equity to build the future, he said.

Partnerships are a great way to become part of the supply chain.



“Indigenous companies need to work with best-in-class businesses, find what’s needed in the market, and help partners by opening doors,” he advised.

Keith McIntosh, chief executive and founder of software testing company Kiya Mâka/Plato Testing, trains Indigenous people to test software, a job that often uses an offshore model.

The new IT professionals take this work back to their community where they set an example that there is a career in IT available for their people. It opens doors and puts science, technology, engineering and math (STEM) careers in front of people, McIntosh said. The Indigenous-owned company currently has 70 employees with a goal to grow to 1,000.

Phillip Ducharme, director innovation and entrepreneurship for CCAB, said industry and Indigenous business need to work to create opportunities across the entire supply chain.



“There needs to be opportunities for smaller companies to grow, and industry needs to be willing to work with these smaller companies to make this happen.”

Indigenous companies also need to take work outside of traditional geographic boundaries to grow, he added.

Overall, he says it would help if industry and governments changed the way procurement works to break contracts into smaller pieces to better match the size of most Indigenous companies. With larger companies trying to shrink their number of suppliers and often work with only large suppliers, this is challenge, said Ducharme.

FORGE takeaways

- Socio-economic barriers to working with Indigenous businesses once viewed as obstacles by industry are increasingly being viewed as opportunities
- Partnerships are a great way to become part of the supply chain. But Indigenous companies need to do their homework when forming partnerships.
- Industry and governments need to change the way procurement works to break contracts into smaller pieces to match size of most Indigenous companies
- Large operators need to encourage their suppliers to work with or partner with smaller Indigenous companies

Sustainability as a lens to improve business outcomes

The energy industry has a lot going for it as it transitions to a more sustainable future, said Dr. Stephanie Bertels, founder of The Embedding Project-- a collaborative initiative between researchers and practitioners working to embed sustainability in business practices, and an associate professor at Simon Fraser University Beedie School of Business.

Bertels said the industry has plenty of smart and capable people working towards technological solutions to its sustainability challenges. It also has a lot of people that care deeply about each other, their work and the resource, she added.

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“It isn’t a question of whether to leave hydrocarbon resources in the ground; it is about figuring out together how to make use of the resource in a sustainable way. One way to do that is to use sustainability as a lens to view business practices and processes to improve outcomes,” she said.

Industry has already made progress down that path. Companies first transitioned from philanthropy to the triple bottom line that recognized people, the planet, and profits as metrics of success. It then moved to a shared value model based on the idea that companies can increase profits and enhance competitiveness by solving societal problems. Now industry is recognizing the need to take an embedded or systems view, said Bertels, where companies embed sustainability across their operations and decision-making.

Corporate leadership is acknowledging the limits of social and environmental systems. Companies cannot manage their company well without recognizing that constraints guide growth, and that resilience of social systems and ecosystems create real constraints on what it means to be a successful business, she explains. There are boundaries in any system and if industry pushes too far it has large-scale consequences.

Taking an embedded view helps companies anticipate complex and potentially disruptive risks and develop proactive responses. It helps them anticipate shifting societal expectations. And it helps them develop a clear and credible narrative about where and why the company will direct its efforts, she noted.

Bertels said this embedded view is reflected in Suncor's new purpose to provide trusted energy that enhances people's lives while caring for the each other and the earth.

As Suncor pursues its newly articulated purpose, partnering with its value chain represents a crucial opportunity for innovation and broader value creation.

The energy industry isn't alone in needing to make this shift. The entire economy needs to recognize these constraints and embed sustainability into how it operates, she added.

“All organizations need to ask if they are doing enough and where they can best act to create positive change. They also need to be aware that they can't do everything.”

The energy industry is well suited to leveraging constraints to innovate, said Bertels. Engineers love constraints, she explains, and that should lead to creative solutions to help it live within ecological and societal boundaries.

How does this work in real life?

“Value chain / lifecycle mapping can help identify where there is the greatest opportunity for innovation.”

A value chain identifies the full range of activities that firms undertake to bring a product or a service from its conception to its end use, said Bertels.

She cited the example of how consumer goods giant Proctor & Gamble shifted its thinking towards looking at the lifecycle impacts of its products to make a big impact.

Proctor & Gamble looked at the lifecycle energy consumption of its Tide laundry detergent to determine where it could have the greatest impact on reducing emissions. It determined consumers heating water to do their laundry had the greatest emissions. P&G addressed this issue by creating an entire new product class: Coldwater Tide detergent.

Further lifecycle analysis found it could cut water use in manufacturing and transportation emissions through the creation of another product line: Tide Pods.

FORGE takeaways

FORGE participants were asked to reflect on where they fit in the energy value chain, and then to identify any potential opportunities and risks that would be created by viewing the supply chain through a sustainability lens. Their responses are categorized in two broad areas: behavioural and process shifts.

Shifting behaviours within the supply chain could create new opportunities to embed sustainability within Suncor and across the industry, said the FORGE participants. However, changing behaviours comes with risks that must be considered.

The FORGE participants identified a shift from project and cost-based thinking to a systems-based approach as fundamental to embedding sustainability into the supply

chain. To make this happen, they said the supply chain must move from transactional to a partnership model. Participants must be more collaborative, transparent, open to change and willing to trust one another.

Shifting behaviours could lead to process changes reflecting the change in direction towards a systems-based approach to sustainability, and the change in relationships across the supply chain. The opposite is true as well, with process changes leading to behavioural changes. The participants identified the need for some additional process shifts and unique opportunities for integrating Indigenous business deeper into the supply chain.

The shifts in behaviour and processes could generate numerous opportunities to improve performance in existing businesses and to create new businesses, said the

FORGE participants. But it could also create new challenges, including increased financial risk, lower profitability, and unintended consequences if too much focus is placed on one area of sustainability, like emissions reductions.

Appendix B includes some of the key behavioural shifts and related process shifts identified at FORGE, along with the opportunities these changes could present, and potential risks to be mitigated identified by participants.





Taking a systems approach to sustainability

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“Individual companies can make a great deal of progress by embedding sustainability into their business processes. But a much larger opportunity lies in taking a systems approach that embeds sustainability throughout the industry supply chain,” said Stephanie Bertels.

Bertels uses Walmart Canada as an example of how taking a systems/value chain approach and collaborating up and down the supply chain can have huge results. In 2005, Walmart committed to three long-term sustainability goals: to be supplied 100% by renewable energy; to create zero waste; and to sell products that sustain people and the environment.

