



2023 Impact Report



Land Acknowledgement

The team supporting the Energy Futures Lab is committed to a continuous practice of learning and unlearning as part of our professional and personal truth and reconciliation journeys.

As a remote team that convenes a Fellowship as well as other activities across the province, we gratefully acknowledge the original territories of the Siksikáwa, Îyârhe Nakodabi, Tsuut'ina Dene, Cree, Saulteaux, Nakota Sioux, and the Métis Nation of Alberta. We acknowledge and honour these peoples as the traditional custodians and keepers of the colonized lands which many now refer to as Alberta.

We are deeply grateful for the lessons, teachings and experiences we have received, as well as the support, patience and friendship offered along the way. A very special acknowledgement to our friends at Tatâga for their guidance and friendship as we've continued on our journey of truth and reconciliation since 2022, and always to the Fellows, Ambassadors, Partners, advisors and other members of our community who walk with us on a path to a more equitable future.

May we all continue to walk together in a good way to honour and acknowledge our commitments to Indigenous Peoples as we create our shared future, together.

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Who We Are

The Energy Futures Lab is an Alberta-based coalition of diverse innovators and leading organizations working to accelerate the transition to the energy system the future requires of us. Created in 2015 to address a growing polarization in perspectives on Canadian energy, the organization brings together stakeholders from across the energy system to collaboratively develop solutions for a prosperous, net-zero and equitable energy future. Our approach highlights the importance of drawing on diverse perspectives to address complex, system-level challenges.

What We Do: Programming Streams



Why We Do It: Our 2050 Vision

We anticipate that by 2050 the world has made major advances in transitioning to a sustainable, inclusive and prosperous global energy system, where production and consumption aligns with the scientific [principles of sustainability](#). In the energy system the future requires of us, we are thriving and committed to nurturing a sustainable, inclusive and prosperous energy system.

The Energy Futures Lab defines the energy system the future requires of us as a system that simultaneously:

- is net-zero for carbon emissions for the production and consumption of energy in Alberta and Canada
- enables quality of life for all people by meeting energy needs reliably and affordably
- is a leader in energy-based partnership towards reconciliation with Indigenous peoples in Canada
- is inclusive, accessible, and equitable to current and future generations
- enhances the health of our natural environment and the health of all those living within it
- is a continued source of economic prosperity for the province and the country
- supports diversity, resiliency, and adaptability

Our Partners in the Energy Transition

The work of the Energy Futures Lab is made possible thanks to the vision, insight, commitment, and generous support of people and organizations working across the Canadian energy and resources sectors at all levels. Recognizing the value of our approach, their willingness to lean into the complexities and tensions of the enormous challenge we are facing is critical to ensuring not only that we reach net-zero by 2050, but also that the transition is inclusive and prosperous for all people in Canada.

Convening Partners



Funders



This project was undertaken with the financial support of the Government of Canada.
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The Fellowship

The Energy Futures Lab Fellowship is a diverse group of 49 innovators and influencers working in today's energy system who explore and hold the significant tensions inherent in our mission to identify solutions, and show leadership in mobilizing others to address them.

2023 Fellows

*new Fellow



Ankit Mishra
Cycle Capital



Bonnie Nunari*
Calgary Economic
Development



Brad Nickel
EQUUS REA Ltd.



Cameron Brown*
Global Public Affairs



Chantale Campbell*
ConocoPhillips Canada



Chelsea Donelon
TransAlta Corporation



Chris Brown
Calgary Economic
Development



Dani Urton*
Vertex Resource
Group Ltd.



David Bellmont
Journey Engineering
Corporation



David Sanguinetti*
Foresight Canada



David Ghoris*
dmg events



Erik Koskela*
Inter Pipeline Ltd.



Erin Moffat
Ovintiv



Eyab Al-Aini
E4 Solutions



Gary Millard
Suncor Energy



Geoffrey Tauvette
FSM Management
Group



Gillian Hynes*
Mount Royal
University



Jelena Bajic
Independent



Jenna Anand
Shell Canada



Jochem Kamstra
Siemens Energy



John Merrett*
RBC Capital Markets



Kate Letizia*
Community Energy
Association



Leanne Kubiseski*
FortisAlberta



Liz Brennan
Canfor



Maggie Hanna
Common Ground
Energy



Maham Aftab*
Ballad Group



Malachy Carroll*
Suncor



Marie Sereneo*
ARC Resources Ltd.



Mark Hopkins
Swallow-a-Bicycle
Theatre



Matthew Brady
Government of
Canada



Melanie Ross
SAIT



Miles Joliffe
Kinetic Canada



Nubaha Mahbub*
Enmax



Robin Moritz*
Capital Power



Rory Wheat*
Varme Energy Inc.



Sagar Kancharla*
WSP Canada



**Santiago Arribas
Picon***
Enbridge



Shahed Shafazand*
Shift Catalysts



Sheila Schindel
Innovate BC



Stacie Lara*
Invest Alberta
Corporation



Stephen Edison
Chevron Canada
Limited



Steve Saddleback
Opimoyaso Group



Sura Abdul-Razzak
Alberta Utilities
Commission



Sydney Kjellander
Prairies Economic
Development Canada



Tarun Chari*
Rewatt Power



Todd Becker*
Town of Innisfail



Tristan Walker*
Town and MD of
Pincher Creek



Victor Del Valle
Independent



Winona Lafreniere*
Indian Resource
Council

2023 At A Glance

An aerial photograph of a two-lane asphalt road that curves through a lush, dense forest. The trees are vibrant green, suggesting summer. A dark-colored car is driving on the road, moving away from the viewer. The road has white lane markings and a metal guardrail on the left side. A small red and white striped sign is visible on the left shoulder of the road.

As the Energy Futures Lab celebrates nine years of work towards establishing a trusted network of energy leaders and bridging their innovative efforts to accelerate Canada's energy transition, 2023 saw us reach a pivotal moment in our maturation as a social innovation lab and make our biggest adaptation to-date.

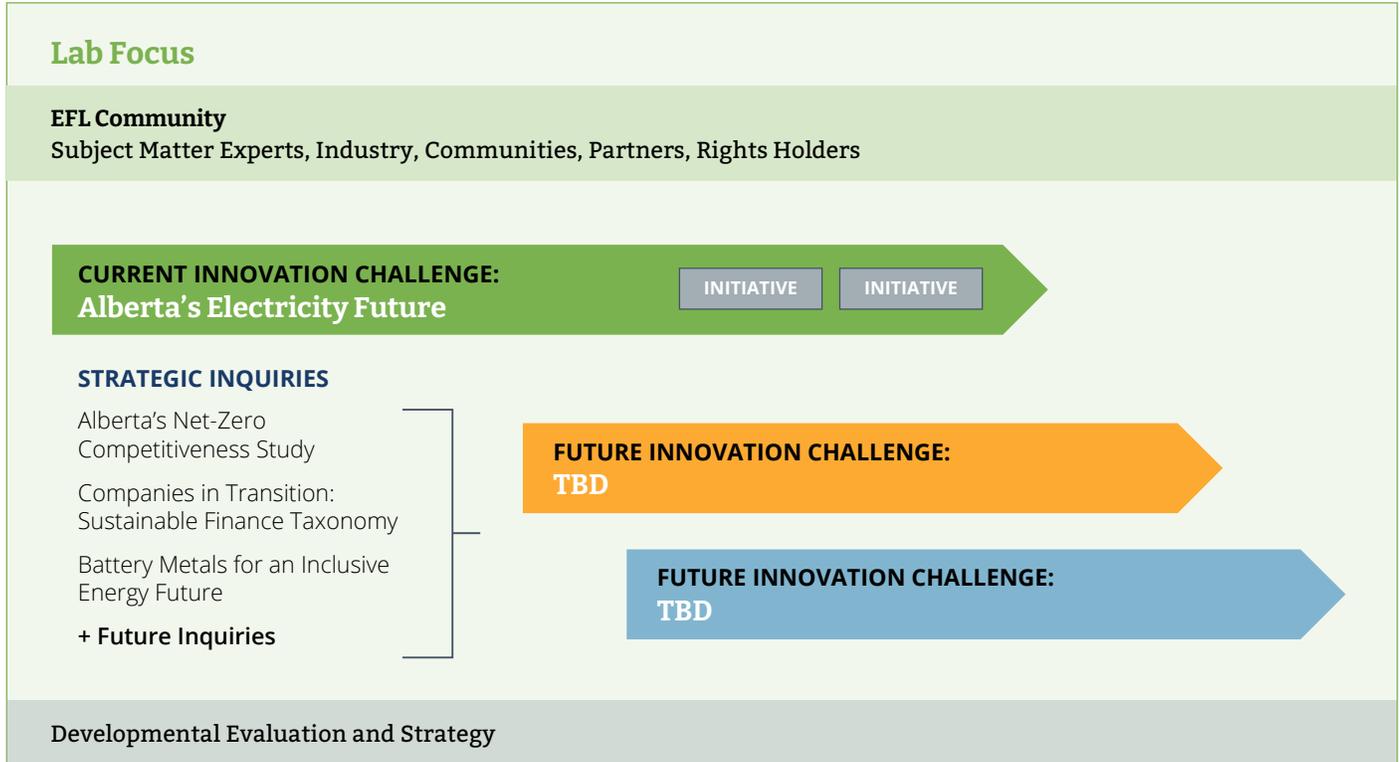
A strategic shift

In September 2023, the Lab announced that, beginning in 2024, we will shift how we convene our network and adjust how and where we will apply our unique form of social innovation to the rapidly evolving challenges and priorities for accelerating Canada’s energy transition.

