

Energy Futures Community Roadshows

Final Report

Viking, Alberta & Area

June 26, 2024



Compiled by
Matt Mayer, Juli Rohl, Ashley Meller, Scott Clements

Convened By



Supported By

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About The Energy Futures Lab

Unlocking the power of people and communities to accelerate innovative solutions to today's greatest energy challenges

The Energy Futures Lab is an award-winning, Alberta-based not-for-profit organization that brings together a network of leading thinkers and innovators from across the energy system. It was established to enable collaboration around the polarized subject of energy transition and tackle some of its most pressing issues. Since 2015, the Lab has worked with over 20,000 stakeholders, Rights and Title Holders from across Canada to collaboratively accelerate progress towards [our vision of an equitable and net-zero energy future](#), drawing on diverse perspectives to find innovative and enduring solutions to complex, system-level challenges.

Together, we must uncover the solutions that will power Alberta's bright future

A new electricity reality is already upon us, demanding a response from a system out of sync. By applying the Energy Futures Lab's unique social innovation lens to Alberta's electricity challenge, we help create alignment, build capacity to navigate and overcome barriers, and accelerate the adoption of innovative ideas and technologies.

With a net-zero grid being central to many decarbonization efforts, there is an increasing urgency to address this issue. To do this, we are bringing together a range of community stakeholders (as part of Viking and area's electricity system) to develop a systems-level understanding of the region's root challenges with the electricity system, a vision for its future, and potential approaches for testing solutions.

The Generate Canada Partnership

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

The [Energy Futures Lab](#) operates as an independent initiative of [Generate Canada](#), alongside the [Canada Plastics Pact](#), [Circular Economy Leadership Canada](#), the [Canadian Alliance for Net-Zero Agri-Food \(CANZA\)](#) and the [Nature Investment Hub](#).

These coalitions foster collective action on critical issues informed by evidence and research, including from the [Smart Prosperity Institute's](#) research network and national policy think tank.



About Viking, Alberta

Cultivating community spirit, resilience and energy innovation in the heart of Beaver County

Viking, Alberta is a town located in the central part of the province, approximately 120 kilometers southeast of Edmonton on Hwy 14. Nestled in Alberta's rolling prairies, Viking boasts a picturesque rural setting that combines the tranquility of small-town life with convenient access to larger urban centres. Established in 1909 by Norwegian settlers, Viking has a rich history rooted in agriculture and railway development, which has significantly shaped its character and growth over the years.

The town's economy has traditionally been driven by oil and gas, as well as agriculture, with many local farming and ranching operations producing grains, oilseeds, and livestock. This agricultural heritage is complemented by a variety of small businesses and services that cater to the needs

of the local community. Additionally, Viking's strategic location along major transportation routes has made it a hub for regional trade and commerce, contributing to its economic resilience.

Viking is home to a close-knit community of approximately 930 residents who take pride in their town's heritage and actively participate in local events and initiatives. The town's commitment to maintaining a high quality of life is evident in its well-maintained public amenities, including the Carena - home to an NHL-size ice surface with seating for 800, as well as a fitness centre, library and municipal offices. The town also has charming parks, a bustling seniors' centre, schools and commercial businesses. The strong sense of community and collaborative spirit among residents make Viking a welcoming place for newcomers and visitors alike.

In recent years, Viking has emerged as a forward-thinking community with a focus on renewable energy developments. In 2020,

With the support of MCCAC, the town invested in a 1.05 MW municipally-owned solar farm, offsetting 100% of the electricity used annually by town operations and positioning itself as a leader in sustainable rural development.

These efforts reflect Viking's dedication to reducing spend on energy while also reducing environmental footprint. By leveraging its natural assets and innovative capacity, Viking is not only preserving its agricultural roots but also paving the way for a prosperous and sustainable future for its residents.

Viking owes much of its success to the resilience of its residents, their hard work ethic, commitment to their neighbours, careful stewardship of the land, and their pragmatic and welcoming approach to modern innovation. Its strategic location, robust agricultural base, engaged community, and commitment to renewable energy make it a standout example of a small town embracing the future while honoring its past.



About Energy Futures Community Roadshows

The Roadshow Program

Since 2018, The Energy Futures Lab has worked with **15 different communities across Alberta** to explore the unique opportunities and challenges that are being created by the transitioning energy system.

In collaboration with host community partners, the program harnesses the combined knowledge, skills and networks of the Energy Futures Lab [Fellows and Ambassadors](#), as well as community leaders and changemakers to explore the opportunities and challenges arising from energy transition in their unique and local context.