To meet its zero-waste commitment, Walmart Canada launched the Sustainable Packaging Value Network made up of around 200 internal and outside experts. It created packaging scorecards for suppliers to measure how well they were meeting requirements, and it created a material optimization committee aimed at improving recycling rates for packaging and diverting waste from landfill.

One area that was identified was the lack of a market for polyethylene terephthalate (PET), a plastic that is used in water bottles and other food containers. To encourage change, Walmart's solution was to drive systems level demand for PETs by committing to procure only 100 per cent recyclable PET bottles.

Bottled water company Ice River Springs was a Walmart supplier already actively trying to reduce its footprint, creating a 40 per cent thinner bottle with a 300 per cent lighter cap to limit PET use. Walmart approached Ice River to ask them to produce a 100 per cent RPET bottle, explained Bertels.

Ice River then asked Walmart what its system goal was in dealing with PETs. It looked at the entire value chain and identified several opportunities. After going to the recycle plant, bottles were shipped to Asia, cleaned and ground,

then shipped to the U.S. for injection molding, and back to Canada. This involved 55,000 km in total travel.

Ice River saw huge potential to reduce energy use and emissions by keeping PET in Canada. It collaborated with others to create a closed loop recycling system, buying PET bottles back from recyclers, sorting, grinding, washing and purifying the material before turning it back into bottles and other products.

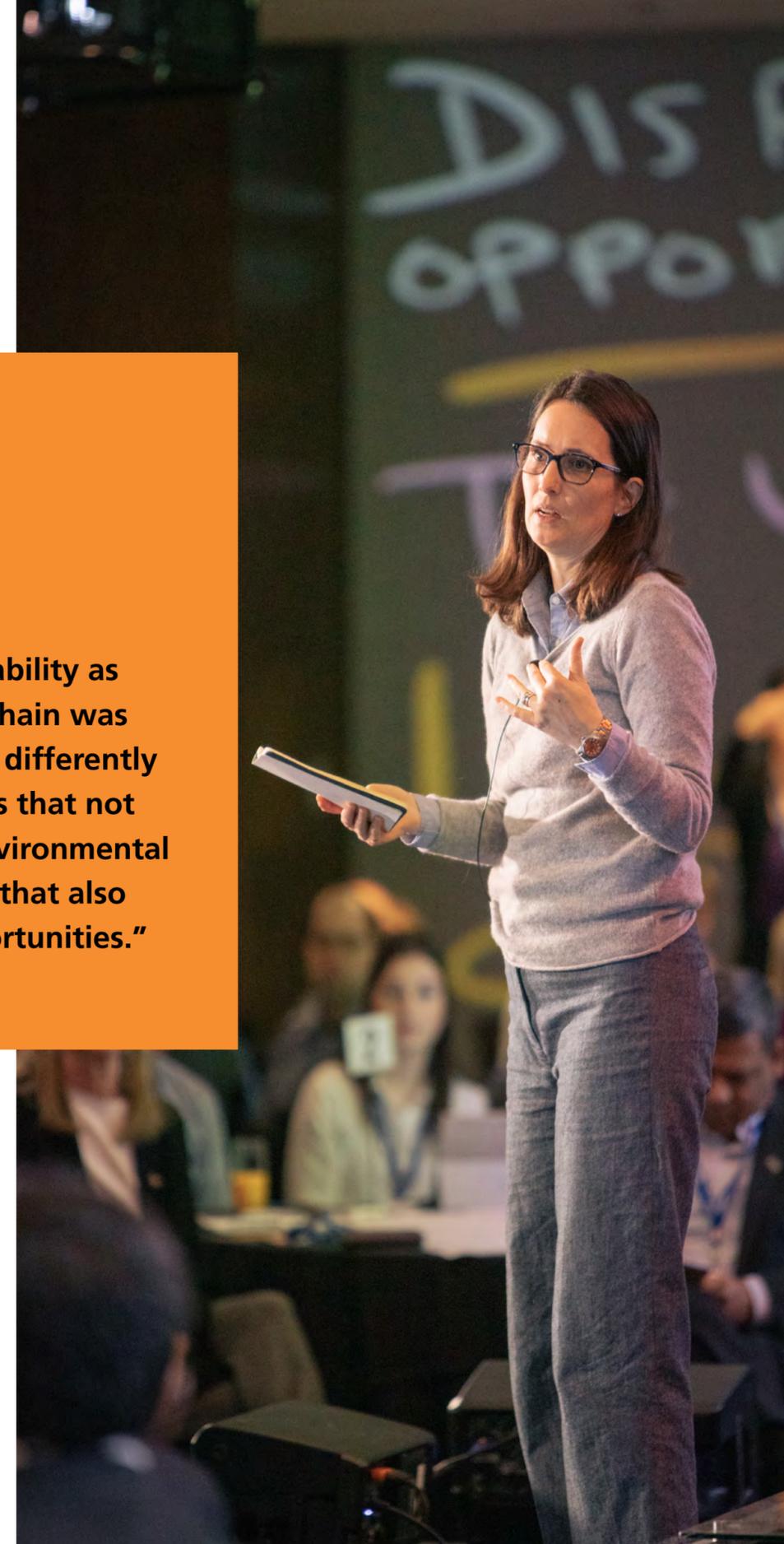
But the collaboration didn't end there. Ice River and Walmart collaborated throughout the value-chain with adhesives producers to manage worries about how the adhesives and labeling impacted recycling, with municipalities in Ontario to increase the curbside recycling of PET, and with manufacturers of PET thermoforms used to package berries to remove additives added to the packaging used to improve the appearance of the berries, allowing these thermoforms to be recycled with other PETs.

As a result of all these efforts, 85 per cent of PETs from Ontario blue boxes are now recycled.

Bertels said the PET example shows that by focusing on the broader system, the entire value chain can unleash innovation.

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“By using sustainability as a lens, the value chain was able to see things differently and make changes that not only improved environmental sustainability but that also created new opportunities.”



FORGE commentary

Bertels challenged FORGE participants to focus specifically on what Suncor does well in its procurement process that encourages systems thinking, what others are doing that the company and others in the industry should start to emulate, and how Suncor may need to shift its approach to be a better partner and foster and support broad value chain innovation. The precious reflections and open feedback shared provides valuable insights and learning for all organizations in the energy sector.