2024 will serve as a transitional year for the Lab network, bringing together a cohort of past and current Lab Fellows and Ambassadors in a new, joint convening format to capitalize on the wealth of experience, diversity and energy of the group we have already nurtured. This will enable the Lab to reallocate resources to go deeper on a smaller set of timely, critical innovation challenges focused on the strategic priority of *enabling the new growth industries that will position Alberta's economy to thrive in a net-zero future*. As part of this strategy, the Lab will continue to draw in new, focused participation from critical stakeholders connected to new Innovation Challenges being convened around priority solution areas. It will also maintain a level of work directly in rural communities with a greater emphasis on exploring and prototyping solutions related to the Innovation Challenges, while also facilitating the advancement of decentralized, community-driven solutions to the challenge of energy transition in Alberta.

As we embark on this shift, the Lab is also launching a new stream of work we’re calling “Strategic Inquiries.” These shorter term initiatives study and test the potential of specific solution pathways, surface promising areas of intervention, and can help build a research-backed case for future areas of focus for more significant investment of the Lab’s resources and capacity.

This next-level strategy for the EFL is responding to insights and feedback from the Lab’s community, including strategic advisors and funders, developmental evaluation, and insight from the Lab’s support team. Moreover, the strategic direction takes into account the current context of Canada’s energy transition, and the emergent forces serving to accelerate the transition in some areas, or complicate and decelerate progress in others. The choice to sharpen our focus and prioritize areas where efforts are most needed will result in even more impact in the creation of the future energy system.



Starting in 2024, the Lab is committed to hosting no more than 3 Innovation Challenges at any given time, resourced with expertise drawn from the EFL Community (Fellows, Ambassadors, Partners and Advisors), Indigenous and non-Indigenous subject matter experts, industry and communities. Initiatives in our portfolio will primarily flow from solutioning needs identified in Innovation Challenges.

Current context

In the aftermath of three years marked by substantial disruptions caused by the global COVID-19 pandemic, 2023 ushered in fresh opportunities and challenges that the Lab, with its characteristic responsiveness, was well-positioned to address.



These emerging realities served to shape the Lab community's response to our mission, and are reflected in the nature of the initiatives, as well as broader discussions and explorations that have surfaced in our work together over the course of the year.

Encouraging transition support despite political challenges

Within the Canadian political landscape, marked by a provincial election in Alberta and new leadership for the governing party, tensions between provincial and federal authorities have risen. While this new polarization hasn't impacted the ever-increasing public support for Canada's energy transition, it does pose new challenges to transition initiatives at the policy and regulatory level that are critical to meeting interim and 2050 targets.

Climate effects felt on the homefront

A particularly devastating wildfire season in Canada led to thousands being displaced, entire cities under threat, and a significant rise in emissions from forests and land. However, the absence of clear and compelling leadership or collective momentum, coupled with uncertainty about how the transition will impact regional interests and affordability, has resulted in confusion and hindered necessary alignment. Clarity is essential for communities to lay the groundwork and take practical steps toward the shifts required.

Overcoming ESG challenges and embracing positive momentum

Prolonged uncertainty poses a threat to public support for the energy transition and may lead to a backlash against related efforts. Some of this backlash is evident in a growing resistance to the ESG movement, with companies and investors reverting to short-term, profit-centric thinking. Public narratives are increasingly pitting transition efforts against affordability, presenting ongoing complexities that the Lab must navigate in future initiatives.

Green shoots of progress: rising investments and consumer tech adoption

Despite challenges, 2023 has seen tangible, positive developments in transition-focused activities. The Inflation Reduction Act, signed into law last year, prompted Canada to take decisive action by embracing industrial policy in key economic sectors. The response, particularly through the transition-oriented Budget 2023, has yielded encouraging results. Sustainable investment has reached an all-time high, and there has been a notable increase in the adoption of electric vehicles.

The nature of these complex and interconnected realities emerging as we approach the quarter-mark of this century and the ever-approaching deadline of 2050 further underlines the need for the kind of creative and complexity-savvy approaches to systems change that the EFL is known for and trusted to lead.

Focus on industries of the future

In response to this shifting context, we have made the deliberate decision to sharpen the focus of the Lab on aligning and supporting emerging industries and sectors that will create value for Canadians, with an emphasis on Western Canada and Alberta specifically, in a decarbonized future.



This has been an area of significant attention and interest to our community, particularly as we've witnessed the transformative impact of the US Inflation Reduction Act and the EU's Green New Deal on accelerating low emission energy transition investments. Exploring place-based industrial strategy to focus efforts where Alberta is best positioned to compete in a net-zero economy was a natural extension of the work the Lab has successfully led and championed in recent years, including work with [Battery Metals Association of Canada \(BMAC\)](#), the [Canadian Council for Sustainable Aviation Fuels \(C-SAF\)](#), and the [Energy Futures Policy Collaborative \(EFPC\)](#).

[Alberta's Net-Zero Competitiveness Study](#) (one of 3 Strategic Inquiries being launched for 2024) is illuminating the path towards industries that will drive our collective prosperity in a net-zero world, building upon existing assets and strengths. While there have been a number of other competitiveness studies, few focus specifically on how Alberta can best secure its position within a global net-zero economy. This effort will consider our resources and assets, positioning within North American and global supply chains, prospects for evolving international markets and supply chains, and connections to other provinces and regions across value chains.

We will also be testing how we can support the nascent, yet rapidly growing, battery metals/critical minerals sector to scale in a way that is equitable and in the spirit of Truth and Reconciliation, in a continuation of our work with BMAC through a series of workshops and learning journeys. More information on the initiative will be shared in 2024.

The Lab will also continue work that began as a contribution to the Sustainable Finance Action Council's [Sustainable Finance Taxonomy Report](#) through a Strategic Inquiry designed to test the draft taxonomy's proposed criteria against companies in transition identified through the Energy Futures Policy Collaborative's (EFPC) final phases.

After several years of sensing and strategizing around the creation of a new Innovation Challenge focused on grid modernization, [Alberta's Electricity Future](#) was launched in 2023. Now nearing the end of its first phase focused on co-creating a compelling, collective vision for Alberta's electricity system, the initiative is making strides in tackling one of the biggest and most complex parts of the energy system: one essential to enabling a net-zero economy. Under the new strategic direction this initiative will be carried over as one of a limited number of Innovation Challenges to be convened, recognizing electricity's importance as a critical enabler to many decarbonization pathways.

Notable successes

In 2023, the Lab advanced more than 15 impactful initiatives while navigating a shift in strategy and approach and did so in a way that ensured that, through any changes, we protected and leveraged the Lab's greatest assets: the network of people invested in our collective work to accelerate the energy transition.

As part of this, we undertook a process of testing and refining the strategic direction with advisors, partners and other key stakeholders. Notably, all were supportive of the new strategy and felt it would only strengthen the Lab's value proposition. Through that process, we also heard time and again how valuable and unique the Lab's model is in the ecosystem, and how our truly collaborative, non-partisan approach stands out as central to the impacts our work has supported. Through convening diverse perspectives in a deliberate and meaningful way, facilitating the development of relationships across silos, surfacing well-rounded views of systemic challenges and holding brave spaces to explore and mine tensions in perspectives for greater shared understanding and more creative solutions, the Lab's approach to collaboration and the outcomes it achieves stand out as next-level. This points to why, given the increase in political tension on energy and climate issues this year, we have been able to influence measured and productive conversations at government tables within Alberta and at the Federal level.

The Lab's government relations and advocacy efforts have been a key driver for opening windows of opportunity to help shape and influence energy transition conversations and led to opportunities to present to various Federal Government cabinet working groups and roundtables. The growing reputation of the Lab as a trusted and balanced voice of Canada's energy system has also enabled the Lab to advance its 'radical middle' perspective at all levels of government. These efforts were only made possible by the direct and sustained engagement of the Lab's broader community, and in several cases, direct policy influence resulted from the insights and messaging surfaced through Innovation Challenges being brought forward with the right policymakers at the right moment.

The Lab also spent time over 2023 diving deeper into how we consider and seek to increase equity across all efforts in service of our mission. Through the [Digital Innovation Challenge](#), the Lab's need to establish more concrete frameworks, methods and processes around our intention of more deeply considering equity in our work was identified as a priority for 2023, and led to a series of conversations and learning journeys for the Lab Team and Fellowship hosted and facilitated by equity and anti-racism consultant Thulasy Lettner and facilitator Danielle Mitchell. Combined with the team's work on expanding the Lab's group agreements to help create safer, and more equitable spaces that facilitate deeper participation and prioritize needs of non-traditional voices in energy conversations, our work with Thulasy and Danielle introduced the Lab to new tools and perspectives that are already beginning to inform how we approach, scope and design our work, and how we host spaces that create the conditions for more equitable participation.