Viking & Area Roadshow

In 2023, the Town of Viking with the support of Pathfinder Clean Energy (PACE) submitted an application for the EFL's Community Roadshows Program. Viking agreed to take part in a 3-month partnership with the Lab, and co-hosted a series of workshops and activities that have provided the content for this report.

THANKS AND ACKNOWLEDGEMENTS

This project would not have been possible without the involvement and oversight of Doug Lefsrud (Town of Viking CAO), Whitney Meiklejohn (former Town of Viking Recreation, Culture and Facility Director), Morgan Lawes (Town of Viking Student Intern), and Claude Mindorff (CEO of Pathfinder Clean Energy).

CONTEXT

Electricity ties into nearly every part of our lives - from the jobs it creates, to the conveniences it affords, to its financial and environmental benefits and costs. A big evolution of our electricity systems will be required to keep up with increasing consumer demands and the adoption of new technologies. This evolution is also key to preparing our industries to compete in emerging growth opportunities and rapidly decarbonizing global markets.

PURPOSE

The **Viking & Area Energy Futures Roadshow** served as an opportunity to identify and understand the forces working both for and against changes to electricity systems in Alberta, and test ideas for ensuring the best possible outcomes for people living in small towns and rural parts of the province.



Viking & Area Roadshow

CONVENING QUESTION

How might Viking & area seize the opportunities and avoid the pitfalls of modernizing its electricity system in order to generate the best possible outcomes for current and future generations?

PARTICIPANTS

Between March and June 2024, we convened a diverse group of stakeholders in the region, with over 53 people taking part in some or all of the Community Roadshow events. Participants included the mayor, town councillors and administrators from the Town of Viking, councillors and administrators from Beaver County, and the Counties of Minburn and Flagstaff. The

process also drew in representatives from Alberta's Ministry of Affordability and Utilities, large utilities, the Battle River Power Coop, the Alberta Federation of REAs, Lakeland College, community organizations, local businesses, high school students and many long-time Town of Viking residents.

PROCESS

The Roadshow kicked off with some qualitative research, involving 15 interviews of stakeholders from around the region (see more on page 31.) The insights gleaned from the research were then used to build a customized approach for the Roadshow which included 5 gatherings (3 in-person and 2 online).

The first gathering: our **Orientation and Learning Moment #1** focused on

level-setting our understanding of Alberta's electricity system, learning more about relevant local activity, and sharing a high-level overview of the workshop process to prepare potential participants for how they might become involved.

Workshop #1 was held on May 1, 2024 at the Viking Seniors Centre, and had 31 participants. Together, we learned about programs, projects and efforts currently underway in the area, and examined other important realities about the local electricity system. We also explored existing and desired narratives for Viking's energy future, and helped foster greater connection among community members and local electricity system players. Between the workshops, a small group met online to continue to refine the narratives from Workshop #1 into a draft vision statement.



Viking & Area Roadshow

Learning Moment #2 took the form of a coffee and pie social that included presentations from EFL Fellow Maggie Hanna on the topic of hydrogen, and EFL Ambassador Eveline Koliijn, who exhibited pieces from the [Energy Futures Print Portfolio](#), and talked about the importance of narratives in changing complex systems and the value of education in helping people find their own avenues into the subject of energy transition. Interestingly, in the afternoon before the event, a sudden windstorm knocked out power to the town, lending an interesting sense of immediacy to the issue for people who took part.

Workshop #2 was held on May 30, 2024 at the Viking Seniors Centre and was attended by 39 participants. In addition to many return participants from the first session,

the group was joined by the Mayor of the Town of Viking, representatives from the County of Minburn, as well as the Government of Alberta's Ministry of Affordability and Utilities.

8 high school students from Viking School also joined the workshop, along with their teacher, bringing attention to the long-term impacts on future generations of decisions being discussed into the room in a tangible way. Together, the full group worked through exercises designed to unite them around a workable desired future and prioritized areas of action.