Behaviour, or the way we act, especially towards others, is hard to change. Processes, on the other hand, are the steps we take to accomplish something and tend to be easier to alter. They are about what we get done together.



One of the key discoveries made at FORGE was a realization of how difficult it is for us to collectively think or speak about changing “how” we work together. It is much easier for us to generate ideas about “what” we could work together on and to jump to action planning.

We will all benefit from being vulnerable and uncomfortable, in seeking to understand the problems from many perspectives before jumping to actions, and in figuring out how to work together differently with facilitation.

We will all benefit from being vulnerable and uncomfortable, in seeking to understand the problems from many perspectives before jumping to actions, and in figuring out how to work together differently with facilitation.

The top categories of opportunities which surfaced for Suncor - involving a combination of behaviour and process changes – are below. Not surprisingly, they include many which were also considered relevant for all of us to be stronger together.

- Courage and vulnerability
- Engagement efforts
- Leadership on sustainability
- Communication and collaboration
- Technology
- Indigenous
- Procurement and contracts
- Project management
- A partnership model
- A systems or lifecycle approach

The extensive detailed feedback (see **Appendix C and D**) from the FORGE participants is broken down into both behaviours and processes that Suncor would benefit from keeping, starting or shifting.

Keystone projects worth exploring

Many of the FORGE participants went beyond offering opinions on what behavioural and process changes are needed to integrate sustainability into the supply chain. They suggested specific projects that could be embedded in existing operations and new projects that could be implemented to drive sustainability.

New projects

- Building a greenhouse in the Fort McMurray area to support reclamation and provide food
- Develop electric fleets
- Develop community energy supply chains using wind and gas
- Develop light-weight construction materials for wind power projects
- Use bio-fuels to close loop with consumers by reusing oil, human or agriculture waste as feedstock
- Create solar-powered facilities
- Take advantage of the carbon capture opportunity
- Develop a carbon pipeline
- Change CO₂ emissions into a product
- Investigate geothermal opportunities
- Create a service to fill cars at homes like skip the dishes
- Get into distributed power generation
- Develop energy storage for stationary power

Projects at existing operations

- Develop rare metal extraction from tailings technology
- Fuel-cell powered haul trucks for mining
- Develop storage of wind power like floating power storage near offshore platforms
- Develop solar power electronic stability program (ESP) area to run smaller instrumentation and controls
- Tank foam monitoring production optimization and energy savings, add variable frequency device (VFD) to all motors
- Recycle water at retail like car washes
- Pump windshield washer fluid at retail like gas and air to eliminate packaging
- Eliminate in situ GHG emissions using small nuclear reactors
- Use drones to survey volume of overburden removed
- Bitumen skimming/collection from tailings to speed tailings reclamation
- Electrify offshore, bitumen and upgrading
- Focus on hydrogen production rather than fuels
- Autonomous shuttles with electric motors to shuttle people around the plant
- All local/regional manufacturing to avoid transportation
- Enhanced recovery CO₂ injection and other alternate uses for emissions
- Training in remote communities to build STEM capability for industry and community sustainability
- Remote water treatment and separating to minimize water transportation costs
- Set goal of zero pipe welding on sites
- Switch to petrochemical manufacturing starting with bottom of the barrel
- Transform municipal waste to ethanol across Canada
- Suncor could take back the refined oil from Clean Harbors as either a base oil or blended lube
- Develop an integrated training approach for STEM and the workforce of future with partners across Northern Alberta
- Create a loyalty program that rewards CO₂ reduction
- Develop new upgrading technology--either partial or partial gas-to liquids (GTL)
- Look at chemical processes for upgrading that use less power



Moving forward means changing minds

Reflections were shared during a panel with Brad Andrews (Worley Parsons), Steve Reynish (Suncor), Barrie Robb (Fort MacKay First Nation) and Norty Turner (United Rentals).

“Talk is cheap when it comes to shifting corporate cultures and business practices.. Where the rubber hits the road is how well companies execute,” said Norty Turner, Senior Vice President, Services & Advanced Solutions for global equipment supplier United Rentals

Turner used the example of LEAN management to prove his point. Ninety-five per cent of LEAN management programs are still not fully integrated into business practices after five years, he said. The cause of this failure is middle management resistance.

But Turner doesn't blame middle management for the failure; instead he calls on corporate leadership for failing to lead.

“Instead of trying to dictate large structural change, leadership needs to create a field based groundswell to drive change, and focus on small moments and incremental steps rather than big jumps,” Turner said.

When trying to shift the entire supply chain ecosystem, he suggested companies give executives of partner companies time to make change and get middle management on board.

“When it comes to sustainability, he also suggested the model in Northern Europe could provide useful learnings for the Canadian energy industry. In many of these countries, suppliers have to show their carbon footprint in the bid process.”

Turner says some of this is policy based, but it is even more so cultural.

Steve Reynish, executive vice president, strategy & operations services for Suncor, agreed its up

to leadership to promote transformational change. Reynish says leadership needs to engage in long-term thinking about where the company is headed and give its managers the means to make necessary changes.

The challenge of sustainability is too large for companies to do alone, he added. They need to work collectively to FORGE a long-term view of the future and then execute to achieve their goals.

“As companies move down the ESG path and discover they are doing good, they will start to uncover hidden value they didn't see in the past. This will lead to opportunities for new investments,” Steve Reynish noted.

Brad Andrews, Worley's president of energy and chemicals for US West/US East and Canada, said it's key to get investors aligned with any plans to significantly alter business practices.

Historically, investors don't see energy as a growth investment. They see it as a safe place for capital, he explained. Andrews said the environment the industry operates in is changing, with a growing emphasis on ESG issues.



“Energy companies need to educate capital markets that it understands the importance of ESG, is taking action, and can make money while doing so.”

FORGE takeaways

- Leadership needs to create constant tension to drive change, and focus on small steps forward rather than aiming to leap
- Leadership needs to engage in long-term thinking about where the company is headed, and give its managers the means to make necessary changes
- Energy companies need to educate capital markets that it understands the importance of ESG, is taking action, and can make money while doing so
- As companies move down the ESG path and discover they are doing good things, they will start to uncover hidden value they didn't see in the past. This will lead to opportunities for new investments.



The future of FORGE

Suncor launched the FORGE initiative to reset relationships and align with its partners to integrate innovation and sustainability in decision-making across the supply chain.