The [Energy Futures Policy Collaborative](#) Innovation Challenge came to a close in July after completing the fifth and final project phase focused on activating advocacy and communications efforts to promote the [Same game, new rules](#) policy framework. These efforts were successful in aligning public voices, the business community, energy advocates, and policy makers to advocate for Alberta's potential as an emerging leader in new, low-emissions energy solutions and climate action, and present a viable case for investment based on this. The commendable work of the Energy Futures Policy Collaborative is a testament to the Lab's ability to attain policy influence through strategic relationships, and its achievements propel us forward in shaping meaningful policy change.

Furthermore, the successful model and relationships established with the creation of the Indigenous Advisory Committee (IAC) for the EFPC, are continuing to play a crucial role in shaping the Lab's approach and ongoing efforts. The receptive and responsive approach that the EFPC project group took in the initial project phases built deep relationships, confidence and trust amongst IAC members, with our team, and in the collective work. In carving out spaces for Indigenous leadership, knowledge and expertise to thrive within the work of the Lab, we've also heard from our Indigenous colleagues, partners and collaborators that we can benefit from spending more time in community; showing up in and supporting Indigenous-led spaces. Our commitment to Truth and Reconciliation is something that we see as essential to carry forward as part of the 'EFL way' in the next evolution of the Lab; we aim to embed Truth and Reconciliation and diversity, equity and inclusion as foundational pieces of our Innovation Challenges and Strategic inquiries.



In recognition of our unique approach, the Lab won two awards for its work in 2023: **The Ecosystem Supporter of the Year Award** from Foresight Canada, and a **Clean50 Project Award** for the Canadian Council for Sustainable Aviation Fuels Roadmap work, undertaken in collaboration with The Transition Accelerator.

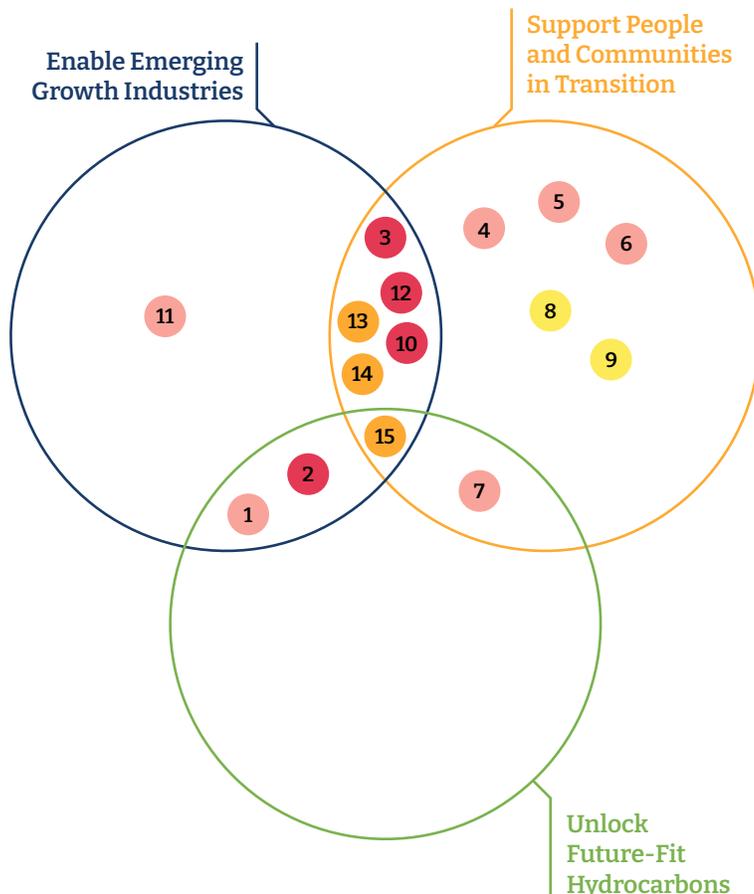
2023 Energy Futures Lab Portfolio of Initiatives

At this pivotal moment for the energy transition, the Energy Futures Lab is leading the charge towards a resilient future for Alberta with an emphasis on the human-centred solutions needed to realize the goal of net-zero. The following snapshot of our 2023 solution portfolio is the culmination of work in the Lab stemming as far back as 5 years, though much of it is built on ideas, concepts and conversations whose origins in the Lab are so deeply interwoven their genesis is hard to pinpoint. What's clearer is that a great deal of passion, care, and hard work on the part of our Fellows and Ambassadors have fuelled numerous impacts, learnings and results further detailed in the following pages.

As a result of our planned strategic shift for 2024, you'll see that many of the initiatives are poised for graduation, as we prepare to roll up the Impact Studio stream of work for the time being, and hone our strategic focus to *enabling new growth industries that contribute to building a net-zero future.*

It's important to note that the graduation of a solution pathway does not necessarily represent the end of that work or the involvement of EFL Fellows and Ambassadors, but rather the formal scope being advanced with support from the Lab coming to completion, which may not encompass the totality of the project.

Going forward, our network will continue to nurture some of these initiatives through professional or personal channels, utilizing the skills and connections they've developed through their time with the Lab to advance the issue, and support one another in the process. We look forward to hearing about further developments in the solution pathways represented by these initiatives when we gather again as a full network in early 2024.



Innovation Challenges

- 2. Financing the Transition to Future-Fit Hydrocarbons & The Energy Futures Policy Collaborative
- 3. Rural Community Resilience in Energy Transition
- 10. Alberta's Electricity Future
- 12. Digital Innovation for Net-Zero Buildings

Impact Studio Solutions

- 1. CCUS Ecosystem Mapping
- 4. Energy Futures Print Portfolio
- 5. Tech Stewardship for the Energy Transition
- 6. Four Seasons of Indigenous Green Building Summits
- 7. AB Municipal Climate Leaders
- 11. Sustainable Aviation Fuels Roadmap

EFL Community Collaborations

- 8. Indigenous Equity Participation
- 9. Spirit of the Earth

Strategic Inquiries

- 13. Battery Metals for an Inclusive Energy Future
- 14. Alberta's Net-Zero Competitiveness Study
- 15. Companies in Transition: Sustainable Finance Taxonomy

Portfolio of Initiatives: Icon Key

Status	 New	 Continuing	 Shifting	 Graduated	 Handed Off	 Completed
Stream	 Innovation Challenge	 Impact Studio	 Community Collaboration	 Thought Leadership		
Transformative Outcomes (New/Evolved)	 Relationships	 Technologies	 Policies	 Narratives	 Resource Flows	 Business Models
Impact Geo	 Calgary and southern Alberta	 Edmonton and capital region	 Red Deer and central Alberta	 Northern Alberta	 Canadian Rockies	 All of Alberta
	 Western Canada (AB, BC & SK)	 Central & Eastern Canada	 Canadian Territories	 All of Canada	 North America	 Global
Focus Area(s)	 Unlocking future-fit hydrocarbons	 Enabling emerging growth industries	 Supporting people and communities in transition			

Portfolio of Initiatives: Strategic Pillars

<p>Unlocking novel and creative solutions for Canada's hydrocarbon resources</p>	<p>Supporting people and communities as they lean into the energy transition</p>	<p>Enabling the emergence of new growth industries</p>
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1

CCUS Ecosystem Mapping

Challenge

The implementation of Carbon Capture, Utilization, and Storage (CCUS) technology is a pivotal contribution to achieving net-zero energy by 2050. However, the effective deployment of CCUS in Alberta and across Canada faces complex challenges. The lack of a shared understanding of these challenges results in fragmented interventions and hampers broader adoption and investment in the technology.

Initiative

To address this issue, the Lab undertook research towards uncovering and articulating the pain points as well as opportunities in the CCUS system. A four-month process was designed and led by EFL Fellows to co-determine and stress test stakeholders' key challenge areas hindering the safe, sustainable and effective deployment of CCUS in Alberta. The working group conducted three, three-hour workshops from May to August 2023. The first acted as a level-setting workshop, with discussion focused on current Alberta and Canada state and value chain mapping to identify strategic issues. The second workshop then shifted to identifying actions and pathways to unlock momentum and solutions to the key strategic issues identified in Workshop 1. Finally, the third workshop focused on refining and evaluating the five identified strategic issues areas, and proposals were brought forward on how such challenges might be addressed. Participants in both the workshops and interviews included representatives from governments, agencies, think tanks, municipal organizations, not-for-profit entities, private industry, and others representing a wide breadth of players in the CCUS space.

Focus Area	Status	Stream	Outcomes	Impact Geo
				
				
				
				

Our Contribution

Following on EFL Fellows' interest in CCUS technologies, increasingly focused conversations emerged that the EFL helped to scope and shape into a first phase research and engagement arc through the Impact Studio. Because of the Lab's trusted reputation as a non-partisan convenor and advocate for a radical middle-ground on energy issues, we were able to bring critical sector stakeholders to the table and engender a spirit of trust and openness around a subject that could be sensitive from reputational, competitive and political perspectives. Furthermore, the Lab's involvement leveraged superior facilitation skills to gain significant, actionable insights from a broad representation of affected sectors.