FORGE builds on Suncor 4.0, a transformational effort that involves:

- Investing in emerging and potentially transformative technologies, including new digital capabilities
- Supporting collaborative solutions on major environmental and societal challenges, including climate change
- Working with and learning from Indigenous partners and others to create opportunities for economic and social reconciliation
- Further integrating sustainability into decision-making as the company aspires to be an industry leader for the long term

FORGE participants shared their most important takeaways with Suncor in a post-event survey after FORGE 2020 - The future starts here:

- We are stronger together
- We need to work differently
- More work needs to be done with Indigenous partners
- Suncor is committed to making a change – the extensive senior leadership participation throughout was notable

To shape future collaboration and keep the FORGE momentum, participants recommended that Suncor:

- Build innovation and sustainability into Supplier Relationship Management
- Host a series of FORGE workshops on specific themes & challenges with suppliers to drive cost improvement and value creation
- Create a FORGE digital collaboration space
- Host FORGE as a regular event
- Keep FORGE moving with a broader group of stakeholders

For Suncor to be successful in this transformation it needs to listen and learn from suppliers. Joe Vetrone said Suncor recognizes that often in the

past it hasn't taken this approach to relationships. But that's changing, he added.

Thank you to all participants who embraced FORGE 2020 and its intent. We also thank you for sharing and using this FORGE Summary to learn, reflect and drive change in your organization and beyond so we can be stronger together.

The COVID-19 pandemic and market downturn created an unprecedented circumstance and has been trying for us all personally, as businesses and in our communities. Our dialogue and actions in response are a clear reflection of the partnership that the people in our respective companies have worked together to develop and they build from the FORGE momentum. Through this, we are encouraged that our organizations will come out of the current business environment even stronger together as we collaborate and seek new and better ways of doing business.

Joe Vetrone said the next steps are to broaden the FORGE conversation to include more suppliers, facilitate further collaboration in the energy ecosystem digitally, embed some suggested changes into our culture and business practices, and to create new conversations and joint projects with suppliers focused on specific problems or opportunities. We will apply a human-centered design method to ideate, prototype and implement performance improvements in specific focus areas.



New conversations on creating shared value and thinking about broader systems to eliminate costs and waste from the supply chain are possible.

As the inaugural event theme suggested, the future did start for this journey in 2020. Suncor will be hosting 'FORGE 2022' to build on its deepening relationships with suppliers and to celebrate the progress we've made together.

“

“Suncor is being an influencer, challenging us and challenging the supply chain to move down the path,” said Norty Turner, senior vice president of services at United Rentals. “Enormous momentum will come out of this conference, but the challenge is the follow through.”

As Stephanie Bertels pointed out, “there is so much potential, if we just take a different lens.”

“The intent is to carry on the FORGE conversation throughout 2020 and beyond. When we forge down a new path, anything is possible. The future starts here.” said Joe Vetrone in his closing remarks.

Appendix

Art of the Possible
FORGE Commentary

Desired behavioural shifts
and related process shifts
and the opportunities and
risks these changes could
present

Behaviours to keep,
start and shift

Processes to keep,
start and shift

APPENDIX A

Art of the Possible FORGE Commentary

FORGE Schneider Electric commentary

FORGE participants identified the following ways of promoting an internal cultural shift, like what happened at Schneider Electric, that gets all levels within companies and throughout the supply chain involved in sustainability:

- **Don't wait for all the answers:** Start the conversation with clients, suppliers and the community now and build the plan together.
 - **Set big, ambitious targets:** If leadership sets a real stretch target and drives a cultural shift, it is more likely to achieve the change.
 - **Leadership is needed:** Leaders will say the right things but need follow up with actions. They also can provide adequate resources. Leaders are expected to keep budgets, but they aren't held accountable for sustainability goals.
 - **Set long-term goals:** Schneider Electric has been able to adapt and set goals that are in a long-term framework. Companies that enable this way of thinking will be successful in the future.
 - **Increase supply chain communications:** Suppliers need to understand how products and services need to be designed to meet both cost and sustainability goals.
- Unfortunately, most of the time suppliers design for capital budgeting and this ends up costing more to maintain in the long run.
- **Align cultures across the supply chain:** Internalize culture within the organization and then spread it through the supply chain. Service providers are receivers of culture. If cultures don't align, it is difficult to work together.
 - **Ask what organizations the company needs to influence:** Companies need to give thought about the market and communities it operates within. Does the company only need to influence its direct supply chain and communities within its areas of operation or the broader industry or community?
 - **Push boundaries:** Operators need to listen to recommendations from suppliers/partners to move forward and build relationships. Everyone in the supply chain needs to be willing to sometimes fail and learn from failure.
 - **Consider broader collaboration:** Companies are going to have to collaborate with competitors. To be successful, there needs to be a shift in mindset to work towards goals with mutual benefit.
 - **Understand different drivers of innovation:** Innovation comes from both competition and collaboration. Both systems exist and

generate value. Companies need to be able to shift from one to another when needed.

- **Engage with employees:** Ask employees what can be done to move sustainability forward. Make decisions based on what the employees want. There is much more engagement when the front-line employees see their ideas being implemented.
- **Create company stories:** Use storytelling to shift culture towards sustainability goals. Develop core stories the company can constantly refer to in messaging.

FORGE KBR commentary

FORGE participants were asked for input on how companies can improve project screening by focusing on total cost of ownership, future proof today's projects, and to identify any forces of resistance to moving forward. Here are their responses:

- **Screen proposed projects based on total cost of ownership:** Most energy companies screen projects based on capital costs per barrel. By adding in operating and maintenance costs project teams would have a better idea of where to focus design efforts to cut costs and gain a better picture of project viability.
- **Breakdown internal silos:** Capital expenditure budgets and responsibilities and operational and maintenance budgets are in different corporate silos.