Impact

To advance the deployment of CCUS in Alberta and across Canada, a strategic and collaborative approach will accelerate the uptake of CCUS projects. While the contributions of this initiative represent an early phase of a longer trajectory, it is clear that establishing a coalition of key stakeholders in the utilization space, with a focus on policy advocacy and technology commercialization has the potential to help drive innovation and industry growth.

This work provides insight for future engagement between policy developers and industry players to provide clarity on carbon pricing, accelerating and optimizing proposed funding mechanisms. Emphasizing long-term public engagement could contribute to addressing challenges around investment, subsurface dynamics, and public confidence. The resulting report, [Accelerating the Adoption of CCUS in Alberta: A Systems View](#) was released on December 8, 2023, and outlines the 5 strategic issue themes identified through the initiative.

Significance

By determining key, common challenge areas ('pain points') hindering uptake and deployment of CCUS practices and technologies in Alberta, the EFL is poised to help the system align actions towards accelerating the effective utilization of CCUS as one of several mutually reinforcing pathways to achieve net-zero energy by 2050. Because key implicated players can — and will — align on a potential trajectory and portfolio of interventions to accelerate progress along the CCUS pathway. By fostering collaboration, incentivizing innovation, and addressing system-level challenges, Canada can position itself as a leader in low-carbon energy and contribute significantly to global emissions reduction targets. The collaborative efforts of industry players, government bodies, research institutions, technology accelerators, and communities are paramount in shaping a successful CCUS ecosystem in the province.



Financing the Transition to Future-Fit Hydrocarbons & The Energy Futures Policy Collaborative

Challenge

Transitioning Alberta’s oil and gas sectors toward a net-zero future is no small feat. Enter ‘future-fit hydrocarbons’ (FFH) — diversification pathways that provide deep emissions reductions AND have the potential to harness existing hydrocarbon resources, assets, and expertise to build the net-zero economy of the future. Despite both public and private sector appetite for economic diversification, Alberta’s oil and gas industry continues to face significant challenges related to the sustainable investment required to kickstart the shift.

Initiative

The Energy Futures Policy Collaborative (EFPC) was established as a multi-stakeholder partnership featuring some of the best and brightest minds in Canadian energy.

Together, they explored what interventions could help build momentum for a shift, bridge divides, and — most critically — what policy signals could help attract investment and support emerging innovations that capitalize on the transformative potential of Alberta’s hydrocarbon resources. The result was a novel policy framework and an advocacy campaign to demonstrate that hydrocarbons and net-zero don’t need to be at odds; via novel uses, FFH can be a bridge to a lower-carbon economy and build on the expertise and assets that characterize Alberta’s energy sector today.

Focus Area	Status	Stream	Outcomes	Impact Geo

Our Contribution

In 2023, with a strong collective established and its [Same Game, New Rules](#) policy framework released, the initiative moved onto engaging key policy makers and influencers to create momentum around the framework and its narratives. However the emerging context of a highly-polarized policy environment in Alberta and an industry ESG backlash risked sidelining its efforts. To successfully reach the desired audience, the messaging of FFHs and their potential for Alberta needed to reach policymakers with broad and vocal public support for the framework’s central theses. To achieve this, the collective turned its focus to elevating the prominent voices of EFPC proponents, particularly those of the project’s [Indigenous Advisory Committee](#) (IAC), and promoting the FFH narrative. This was achieved through a series of high-profile speaking engagements, including at the Carbon Capture Canada Conference, Canadian Hydrogen Convention, GLOBE conference, as well as a presentation to senior leaders at a Canadian financial institution, participation in round table discussions, as well as an EFL-hosted webinar series, media articles and op-eds, and a social media campaign. At the same time, the project’s secretariat began exploring how to work with industry players to demonstrate the success of those companies already moving from commitment to action.

Impact

The EFPC was instrumental in leading the development of a new narrative for decarbonization inextricably linked with fostering an inclusive economy, with its key messages echoed in industry and government communications and by system actors and influencers. The backchanneling of FFH messaging through coalition partners resulted in its influence on the content of Alberta’s Emissions Reduction and Energy Development Plan (EREDP), released by the Government of Alberta in April 2023. Notably, the plan echoes a number of features of the EFPC policy framework including FFH building blocks and the links between scaling these opportunities, Indigenous reconciliation and sustainable finance. It also includes the first articulation of achieving carbon neutrality by 2050 as a goal for the province. At a federal level, the coalition’s recommendations of the policy framework have been reflected in the Sustainable Finance Action Council’s [Taxonomy Roadmap](#) and ongoing work. The coalition’s efforts

were also critical in creating a place to test and vet a ‘first wave’ of transition/climate funds to be launched in Canada. The policy framework has become a convening platform for aligning public voices, the business community, energy advocates, and policy makers, empowering changemakers to see and advocate for Alberta as an emerging leader in new, low-emissions energy solutions and climate action. In 2023, the project was nominated for a Clean50 Project Award and its director, Keren Perla, was nominated for a Clean50 Individual Award for her outstanding leadership of the initiative.

Significance

While recently we’ve seen a trend of companies downgrading or reversing course on transition ambitions in favour of an emphasis on short-term profitability, the fact remains that globally, sustainable investment/finance is a hundred-plus trillion capital opportunity to fund climate-smart solutions and a key avenue to fund FFH projects or companies in transition. At the same time, issues persist as to what would make hydrocarbon projects credible candidates for investment. SFAC was established with a mandate to grow the market for sustainable finance in Canada and represents a priority policy window. Alignment at the SFAC Roadmap-level further enables the opportunity to integrate FFHC concepts into how the taxonomy operationalizes oil and gas activity to continue to build their credibility and establish proof-of-concept.

“This report is what I believe is an extremely important and useful contribution to Canada’s decarbonization journey and to the historic role that Alberta has played and MUST continue to play if we are to achieve overall success as a country.”

– Kathy Bardswick, Chair, Sustainable Finance Action Council



3

Rural Community Resilience in Energy Transition: Innisfail Roadshow

Challenge

Rural communities in Alberta are eager to engage citizens and business owners in conversations about how their communities might take part in the energy transition, but struggle to know where to begin. Each community's entry point is different, and regional leaders are seeking collaboration and support in designing inclusive and effective processes that create dialogue and build capacity, with a view to ensuring their communities are set up to thrive in the energy transition.

Initiative

The EFL Roadshows support rural Alberta communities as they explore the challenges and opportunities they are facing in light of the energy transition. By harnessing the combined knowledge, resources, skills and networks of the Lab and its Fellows, the Roadshows support rural communities to develop greater shared understanding by:

- exploring the polarization of energy issues
- envisioning what their future energy system might look like through community workshops
- identifying and advancing strategic initiatives and areas of personal and collective action in service of the energy transition and local prosperity

In 2023 the Lab took a new approach to the Roadshow program, working with a single community over the course of a full year. Throughout late 2022 and early 2023, the Lab collaboratively designed, convened, and facilitated five workshops and a series of three online learning journeys co-led by the Lab team, Fellows, and Ambassadors in conjunction with the Town of Innisfail. Local participants included representatives from the private and public sectors, industry, youth, Indigenous community members, schools, and agriculture.

Our Contribution

Through design, facilitation, as well as planning, ongoing engagement, communication and government relations support, the Lab uplifted Innisfail's mobilization around areas of collective action in the energy transition through workshops, relationship building, and facilitated learning opportunities. The town served as a strong case study for both public audiences and policy makers on the potential benefits that rural communities might experience, and the pitfalls it might sidestep, by engaging citizens around an inclusively co-created vision of a net-zero energy future.

Impact

With a longstanding agricultural and industrial history, the community had already been branching out and diversifying through supporting and adopting clean energy initiatives. The Innisfail Roadshow generated many ideas to supplement the town's existing work, but focused on actioning and further exploring six initiatives, including:

- hosting a series of community conversations on energy
- youth energy education
- hosting an Energy Fair at the local Trade Show
- developing a local Hydrogen Strategy
- exploring a waste-to-heat project, and
- developing a government relations strategy for the community

With a vision in place for their energy future, the Town created the Innisfail Energy Hub (IEH) with the support of the EFL team. The IEH lives on and has undertaken a number of community energy initiatives. The Roadshow also brought in local voices in energy leadership and showcased innovations happening

Focus Area	Status	Stream	Outcomes	Impact Geo

in the region such as Bilton's manufacturing of hydrogen locomotive engines, and Varme Energy's proposed waste-to-heat plant.

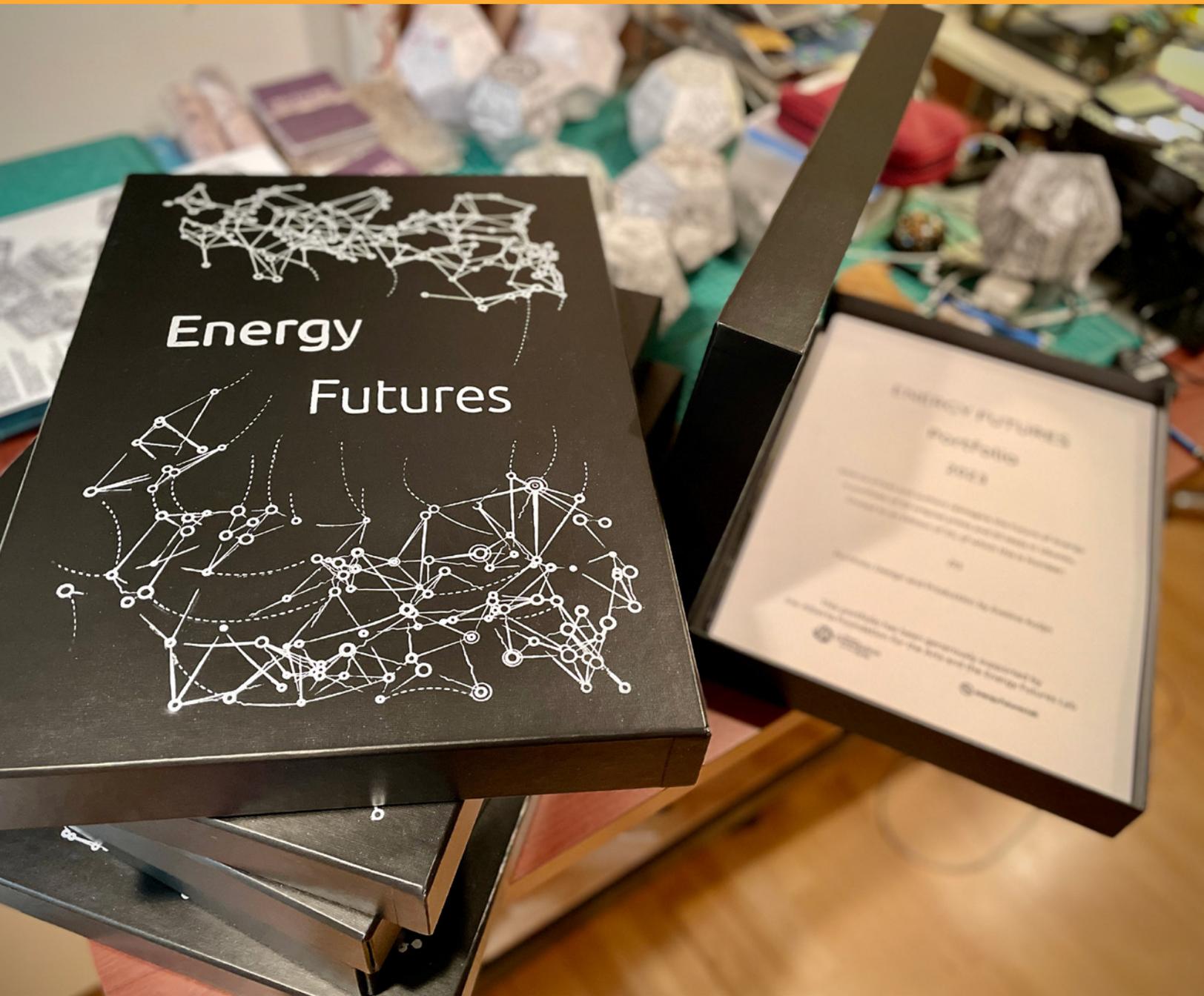
We're also delighted to report that a number of Roadshow participants were inspired to apply for the Fellowship and became part of the 2023 cohort.

Significance

With the direct involvement of municipal Council Members in the Roadshow process, workshops served as a valuable forum to explore and test potential solutions, sidestepping more cumbersome development processes, and allowing Council to swiftly take action by updating policy and allocating resources to solutions identified. Through the Newtonian Shift simulation and other exercises designed and facilitated by the EFL, the Town was able to engage more of the community in helping to define its vision for its energy future, and gather both momentum and support for its undertakings. Recently, both the town and its forward-looking industries have been [profiled in the media](#) as pioneers of how rural communities can take a leadership role in the energy transition, helping share their successes further afield and inspiring other communities to begin to see the possibilities an energy transition might hold for them. In an age where storytelling about energy transition emphasizes the complicated, fraught, and often negative aspects of the process, positive, inspiring, stories that highlight the practical steps that can be taken and gains that can be achieved by people coming together are critical in sustaining belief that a transition is not only possible, it's already well underway — and in places we might not always expect.

The beauty of the Roadshow has been to leverage the community to come together and learn new language about energy and also understand what is possible”.

– Todd Becker



Energy Futures Print Portfolio

Challenge

A majority of Albertans now believe in the need for an energy transition in Canada, however stories shared about it through political rhetoric and echoed in media continue to be polarizing, often negative and demotivating. This initiative explored new forms of storytelling about the energy transition that offer supplementary perspectives and narratives in visual and text-based formats. These create more inclusive entry points to the topic of transition in order to reach a broader audience with more empowered, positive, hopeful and human-centred messages.

Initiative

EFL Ambassador Eveline Kolijn invited 41 prominent, Alberta-based printmakers and writers to take part in an artistic venture through which they could express their understanding of the energy transition and related concepts through artistic prints, poetry, stories and essays.

These artistic works, in her vision of the final project, would make up a print portfolio — a longstanding tradition in the printmaking world, a sort of anthology of visual artworks (prints) — and, under Eveline's direction, an accompanying artistic text. With the support of the Lab, Eveline organized a series of learning sessions that paired artists with science and energy professionals working in the area of energy transition, many drawn from the Lab's own network.

Once settled on a concept, she paired artists and writers interested in similar subjects to create a connected visual and text-based entry to the portfolio. Later, Kolijn was approached by Millarville-based Durvile and UpRoute books who offered the opportunity to expand on the portfolio's original content with extended writings and reproductions of the prints in a book format.

Our Contribution

The EFL has supported the initiative through introductions, facilitating relationship building, securing funding, assisting with content decisions, as well as helping to promote and distribute the work. Fellows involved in the project have taken part in promotional appearances for the book, including book tour stops in Calgary and Edmonton.

Impact

Reimagining Fire: The Future of Energy is now in its second Canadian print run, has been featured in numerous media, and gone on to be published in the US. The work features prints and texts from prominent Canadian and Indigenous visual artists, poets and authors. With public narratives around energy transition primarily framed through the lenses of politics, economics, business, technology or climate-change related weather events, there has been an effect of creating negative associations or even aversions to the topic. As Chris Turner notes in the forward to *Reimagining Fire*, "The energy transition now underway needs more stories. We need narratives of escape, survival, salvage, even (maybe especially) triumph." By drawing in non-traditional voices and expanding narratives as part of public conversations about energy transition, this initiative has helped broaden perspectives and deepen awareness of the scientific, technological and social innovation work taking place in Alberta. It also helps create a more nuanced understanding of the breadth and variety of solution pathways to energy transition being advanced by the Lab and members of our network. While the official scope of work for this project with the EFL concluded with the book's publication, the project's reach continues to grow under Eveline's leadership. Future endeavours include an exhibition at the Leighton Art Centre in summer 2024, and plans to develop the artistic works into a touring exhibition. Furthermore, the book has prompted discussions around the possibility of mounting a similar project in the country of Curacao.

Focus Area	Status	Stream	Outcomes	Impact Geo
				
				

Significance

The process of creating these artistic works, publishing and promoting the book, and exhibiting the original artworks has created and will continue to create new relationships and narratives that both widen and deepen public understanding of the need for and aims of an energy transition, as well as give a more representative snapshot of regional innovation in response to it. Perhaps most importantly, it opens avenues to a greater understanding of the role local communities and individuals have to play in the transition, and by extension a greater sense of empowerment to affect its outcomes. If the biggest limitation to taking action is our belief in what is possible, then sharing more inclusive, open, and human stories from people we recognize as our friends and neighbours may be one of the greatest shields against the stultifying effects of hopelessness and apathy.

“One might claim that a book on energy arranged around a multiplicity of voices, perspectives and areas of expertise presents more problems than it solves. I’d argue that the opposite is true: that in sharing our stories and bringing together our diverse selves around a common cause as vital as this one, we begin the essential work of coming to common ground. These conversations are the foundation on which that future is built, every bit as much as the technologies we’ll choose to implement and the timescale on which we’ll decide to make the change.”

– Jenna Butler, Alberta Views book review

5 Tech Stewardship for the Energy Transition

Focus Area	Status	Stream	Outcomes	Impact Geo
				
				



Initiative

[Tech Stewardship](#) is an online training course and professional practice program developed by the Engineering Change Lab (ECL). It exists to support those working and studying in tech to develop the framework, tools, and community they need to explore the complexity and consequences of their choices in a fast-moving technology ecosystem. Recognizing that a sector-specific version of the program might spark deeper conversations and surface impactful and transferrable learnings between participants, the ECL partnered with the Lab to integrate the core concepts of our well-respected practice of sustainability-driven social innovation towards energy systems change in a new, energy-focused version of the course. New course content created included approximately 4 hours of additional material developed by a Fellow Steering Group, supported by Victor del Valle and Ashley Meller, and delivered by the EFL's Managing Director, Alison Cretney. Members of the Steering Group, as well as other voices from the network, also contributed example videos, articulating what they believe are critical ideas and perspectives needed to address the most pressing challenges of the energy transition. The initiative also sought to expand the program's reach through EFL-connected companies, educational partners, and other members of the Lab network.