- **KPIs need to be changed:** KPI requirements are often based on capital efficiency targets which can change to reflect operational and maintenance targets as well
 - **Improve operating cost models:** Operating costs in screening projects are projections or models - especially for a large plant that hasn't been run - leading to questions of accuracy. For suppliers to remain competitive when bidding, those numbers aren't added in because they aren't realistic – there is more risk with op-ex numbers.
 - **Improve internal alignment:** Within companies, there is still an internal operating-maintenance-engineering misalignment due to differing goals, strategies or processes.
 - **Unmanned operations require cultural change:** There is also a bias that people are needed to operate facilities and equipment. Operating without people is a huge cultural change that could need to be introduced gradually or on a limited basis.
 - **Mitigating the social aspects of unmanned operations:** Companies must reconcile no people with the social goal of employment, and commitments to Indigenous communities. This may require companies to invest in new businesses in other areas of the local economy.
 - **Future proofing existing assets:** The struggles are that assets are already built, they're all different, and they require different spare parts. How does the supply chain improve the reliability and reduce maintenance on these assets? It is much harder to retrofit.
 - **Use digital twins in project design:** As organizations look at how to optimize operations during design. It is easier to future proof with digital representation.
 - **Incentivize reliability:** Suppliers in the oil and gas industry may not be providing materials that require low maintenance. That would be a shift in the operator/vendor relationship, understanding the total costs of ownership and partnering with the vendor and understanding the cost of performance.
 - **Focus on predictive maintenance:** The idea of zero maintenance may not be possible now. Industry may be better off to focus on predictive maintenance.
 - **Getting investor buy-in:** This mindset shift from the short-term (capital expenditures) to the long-term (total expenditures) will need to be explained to investors. Will they support it?
 - **Collaborate with the supply chain:** Use suppliers as consultants to help identify opportunities for improvement in reliability, ease of maintenance, and total costs of ownership. Use contracts with metrics that include sustainability and reliability to drive these ideas.
- FORGE Suez Group commentary**
- FORGE participants were asked to supply input on the viability of a circular economy in oil and gas markets, and to identify opportunities and forces of resistance. Here are their comments:
- Opportunities**
- **Biofuels:** There is opportunity to use oil and animal waste to generate biofuels rather than importing them to Canadian refineries. There is also potential to use municipal waste in ethanol production.
 - **Consumable package recycling:** Many chemicals used by industry come in containers that could be re-used many times.
 - **Chemical recycling:** Some chemicals used in industry processes could be removed from waste streams and re-used
 - **Creating carbon products:** The energy industry needs to consider how it takes responsibility for downstream consumer emissions. Is there a use for CO2 that eliminates its impact? Carbon fibre and graphene are very durable and high value materials. With carbon dioxide it is only a matter of time until it becomes a resource. Someday the world could be burning oil and gas just to get the carbon.
 - **Tailing to minerals:** Circularity can be applied to tailings. There is value to extract from tailings in terms of rare minerals, etc. COSIA is connecting with companies in the Netherlands about how they create construction materials out of materials dredged from harbours. These ideas could be applied to tailings.
 - **Closing the water loop:** With things like steam generation, there are a lot of circular opportunities in closed loop systems.
 - **Switch to hydrogen production:** The oilsands already uses hydrogen and has expertise. It could generate green hydrogen and integrate it into the value chain.
 - **Repurposing sulphur:** The industry currently pays people to take it away. Is there an opportunity here to use it internally or create new product lines?

- **Waste heat:** Waste heat could be used in greenhouses in Wood Buffalo to support local organic vegetable production, lowering prices and providing local employment.
- **Mobile well pads:** Could wells pad assets be reused and moved from site to site?

Barriers

- **Lack of commitment:** Industry needs to say yes to running a sustainable business, and build carbon, land and water strategies that generate opportunity.
- **Technology readiness:** There is a perception that the technology needed for a circular economy does not exist.
- **Need to develop markets:** There would need to be a major effort to identify or create markets for many products generated through the circular economy.
- **Lack of a culture of creativity:** Human creativity is the biggest problem –industry is limited by its lack of imagination.

- **Involve partners early in the process:** Collaboration is key to getting ideas generated and managed. Carbon recycling needs to be a significant factor and innovation partners are needed. Give a scope to the suppliers/partners early on to avoid problems that may arise later in a project.
- **Mindsets about resource extraction companies needs to change:** The idea of a resource company being in the circular space can be challenging for people to wrap their head around.
- **Create a broad industry effort:** The oilsands industry needs to rethink the way it works within the region and take a more holistic approach by sharing/leveraging initiatives that aren't about a competitive advantage.
- **Open collaboration is needed:** No intellectual property (IP), no non-disclosure agreements (NDAs) between competitors for the benefit of all
- **Standardization is needed:** Agreeing to use the same consumables, like drilling fluids, would make recycling or reuse easier.
- **Focus on supply chain opportunities:** It is more challenging for operators to build circular economies than it is for

manufacturers of the products because they are more similar to the consumer market.

- **Need clearinghouse of opportunities:** How do operators figure out what in their company's waste stream is another company's resource?
- **Oil and gas industry to reimagine waste in value chain:** There are waste streams that just go to the landfill that could be reimaged by thinking about cost and sustainability. Cost is the only driver today for why the industry sends things to the landfill. Then new things can be built from waste.
- **Find partners outside the industry:** Oil and gas needs to work with other industries and activities in its operation areas.

FORGE Microsoft commentary

FORGE participants were asked: "What role business partners play in contributing to sustainability performance, and what is needed for them to make meaningful impact?"

Here are their responses:

- **Update the procurement model:** The current procurement model may discourage innovation so there is a need to change

the system design to reward sustainability measures.

- **Eliminate fear of failure:** Everyone wants to innovate but the fear of committing errors in established practices, whether they are reaching sustainability goals or not, gets in the way.
- **Create opportunities for small companies in supply chain:** How can you let small, innovative companies in?
- **Create new collaborative models that work:** There are lots of conversations around how groups can come together through collaboration, yet the current model discourages it.
- **More communication:** Industry needs to put more emphasis on the importance of stakeholder relations, both external and internal, to put ideas into action.
- **Embed technology into business practices:** There are also lots of conversations around how industry needs to rework its models on how technology changes how people work.
- **Create a safe space:** Operators need to create a trusted space where employees and partners can come forward to innovate and make mistakes.

APPENDIX B

Desired behavioural shifts and related process shifts and the opportunities and risks these changes could present

1.