Impact

A free pilot version of the program, launched in June 2023, saw 400+ sign-ups and garnered overwhelmingly positive reviews from those who completed the course. Several participants engaged through the EFL's network from traditional energy companies, clean tech accelerators, and post-secondary partners have expressed interest in continuing to offer the program to employees, clients and students. By supporting changemakers working in energy-related fields with a framework for applying a stewardship lens to their work, the language and tools needed to navigate tensions, as well as establishing supportive relationships with like-minded practitioners, this program will help improve the individual decisions that cumulatively have wide-ranging implications, and align them with a more holistic vision of a successful energy future.

6 Four Seasons of Indigenous Green Building Summits

Focus Area	Status	Stream	Outcomes	Impact Geo
				
				
				



Initiative

An initiative originating from a partnership between SAIT’s Green Building Technologies Lab and the Alberta Native Friendship Centre Association (ANFCA) was brought to the EFL by Fellow Melanie Ross. Over the course of 2023, the partners hosted green building summits at four Friendship Centres across Alberta as one part of a larger project focused on retrofitting the centres to develop demonstration hubs to serve as learning and training projects for applied energy efficiency building retrofits. Along with conducting energy assessments and retrofitting the centres, the project also included a large engagement and training component, intended to facilitate cross-cultural learning and build capacity on all sides. The summits took place at each of the four hubs in St. Paul (Mannawanis Native Friendship Centre Society), Grand Prairie (Grande Prairie Friendship Centre), Medicine Hat (Miywasin Friendship Centre) and Fort McMurray (Nistawoyou Association Friendship Centre — event postponed to Feb. 13, 2024). The EFL’s Impact Studio supported the summits’ design and delivery and provided the SAIT team with recommendations on successful approaches to community engagement. Fellows and EFL team members also participated in the delivery and facilitation of some of the events.

Impact

Through the partnership and planning process for these in-community events attended by Indigenous youth, Elders, local industry, government and members of regional First Nations and Métis settlements, SAIT’s GBT team were guided through helpful processes and thinking the EFL employs in inclusive event design, dynamic facilitation and our unique approach to community and Indigenous engagement. The event participants learned about green building technologies, energy bill literacy, solar panels, and emerging technologies for businesses. Through open-hearted conversations, listening, and sharing stories the initiative opened many eyes to the challenges facing urban Indigenous communities across the province and highlighted the importance of energy literacy in an inclusive transition, as well as the central role reconciliation and good relations have to play in forging a better, more equitable path forward.

7 Alberta Municipal Climate Leaders

Focus Area	Status	Stream	Outcomes	Impact Geo
				
				
				
				



Initiative

Municipal governments in Canada influence a staggering 60% of the nation's energy use and 50% of its GHG emissions, making municipal government staff and elected officials crucial players in laying the groundwork for a low carbon future in Alberta. As the challenge of climate change and the energy transition become increasingly complex and as new solution pathways emerge, key decision-makers in municipal government require support accessing the data, technical expertise and funding to identify and prioritize high potential opportunities and move from planning to action. The EFL's Municipal Climate Leaders initiative is helping support the Community Energy Association and Municipal Climate Change Action Centre partnership, led by Fellow Kate Letizia, as they develop and implement "Alberta Climate Leaders" — an integrated package of three supportive "tools" that will help Alberta municipalities accelerate the implementation of impactful climate solutions. These tools include a leadership council for elected officials (launched in Nov. 2022, with 3 sessions held to date), an emissions planning tool and a playbook (launching in early 2024). Alberta Climate Leaders aims to deepen local government understanding of climate challenges specific to their contexts, enhance knowledge about actions that can be taken now, strengthen connections among elected officials and municipal staff committed to climate action, and foster regional collaboration on climate challenges and opportunities.

Impact

Systemic shifts, especially those of a highly technical nature, put political leaders without access to scientific or technical expertise at a disadvantage for decision-making. The Climate Leaders Playbook showcases high impact options that municipalities can act on now, such as energy-efficient buildings, low carbon & resilient transportation, closed loop waste systems, renewable energy and compact land use. A cutting-edge emissions planning tool featuring emissions data and resilience opportunities for 415 Alberta communities will allow Alberta municipalities to focus their efforts on the emissions and climate risks with the most potential impact - and compellingly illustrate the path forward to their colleagues and community.

Although impacts of such an initiative are difficult to discern over such a short time, initial responses indicate that the effort is beginning to have its intended effect. With better access to trusted climate data, and opportunities for municipal staff to connect, collaborate and pool knowledge and resources to solve shared climate challenges, leaders are making decisions with increased knowledge about local climate challenges and opportunities, and have greater awareness of high impact opportunities available to them currently. The work has also helped increase municipal leaders' understanding of their specific roles when it comes to climate action, and prompted an exploration of ways elected officials and local government staff can work together to be more effective in their efforts. With the launch of the planning tool and playbook in 2024, it is expected that the cumulative impacts of this work will only continue to grow.

8 Indigenous Equity Participation

Focus Area	Status	Stream	Outcomes	Impact Geo
				
				



Initiative

Indigenous communities are not typically equity owners of major resource and infrastructure projects that affect their land-based rights, and access to capital remains the largest barrier to those communities benefiting from the returns of these types of projects. This initiative, under the leadership of Fellow Miles Jolliffe, aimed to expand options and bolster access to capital for Indigenous communities. Originally, the initiative explored the potential of doing this through a novel investment mechanism modeled on a special purpose acquisition company (SPAC), which could be used to create alignment between Indigenous groups and companies involved in Canada's resource development and infrastructure sectors, using Indigenous equity ownership, and Indigenous board participation. However, after having the initiative accepted to Avatar's Ignite Challenge, exposure to additional perspectives on relevant financial law and regulation led to the decision to drop the modified SPAC idea. Instead, Miles pursued other means of achieving the initiative's overarching goals, including exploring how new lines of inquiry involving AI and digital innovation, as well as a growing movement for economic reconciliation in Canada might help advance his larger vision.

Impact

Through additional learning and networking opportunities created by this initiative, including attending and presenting at Forward Summit and Collision Conference, Miles was able to further refine his approach. These opportunities also served to further socialize ideas and perspectives reinforcing the importance of Indigenous participation in land-based projects, and supported growing awareness of the need to find better ways of engaging, creating access to capital, and by extension, wealth, for Indigenous communities across the country. With his growing reputation for expertise and leadership in this area, Miles has been engaged on a number of projects where he is providing Nations and Indigenous communities with innovative insights and solutions to create energy project partnerships that provide greater equity for Indigenous people, and raise the bar for any project to follow.

9 Spirit of the Earth

Focus Area	Status	Stream	Outcomes	Impact Geo
				
				



Initiative

This initiative addresses a conundrum best summed-up by Albert Einstein: “We cannot solve our problems with the same thinking we used when we created them.” Systems change requires deep and transformative ideas and the leadership of individuals who are able to look beyond the constraints of existing systems, their underpinning structures and mindsets to uncover new ways of knowing and being. In the form of an informal, bi-weekly gathering, Fellows involved in this initiative worked to unlock their own creativity, receptivity and resilience and collectively nurtured the transformational “soft skills” required to lead and influence the human transformation required to bring about a more sustainable existence for all living systems.

Impact

The self-organized collective where Fellows can have regular conversations about their own inner development, and challenge one another to expand their thinking has provided a safe space for dialogue around big questions that arise in the work of energy transition, as well as testing new ideas, and receiving candid feedback and advice. The initiative also supports changemakers’ mental health and personal wellbeing as they undertake the difficult, complex, and often frustrating day-to-day challenges of energy systems change, and the often heavy emotional implications of undertaking the work to influence it.



Alberta's Electricity Future

Challenge

The advent of the digital age has fundamentally changed our lives, and, by extension, our relationship to electricity. Alberta's electricity system was designed for a different era: not just the resources powering it, or the poles and wires, but the complex system of integrated players, policies and market signals that determine how much energy to produce, where it goes, and how much it costs. The basic assumptions that underpin the system's design and operation have changed, and as a result, it's experiencing significant volatility, reliability challenges, and other systemic constraints limiting its ability to meet our net-zero ambitions. It is clear that the challenge ahead requires going beyond optimizing the existing system. It needs a redesign. We believe that a new design must put the needs and changing expectations of people and businesses first.

Initiative

In order to be successful, the design process needs to go beyond the usual consultation model and take a full-system lens on the issue. It must also include perspectives of the many parties and people connected to and affected by Alberta's electricity system in a way that surfaces each one's needs with due care and consideration. AEF brings together traditional voices of industry and government, while also drawing in historically underrepresented groups to create a shared understanding of the system's root challenges and create alignment on the coordinated steps needed to modernize the system in a way that is fair, equitable and that creates a system truly fit for the future.

Our Contribution

Recognizing that trust and collaboration are essential to shaping a shared vision for the future of Alberta's electricity system that can successfully guide and coordinate the needed action on this issue, the EFL identified a need for its expertise as a trusted, non-partisan convener to work in this space. While numerous initiatives focused on electrification are popping up across the country, all with slightly different scopes, our approach is distinct, focused on utilizing social innovation and drawing in diverse voices to allow for the emergence of a holistic vision, durable, well-considered solutions and a coalition deeply invested in championing them. [The initiative](#) brings together the perspectives of subject matter experts and community leaders including diverse voices representing different ages, genders, racial backgrounds, lived experiences and locations across the province. It also folds in work on the ground in rural and Indigenous communities to build a more holistic and comprehensive view of the electricity system and craft solutions from that collective place of understanding.

Impact

Nearing the end of its first phase, this initiative has achieved several of its early objectives. It has brought together a coalition of 50+ Alberta electricity system leaders, including senior-level representatives from electricity generators, transmission and distribution companies, retailers, Indigenous community members and leaders, think tanks, non-profits, industry associations, as well as industrial, commercial and residential end-user representatives. These participants took part in two workshops held in June and October of 2023, with a focus on surfacing a collective understanding of the needed shifts in the system, and articulating a collective vision for Alberta's future electricity system. While work on the latter is still underway, opportunities to engage with the draft vision are planned for early 2024 with a public release of the final vision to follow. During the first phase, the initiative also kickstarted early efforts to align and integrate the work of the coalition with a policy window for the creation of a provincial electricity strategy, and engage policymakers. Additionally the AEF leadership built relationships with organizations including PovertyTalks and conducted a workshop with select

Focus Area	Status	Stream	Outcomes	Impact Geo
				
				
				
				

members to establish a mechanism for gathering feedback and perspectives from non-experts who are often excluded from planning processes but also (often disproportionately) affected by the electricity system.

Significance

The modernization and decarbonization of Alberta's electricity system is a linchpin for a myriad of energy transition pathways that have the potential to diversify the economy, stimulate economic growth, create jobs, and help achieve the country's emissions reductions targets. From green building technologies, to hydrogen, to CCUS, growing the supply of clean, safe, reliable and affordable electricity to match pace with rising demand while mitigating the need for costly expansions in transmission infrastructure will be central to the province's ability to compete in emerging growth opportunities and rapidly decarbonizing global markets.



11

Sustainable Aviation Fuels Roadmap

Challenge

The global aviation sector has adopted ambitious targets to reduce emissions, and low-carbon sustainable aviation fuels (SAF) can play a significant role in achieving these. Canada is well-positioned to become a world leader in the development and production of affordable SAF, but there are currently none being produced in significant quantities due to the need to develop supply chains and policies to spark demand as a nascent industry emerges. Created in February 2022 by a consortium of 60 airlines and key stakeholders in the Canadian aviation ecosystem, the Canadian Council for Sustainable Aviation Fuels (C-SAF) aims to facilitate the production and supply of made-in-Canada SAF. As outlined in Canada's Aviation Climate Action Plan, SAF will play an important part in decarbonizing aviation, especially for long haul air travel: the largest portion of Canadian aviation emissions in coming decades.

Initiative

C-SAF and its network of stakeholders have developed a shared vision, roadmap and action plan that identify necessary priority actions and investments to build a thriving SAF industry in Canada that harnesses Canada's sustainable feedstocks, innovative technology sector and established infrastructure. Canada's first [SAF Roadmap](#) was released publicly in June 2023.

Our Contribution

Thanks to the Lab's credibility in fostering collaborative innovation, through a series of national interactive workshops we helped catalyze the ecosystem to gain alignment around a clear and compelling vision and action roadmap. The roadmap was developed in partnership with Transition Accelerator to leverage their research expertise in green industrial strategy.

Impact

The roadmap outlines the investment and actions required to rapidly build and scale the SAF industry in Canada to achieve the goal of producing a billion litres of sustainable aviation fuel by 2030 (representing a savings of more than one and a half million tonnes of GHG emissions). Simultaneously, it outlines the steps needed to create a Canadian market for SAF by working with airlines, the aviation industry, regulators and policymakers to enable a coordinated set of policies that create market certainty and clear the path for investment. The co-created C-SAF Roadmap was recognized with a 2024 Clean50 Project Award.

Significance

With greater alignment and a clear path forward, this work will enable the competitiveness of an emerging Canadian sector that is poised to both capture economic opportunity in a growing global market and help to significantly reduce emissions from an industry that's difficult to decarbonize.

Focus Area	Status	Stream	Outcomes	Impact Geo



Digital Innovation for Net-Zero Buildings

Challenge

Energy as it pertains to buildings (in the forms of electricity and heating) represents a significant pathway to reach net-zero targets, as the third-largest source of Canadian GHG emissions. Efforts in this area are underway although they are both under-resourced and undervalued in public discourse. Alberta continues to lag other jurisdictions in terms of energy efficiency policies and initiatives¹, and the existing dearth of technical experts in green building is only predicted to worsen. In recent years, the EFL has been exploring the intersection of digital innovation and buildings, and in late 2022 began a series of workshops examining what interventions we might undertake that would enable the application in buildings to accelerate our progress towards net-zero targets in a just and equitable way.

¹ https://www.calgaryeconomicdevelopment.com/assets/Reports/Sectors/Energy-Environment/CED-2021_EnergyTransition_Report.pdf

Initiative

From September 2022 to June of 2023, the EFL hosted four workshops as part of the final phase of this 3-year initiative. This phase of the project shifted to look more specifically at digital technology's potential to drive emissions reduction in buildings, which required the assembly of a new, multi-stakeholder cohort of ~30 individuals representing energy providers, regulatory bodies, technology and data experts, governmental agencies, real estate and building specialists, looking to learn and take collaborative action in four principal innovation areas: equity, data sharing and collection, policy, and demonstrating business cases. From early exploration across these areas, 3 specific solution prototypes were identified by the group, and smaller teams formed for each. These solutions were:

- 1. Living Labs:** Utilizing a connection to the City of Calgary's Living Labs program to pilot and create a case study for implementing local technology solutions and what appropriate applications for them might be. The hypothesis is this intervention would help facility owners/managers understand the benefits of digital technology utilized for decarbonization purposes while also providing storytelling opportunities that demonstrate the value of applying technologies in a real-world setting and uplift local technology innovators.
- 2. Data for Equity:** This initiative brings together a group of stakeholders to share perspectives, discuss the complexities and work towards the creation of a draft framework for collecting and using data to better understand the scale and impact of inequities around net-zero buildings (and energy systems more broadly) for marginalized communities. This framework would support government, agencies, and innovators to propose more inclusive and equitable solutions.
- 3. Decarbonization Exchange:** The creation of a decarbonizing exchange for building practitioners, including database and service delivery model that guides building practitioners through a series of steps towards pre-qualifying properties' suitability for emissions reduction intervention, identifying priority retrofits by cost-effectiveness (taking into account incentives), helping identify avenues and partners for funding or investment, and providing qualified leads to appropriate contractors for assessment and retrofit.

Our Contribution

The EFL recruited participants with relevant experience and expertise and hosted a series of both in-person and online workshops designed to identify and prioritize solution prototypes, build solution teams, and facilitate learnings across the solutions. The EFL also engaged expert consultants such as Monica Curtis and Thulasy Lettner to provide learning moments for the group and help guide progress on the solutions. Monica Curtis provided helpful suggestions and framing with respect to developing new business models, and Thulasy Lettner contributed to an equity learning moment as well as providing coaching on creating safer spaces, navigating power imbalances and anti-racism approaches that helped the challenge cohort and its leaders expand their thinking on how to embed equity as a priority consideration throughout the

Focus Area	Status	Stream	Outcomes	Impact Geo
				
				
				

challenge. The initiative also showcased and leveraged work being advanced through SAIT's Green Building Technologies program, helping bring the important understanding and perspectives from the construction industry and its relevant processes and policies into the conversation, as well as helping establish new relationships between challenge participants and the institution. Other experts provided learning moments, including Randy Thompson from the Alberta Utilities Commission and Jen Hiscock, Director of Electricity, Transportation & Buildings Innovation with Natural Resources Canada.

Impact

Through the Digital Innovation Challenge, high-level exploration of the subject matter and the input of experts across the cohort helped to successfully narrow, scope and sequence the work in a way that invited meaningful and sustained solutioning. Many potential pathways were explored, which ultimately led to the focus on digital innovation in buildings, where a clear and pressing need intersected with an appropriate application for social innovation.

This heavy lifting in the early stages of the challenge enabled the progress that was achieved in year three on the solutions identified. Specifically, the **Living Labs solution** created a relevant match between stakeholders for the City of Calgary's net-zero priorities and Calgary-based tech providers seeking opportunities to demonstrate their tech's capabilities to drive growth and expansion. The **Data for Equity solution** worked on real-world case studies to develop a prototype framework for more equitable data collection and usage for net-zero buildings. The **Decarbonizing Exchange solution** convened stakeholders to better understand the business model and support the leadership of Alberta EcoTrust in creating a Building Information Exchange (BIX)-like organization for Alberta. Although the work of this challenge has wound down and will be graduating in 2023, the solutions it generated will be carried forward through the Lab's next phase, either by groups of Fellows independently, in partnership with the community, or through partners such as Alberta EcoTrust.