Behavioural shift: Embedding system-based thinking to drive sustainability

Defined

- Build incentives in contracts for incorporating sustainability initiatives
- Shift the evaluation for award of contracts from capital expenditures to lifecycle cost
- Create reward mechanisms for contractors that meet sustainability goals
- Evolve decision criteria of capital projects to include sustainability
- Build consistency in application of environment, health and safety (EHS) processes for contractors across both regions and businesses
- Shift KPIs for development and performance with partners to reflect impacts throughout entire lifecycle
- A value chain organization should be collaborative and de-siloed
- Change benchmarking to compare against other industries

- Need to share data across supply chain
- Focus on high reliability and on reducing manpower

Opportunities

- Improve water management including handling, treatment, and reuse
- Improve sustainability and performance of mining operations
- Virtual warehousing and scalable distribution
- Turn waste streams into value streams
- Improve transportation of people, goods, and waste
- Engage retail customers by taking a systems view and increasing awareness
- Include Indigenous business throughout the value chain, not just isolated in operations and local communities
- Integrate process and facilities upstream and downstream
- Realign areas of value to reflect sustainability when choosing process technology
- Reduce maintenance and operational costs
- Convert to lower manned facility operations
- Create an integrated value chain operating system
- Identify core business and outsource the rest
- Enable sustainable project design
- Integrate with other industries on reusing waste streams
- Improve reliability through preventative maintenance
- Consolidate procurement to drive value and reduce redundancy
- Create strategic partnerships across preferred vendors to develop single source with selected partner
- Involve engineer partners earlier in project development
- Set common KPIs with suppliers and vendors
- Share transportation with other operations
- Contract long-term agreements with key suppliers to leverage innovation and best practices
- Bring together data analytic teams from operators and vendors to collaborate
- Integrate shared services
- Consider third party operation and maintenance of assets
- Pay for outcomes rather than for unit costs
- Incentivize across the supply chain to develop technology and leverage the collective
- Measure the emissions of the entire supply chain collaboratively with our partners
- Plan better for known workforce peaks and valleys



Risks

- Change management of existing staff and contractors
- Competing priorities: “sustainability takes the backseat”
- Siloes within Suncor are a barrier to value chain thinking
- Cash flow and capital risks dictate pace of change
- If not in line with sustainability, may give up that part of business
- Focus on carbon dioxide could increase water use, land use
- Reduced margins, higher cost
- Public won’t see benefit. They will only see cost
- Cost of new technology and availability
- Resistance across supply chain

2.

Behavioural shift: Moving from a transactional to partnership relationship**Defined**

- Bidding process needs to include opportunities to suggest solutions outside of scope and to have an open mind to encourage innovation through the bid process
- Procurement practice needs longer term contracts that lead to investment in innovation
- Would lead to a reduction in number of suppliers to only those willing to invest, innovate and foster better technology
- Potential for suppliers to be capital partners on long-term capital projects
- Need to collaborate and share more data and analytics
- Need to share Intellectual Property (IP)
- Standardize project delivery expectations across capital projects
- Work with suppliers to further social/ community benefits (especially around

positive use of carbon emissions and environmental benefits)

- Focus on value stream versus transaction
- Integrate planning using contractor expertise
- Suncor would need to share longer term projections on work scopes and contract opportunities
- Jointly create KPIs
- Involve suppliers earlier in the process and value chain
- Engage suppliers earlier into projects to leverage their expertise
- Integrate EPC into development phase to share decisions made

Opportunities

- Create strategic partnerships across preferred vendors to develop single source with selected partner
- Joint collaboration and partnering on innovation initiatives
- Involve engineer partners earlier in project development
- Common KPIs, supplier, vendor
- Shared transportation with other operations
- Push supplier to own production targets
- Longer term agreements with suppliers to leverage innovation and best practices
- Bring together data analytics teams from

Suncor and vendor to collaborate

- Integrate shared services
- Third party operation and maintenance of assets
- Embrace pay for outcome not for unit costs
- Incentivize across the supply chain for development of technology to leverage across the value chain
- Apply collaborative thinking partnerships life-cycle approach and leverage external expertise
- Focus of lessons learned like what went right?
- Better planning for workforce peaks and valleys

Risks

- Current contractual strategy/approach limits innovation with partners
- Three bids and a buy limits partnerships, collaboration and solutions
- How to evaluate and implement sustainability
- Reduced demand for technology changes

3.

Behavioural shift: More engagement, collaboration (transparent, open, trustworthy)**Defined**

- Network model instead of hub and spoke with vendors. Create proper pre-conditions with purpose and goals
- Instead of coming to vendors with scope, come to vendors with desired outcomes and constraints
- Terminology from supplier to partner (shift in mindset)
- RFQ/RFP language and process (current focus is price; reflect other metrics)
- Could Suncor share longer term projections on work scopes, contract opportunities
- Shared ESG visibility of all efforts with value system and supply chain to customers

- Broader supplier JV or engagement with communities and Indigenous businesses
- Suncor to share what value means to suppliers
- Letting go of existing processes and work with suppliers to increase overall knowledge
- Stop working in a silo and engage for the outcome
- Modernize procurement, remove legal roadblocks
- RFP and tender process to include lifecycle approach not just capital purchase
- More collaborative contracting strategies
- Provide transparency on how competitive bids are scored. What does Suncor value most?

Opportunities

- HSE and safety allow for cross-industry sharing of learnings
- Fast and transparent collaborative decision making
- Consolidation of consumable/multiple vendors to manage rationalization
- Unified app like site tools to gather all forms, documents from all vendors and go paperless
- Better planning
- Shared services like transportation
- Eliminate waste by consolidating deliveries and reduce under-utilized rental assets

- Sub-contractor collaboration on execution of scopes with BU support
- Collaboration for chemical sourcing
- Integrated training approach for STEM and workforce of the future partnered across Northern Alberta
- Single portal to simplify and improve procurement
- Supplier collaboration community
- Incentive across the supply chain for technology development technology and leverage the collective
- Apply collaborative thinking partnerships life-cycle approach and leverage external expertise
- Measure the emissions of the entire supply chain collaboratively with our partners

Risks

- Design consideration for contractual models and approach
- Risk versus reward versus change and failure
- Supplier profitability
- Operational safety risk inherent in new fuels
- How are new value outcomes measured?
- Cost escalation
- Strategy gets lost in translation
- How do you promote collaboration when there is a competitive advantage to not collaborate?

4.

Behavioural shift: First Nations

The behavioural shifts identified by the FORGE participants apply to Indigenous businesses in the supply chain as well. But the participants identified the need for some additional process shifts and unique opportunities for integrating Indigenous business deeper into the supply chain.

Defined

- Bringing work to Indigenous communities versus them coming to us
- Shift all contracts to include local and Indigenous content
- Build the workforce by unbundling the work
- Work with suppliers to further social/community benefits (especially around positive use of carbon emissions and environmental benefits)
- Way of working with Indigenous communities; don't tell them what the solution should be (need to co-create)

Opportunities

- Looking at using local resources to support reclamation monitoring
- Including Indigenous businesses throughout the value chain not just isolated to asset operations and areas impacted
- Indigenous two-way relationship, offshore opportunity to explore Kiya Mâka software testing
- Live and work locally to restore local license
- Local growth and investment
- Regional warehouse
- All local/regional manufacturing
- Leverage supplier integration programs to introduce communities related to training Indigenous people to work together and join forces
- Integrated training approach for STEM and workforce of future partnered across Northern Alberta
- Continue to grow investment in regional business partner with education to advance skills development

- Partnering with vendors and contractors to address community issues. Community investment. Social problems. For example, education in remote communities with IBM / Microsoft

Risk

- Indigenous engagement too formalized, just do it

APPENDIX C**Behaviours to keep, start and shift****Keep doing**

- Continue being a leader in community investment and continue to visit and be engaged directly with the communities and not just leaders
- Keep challenging the status quo; remain open to change, remain not afraid to be a contrarian - it takes courage
- Maintain ambitious goals and leadership drive (suppliers will follow) whilst maintaining the positive approach and mindset to move the industry forward

- Maintain the open dialogue and demonstrating transparency in discussions with partners
- Keep being accessible to top tier suppliers
- Keep open communication between the Suncor SCM team and suppliers
- Continue to focus on relationships rather than only cost and keep looking for value-- not only cost
- Keep spending reduction conversations that are respectful
- Maintain commitment to Indigenous communication and collaboration
- Focus on outcomes in procurement rather than how to do something
- Keep representing company values through the procurement process
- Stay open to conversations on how to improve our value chain with a broad range of stakeholders and keep energy community integration mindset
- Build relationships with Indigenous suppliers in all areas
- Continue pushing and influencing inclusion and diversity
- Keep anchoring behaviours to company purpose
- Keep relying on customer expertise

Start doing

- Communicate great stories with suppliers about impact on the community
- Challenge standards when necessary
- Take the time to articulate the problems we are looking to solve
- Engaging Indigenous businesses from a system view
- Hold vendors accountable for Indigenous participation
- Hold vendors and suppliers accountable for GHG reductions
- Keep everyone informed on the approach and process
- Share best practices, failures and learnings more publicly with supply chain
- Share new Suncor vision, purpose, goals
- Call contractors for feedback from other regions or sectors through projects
- Be accessible to companies we don't usually work with
- SCM needs get out of the office and into your partner's shops
- Suppliers need to engage with communities where they operate
- Entice the workforce about the new way forward
- Empower people at different levels with accountability



- Move away from fear-based culture
- Be risk takers. We cannot make incremental steps, we need disruptive change, encourage intelligent risk-taking
- Treat innovation and sustainability like safety--a priority
- Be more willing to listen to innovative ideas
- Encourage flexibility and new ways of doing business
- Be more open about the problems
- Think about the value chain from the end and work backwards from the end consumer perspective to ensure value throughout
- Be more inclusive with current partners
- Create an environment that encourages collaboration between suppliers, even those that compete
- Get better understanding of the constraints and opportunities
- Do better job articulating the business benefit to the community from an environmental perspective
- Validate consumer concerns (show we're listening) to build trust

- Drive inclusive behaviours rather than tokenism to progress suppliers and Suncor
- Be open to new commercial approaches
- Show trust and vulnerability

Shift

- Become less transactional with vendors
- Push for more engagement/communication
- Build trust through dialogue and understanding through mutual goals
- Walk the talk on trust, integrity, don't just talk, illustrate what trust looks like
- Share more sustainability focus areas within all of Suncor
- Stop minor/tactical reasons getting in the way of strategic engagement
- Move to partnership model, build proper long-term relationships in competitive bidding
- Be more honest with suppliers, trust suppliers more
- Need to understand problems plus create value
- Instead of coming to vendors with scope, come to vendors with desired outcomes and constraints
- Shift the conversations from cost to systems view
- Be more courageous in pushing other industry players
- Suncor to better share what value means to suppliers

- Provide transparency on how competitive bids are scored. What does Suncor value most?
- Let go of existing processes and work with suppliers to increase overall knowledge in collaboration
- Clarify what transformation looks like for Suncor and the industry

APPENDIX D

Processes to keep, start and shift

Comments from the FORGE participants on the processes that work well for Suncor and it should keep doing, what they need to start doing, and areas where they need to shift what they are doing, fell into several broad categories. Here is the breakdown:

Keep doing

ENGAGEMENT EFFORTS

- Keep the FORGE engagement momentum, communication level and successes; continue suppliers sharing 'the art of the possible' practices that advance their needs

- Continue to strengthen the relationship with suppliers and contractors with improved engagement and stewardship consistency
- Maintain vendor engagement on achieving common goals
- Continue working to long-term relationship with focus on total-cost/value
- Maintain engagements with all levels of government on need for systems change
- Maintain Indigenous business engagement and valuing Indigenous relationships; keep supportive Indigenous business liaison roles
- Continue the partnerships with peers such as Canada's Oil Sands Innovation Alliance (COSIA) and extend or strengthen it
- Keep connection between community and business like the Mississaugas of the Credit First Nation (MCFN) traditional lunch

LEADERSHIP ON SUSTAINABILITY

- Suncor is an industry leader/pathfinder. Continue to keep the focus on environment/sustainability
- Keep providing information on sustainability to communities
- Keep improving on diversity efforts: employment and suppliers
- Continue weighting sustainability in bid scoring process



- Helping Indigenous business advancement
- Remain triple bottom line focused
- Continue focus on wind-power / renewables
- Suncor forefront of thought leaders. Keep thought-leadership
- Maintain strong safety culture
- Indigenous local content focus
- Canada and community focus; Suncor holds a leadership role in Canada - continue to invest and communicate this. Community, social, environment and the Olympic movement.

COLLABORATION

- Maintain partnerships and extended agreements
- Keep collaboration, service quality measurement (SQM)/level setting, best practice sharing
- Allowing vendors to provide innovative ideas and ways to do business
- Maintain the alignment at a corporate level. This is starting to cascade down to SCM and generating more consistency in procurement.