Insights from this challenge also informed the creation of and reinforced the need for **Alberta's Electricity Future** (AEF). The potential also remains for solutions identified through this challenge to inform or potentially be brought back into the Lab through the Alberta's Electricity Future initiative's Phase 2. Additionally, through the Digital Innovation Challenge, the Lab's need to establish methods and processes around its intention of considering equity in its work was identified as a priority for 2023. This work informed not just of the challenge, but for the whole of the EFL including organizations connected to it (e.g. equity book club was established in a partner organization.) As a large field with numerous potential avenues of exploration, the Digital Innovation Challenge successfully surfaced systemic challenges and opportunities that were shared with Alberta's energy innovation community in a presentation at the Lab's 2022 Showcase, heightening awareness of and rallying interest in the potential of decarbonizing Canada's built environment.

Significance

As a growing province with aging buildings and energy infrastructure, as well as growing demand for new buildings, Alberta stands at an important crossroads. Prioritizing policy and program reforms to drive building decarbonization is imperative to both supporting continued economic growth, and allaying the economic burden that the coming energy transition will place on home and building owners, taxpayers and electricity ratepayers. Furthermore, failing to align with global ESG practices not only risks missing out on crucial opportunities to defray costs, but also hampers our ability to attract investment necessary to maintain a robust stock of modern, high-performing buildings critical to attracting new industry. This misalignment would place Alberta at a significant disadvantage for economic development and job creation at a time when diversifying our economy is most critical. Mandating sustainable building practices and supporting building owners to implement decentralized energy infrastructure and building decarbonization initiatives not only safeguards the environment and the grid, but also positions Alberta as a forward-thinking, attractive destination for businesses seeking to thrive in an energy conscious world. By creating and implementing decarbonization plans for buildings, owners/operators can optimize building performance that will result in less emissions AND lower expenses (e.g. electricity, heat, etc) and, in turn, create greater resilience to the volatility of energy systems across the board.



Coming in 2024

13 Battery Metals for an Inclusive Energy Future

Focus Area	Status	Outcomes	Impact Geo



Initiative

The Energy Futures Lab (EFL) and Battery Metals Association of Canada (BMAC) are working together once again to support meaningful approaches to Indigenous inclusion, with a view to empowering BMAC members and ecosystem actors to successfully draw upon learnings to build stronger, more equitable projects. At the centre of this work is the goal of bridging this emerging industry and Indigenous communities by developing a foundation of common understanding of the needs and approaches for enabling successful, equitable, and mutually beneficial partnerships. Together, we'll explore the historic and current realities of Indigenous participation, engagement and decision-making in energy and resource projects, and discuss frameworks and existing calls to action for industries and businesses. Learnings from this journey will filter into the conceptualization and development of a Western Battery Hub, supporting collaborative action and inclusive sector growth in Western Canada.

Alberta's Net-Zero Competitiveness Study

Focus Area	Status	Outcomes	Impact Geo



Initiative

Various studies have examined sectoral opportunities at the national and provincial level, with some highlighting relevant emerging industries for Alberta (e.g. hydrogen, CCUS, chemicals). Yet, few focus specifically on how Alberta can best secure its position within a global net-zero economy. This inquiry seeks to identify the sectors and opportunities that offer the greatest growth potential in Alberta along the pathway to net-zero emissions, providing an analytical understanding of emerging opportunities for net-zero growth in Alberta in a way that aligns and connects innovators in these domains. A partnership comprising The Transition Accelerator, Energy Futures Lab and Smart Prosperity Institute will conduct a rigorous analysis of Alberta's economic and energy profile from a transition pathways perspective. This project began November 2023, with the EFL leading the engagement and convening arc of the work.

Companies in Transition: Sustainable Finance Taxonomy

Focus Area	Status	Outcomes	Impact Geo



Initiative

Given the immense cost of transitioning towards a net-zero economy, Canada needs to mobilize private capital for decarbonization to reduce the burden on taxpayers. However international investment trends largely eschew activities that contribute to climate change. One of Canada's Sustainable Finance Action Council's (SFAC) priorities is mobilizing capital to reduce upstream emissions in Canada's oil and gas sector. Given the contentious view of that sector's plans to transition, there is a risk that, without examples of company-level activity aligned with SFAC's 'transition' label, governments and financial markets will be unable to distinguish between companies sincerely looking to transition and those simply engaged in greenwashing, limiting their appeal to investors.

This research initiative aims to identify and assess real-world examples of companies on a reasonable path to align with SFAC standards. By doing this, we can better understand how and why certain companies are (or are not) actioning transition pathways, including pursuing this stream of sustainable finance. This will provide valuable insight into important avenues for analysis including: whether a significant gap between what is achievable and what is expected exists, as well as how policy might support companies to pursue activity better-aligned with the standards for transition-oriented activity.



Energy Futures Lab Managing Director Alison Cretney (third from left) presents as part of The Role of Renewables and Other Energy Sources panel during the 2023 World Petroleum Congress, hosted in Calgary, Alberta.

Thought Leadership

Part of the Lab's work involves shifting narratives to overcome polarization and increase support for collaborative solutions in the energy transition.

This often finds us at the forefront of conversations as they emerge onto the public stage and become a focus for the media. The Lab is also frequently invited to be part of governing bodies, agenda setting and organizing committees for major Canadian energy industry events or provide editorial comment for the media. The inclusion of the Lab's voice is a testament to both the credibility of the people we work with, the work we're doing and our approach to it.

By presenting, organizing panels and in other ways sharing our results and learnings with the industry and the public, we continue to shift the conversations being had around transition and create space to bring new stakeholders into our work. By amplifying the voices in our network and helping to connect them with broader platforms for their relevant expertise, we often elevate the contributions of non-traditional and often overlooked perspectives that are critical to enriching and deepening conversations. More often than not, our work sees us actively engaged in the topics presented or debated, and championing the solutions being discussed by leaders across the energy ecosystem. This allows us to continue to expand our network of funders, supporters, policymakers and policy influencers and create direct relationships that open up channels for fast-tracking future initiatives.



2023 Media Moments

CBC Radio: [exploring Canada's Lithium Rush](#)

Opinion: [Time for a leap of faith, politicians must work together to ensure Alberta's future](#) by Alison Cretney and Matthew Foss

[Indigenous Partnerships Key to Energy Transition](#) Indigenous Advisory Committee chair JP Gladu, and Indigenous Advisory Committee member Mark Podlasly for the Calgary Herald

[On energy transition, Canada should take a matriarchal approach](#), Annmarie Garby and Raylene Whitford, Indigenous Advisory Committee members, penned this CBC national op-ed

[Two Ways Canada can Advance Green Growth and Accelerate Climate Change Efforts](#) by EFL Fellow Ankit Mishra for Forbes

[How Energy Innovation in Calgary Could Shape the World](#) as part of Avenue Magazine's Innovation Issue

[Proposed Innisfail waste-to-energy plant gets Sylvan Lake's support](#) Ambassador Sean Collins and Varme Energy making strides in securing municipal waste

[Leading Experts Weigh In On Growing Canada's Economy in 2023-2024](#) featuring Alison Cretney, by Ankit Mishra for Forbes

2023 Conferences and Events

Spaces where the work of the Lab was showcased this year included:

- GLOBExCHANGE 2023
- DTalks - Calgary: Let's Talk About... The Grid
- Canada Growth Summit 2023: Standing Strong in a Changing World Order
- National Indigenous Electrification Strategy Roundtable
- Global Energy Show
- Forward Summit
- Alberta Energy Efficiency & Innovation Summit
- Carbon Capture Canada 2023
- World Petroleum Congress
- BMAC Charged!
- Electricity Transformation Canada
- Powering Progress: Creating Value for Shareholders, Customers and the Planet
- 2023 Pembina Institute Alberta Climate Summit
- Samson Cree Nation
- Banff Energy Summit
- Smart Energy Conference
- Foresight50 Celebration
- YYC Innovation Week — Innovation in Energy Day event
- Energy Futures Lab 2023 Showcase
- Assembly of First Nations: Special Chiefs Assembly

Statement of Thanks

In crafting this Impact Report, we stand humbled by the collaborative forces propelling our mission toward a sustainable energy future. We offer our deepest gratitude to our Convening Partners and Funders, whose unwavering support has been the bedrock of all our endeavors. Their commitment to funding the work of social innovation in energy landscapes resonates as a beacon of shared purpose.

Our path through the deep work we undertook towards shifting our strategy in 2023 has been illuminated by our incredible advisors, who generously made time to listen and problem solve amidst their other responsibilities, and infused their sagest advice into the Lab's new direction as well as our initiatives and our network more broadly. We extend our heartfelt thanks to Elders and Indigenous Advisory Committee members for lending their voices and wisdom to our work, grounding our work in the richness of diverse perspectives.

The vibrant network that has grown around the Lab — including Fellows, Ambassadors, innovators, influencers, advocates, champions, and fans — your collective passion has fueled the engine of change. Social innovation, as we have witnessed through our work, thrives on interconnected minds and hearts. It's the curiosity that sparks dialogue, the personal activism that propels transformation, and the inspiration that continues expanding the circle around our shared vision.

This report stands as a testament to the dynamic collaboration that defines our journey. As we celebrate 2023's achievements, we honour each individual that has contributed to our collective progress. Together, as we navigate the currents of change, we are propelled by the spirits of all those who dare to imagine a better, more equitable energy future.



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The Energy Futures Lab is a part of a partnership fostering a strong and inclusive economy that thrives within nature's limits.
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