- Continue to share long range plan (LRP) with suppliers to collaborate better
- Keep strategic supplier base and continue to focus on it
- Continue bringing together suppliers to optimize systems
- Focus on accountability and high standards
- KPIs but incentivize them and other metrics like sustainability
- Transparent communications on work scopes and projects five-year outlook
- Suncor supporting business growth in related scopes, especially in Indigenous businesses
- Contract consolidation enterprise-wide
- Integrated customer and supplier two-way score card
- Innovation in technology that connects workers and suppliers
- Consistent, standardized vendor to Suncor experience
- Team approach to achieving goals in execution of projects
- Relationship-building at multiple levels within organizations

Start doing

TECHNOLOGY

- Create an innovation think tank (plug and play)
- Investing in systems and technology i.e. SAP

- Build technology platforms to communicate and address challenges and make it available for suppliers
- Investing in better reporting, organizing information and gathering and analyzing data
- Start sharing data across the supply chain to encourage new ideas e.g. share data with SMS to assess wins to find new opportunities
- Share learnings across operating sites/assets using internal data on both Suncor and vendor responsibilities
- Use optimization and simulation modeling to help make good business decisions and be data driven
- Start shaping our Indigenous business database with our EPC contractors
- Use tools, AI and data to minimize greenhouse gas emissions and reduce costs
- Start with understanding and making use of existing data

COLLABORATION & COMMUNICATION

- Include local organizations including Keyano College so they can support opportunities
- Create opportunities to learn from each other more regularly
- Start hackathon-style workshops i.e. find problems and opportunities and solve it together; may include other partners in the value chain as well

- Launch co-creation workshops with top leadership commitments from the supply chain
- Start focus group for long lasting, result-oriented changes with vendors
- Create small tasks force from FORGE to work on issues/opportunities
- Build a think-tank of young employees with free support to focus on innovation and new ideas
- Start building communities of practice in waste cycles across the supply chain
- Take FORGE to the rest of value chain and the rest of Suncor
- Include Indigenous groups at COSIA
- Launch an industry forum for standards/ knowledge sharing for example, goals/how and consistency
- Work with small value suppliers to drive experience from other suppliers, locations
- Create a Shark Tank-like program to give technology providers the opportunity to present their innovation
- Create a venue to bring new ideas and test them
- Create a digital collaboration platform to continue fostering ideas beyond FORGE
- Develop joint innovation roadmaps
- Conduct trust index survey with suppliers

FIRST NATIONS

- Develop a clear strategy on Indigenous business in RMWB and venture out to other areas like NFLD for example to engage and establish relationships
- Sustainability is about Indigenous partnerships, communities, structure of relationships - build on current relationships and structures
- Use transparency in weighing Indigenous scores on RFP

PROCUREMENT/ CONTRACTS

- Establish longer term contracts
- Consider long cycle engagements rather than short cycle engagements (real partnerships)
- Figure out how to get more efficient together while making some profit
- Make sure safety and sustainability is a vendor expectation
- Quantify how to properly value ESG considerations in procurement decision making

- Start to shift RFP/contracting conversations more broadly with sustainability and innovation; include sustainability as a weighted criterion of contracts
- Value carbon footprint/credits in contract relationships
- Consider standards/relax them regarding the specs of components
- Create one point of contact for supplier management
- Be more holistic with suppliers (payment terms, working capital)
- Define evaluation process in selection of equipment
- Start measuring the supplier footprint to see where we are today
- Institute shared goals with performance incentives to drive one team approach like field engineers, supply chain, etc. This has worked extremely well with other producers in other industries.

PROJECT MANAGEMENT

- Earlier engagement with a focus on outcome, opportunity, and problem-solving
- Institute integrated early phase planning and development
- Earlier engagement on design requirements like electric drive and alternative fuels

- Add best practices for safety, sustainability to supply chain management (SCM) for innovative offering
- Develop agreed upon project expectations
- Combine safety meeting with sustainability to share ideas and align
- Allow construction and engineering collaboration
- Build strategic long-term goals with contractors
- Develop cohesive tracking of projects and understand value for sharing and collaboration; have KPIs for lessons learned for both Suncor and suppliers

Shift

TO A MORE PARTNERSHIP MODEL

- Shift to value-based partnering and contracting to drive the right behaviours
- Understand other costing models to influence Suncor's current approach while addressing current needs and cost challenges
- Share risks with suppliers

COLLABORATION AND COMMUNICATION

- More consistent and regular project stewardship
- More thorough understanding of supplier capabilities

- More focus on trusted long-term partners
- More involvement of suppliers earlier in the process
- Recognize the value of suppliers bringing forward value creation ideas
- Earlier engagement of suppliers into projects to leverage their expertise
- Greater commitment (Suncor and partner) through all project stages
- More engagement and collaboration across life-cycle vs siloes

CONTRACTS

- Greater consistency in application of EHS processes across regions for contractors
- Shift the evaluation for award of contracts from capital to lifecycle cost
- Reward mechanisms for contractors beyond shifting risk to the contractor. Need to evolve this strategy.
- Build in incentives to contracts by incorporating sustainability initiatives
- Shift bid process on scope/work versus corporate requirements - use pre-qualification process
- Shift to more production-based contracts
- Need for more integrated projects with suppliers (industry peers are doing this)

- Longer term contract leads to investment in innovative ideas
- Procurement should increase capital investment if you remove bids and have strategic relationships

GREATER FOCUS ON SUSTAINABILITY

- Shift benchmarking beyond oil & gas to world leading sectors
- There are different aspects of environment and there needs to be a balance
- Shift all contracts to include local and Indigenous content
- Continue capital investment in renewables
- Work with other operators to provide collective support for FMM community
- Incentivize green and penalize emissions
- Adapt the culture to include and drive sustainability future
- Develop sustainability knowledge as a core skill
- Work with suppliers to further social/

community benefits (especially around positive use of carbon emissions and environmental benefits)

- Add different metrics/inputs into valuing our community investments
- Influence the carbon compliance and regulatory system
- Create demand for carbon credits/revenue opportunity
- Implement broader supplier, joint venture, or engagement with communities and Indigenous businesses
- Use targeted marketing to consumers about partners and sustainability actions

SHIFT TO A SYSTEMS OR LIFECYCLE APPROACH

- Shift organization to a system view instead of an asset view
- Design end-to-end green value chain
- Change the culture to value versus cost
- Identify where to convene within broader value chain. Outline clear goals and present a detailed roadmap.
- Provide value chain direction (build on Suncor's new purpose)
- Stop focus on lowest price - instead look for lowest cost

- OEM engagement to focus on total expenditures
- Focus on high reliability and on reducing frequency and duration of turnarounds
- Develop ESG and value mapping of supply chain
- Explore by-product waste value business opportunities
- Share full ESG visibility across hydrocarbon value chain to customers



2020
The future starts here