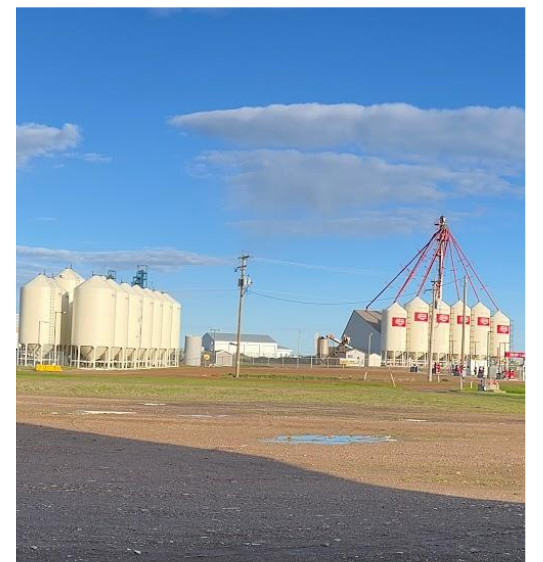
Over the course of these events, as well as many emails and small group meetings in between, participants worked together along with members of the EFL team, and members of our extended

network to develop and align on a **vision for Viking and area's desired electricity future** and explored the most promising opportunities to realize it.

The cumulative insights surfaced over the course of the whole process led to the creation of **the working vision** (found on page 18) that can continue to be workshopped and further refined to help guide Viking and area's planning and decision-making on electricity related issues and support ongoing community-led action.

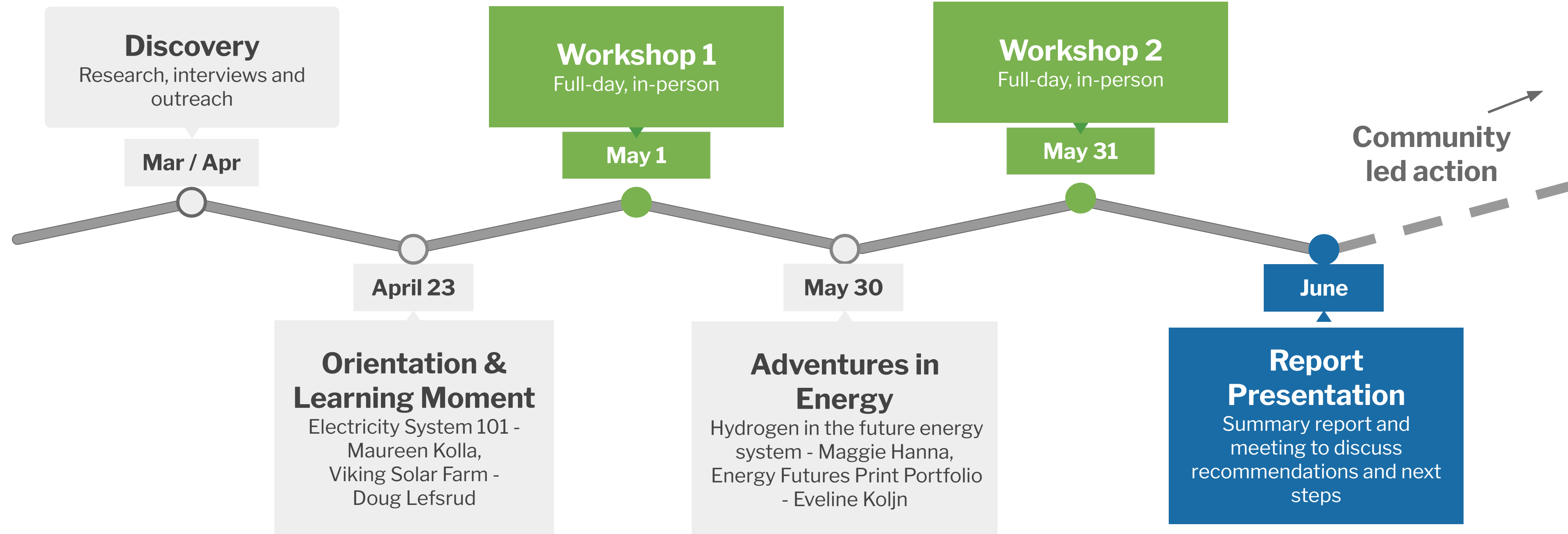


The Roadshow in full swing





Viking and Area Roadshow Timeline - 2024





About This Report

Intention

This report is intended to bring together and ‘make sense’ of our work in the Viking and Area Community Roadshow. We have done this by identifying and tracking the themes and through-lines from participants’ input across various exercises throughout the process. It also attempts to identify areas of clear agreement (where perhaps the community can move more quickly) and noteworthy areas of tension (which may require further investigation and exploration to unlock creative paths forward.) The report offers a guide to next steps - actions that will be instrumental in maintaining the momentum created through the Roadshow and realizing progress towards the desired version of the future that participants began the process of articulating in the vision.

Approach

The content of this final report originates from several sources:

1. **Participant interviews** that were transcribed, coded and compiled, themed and summarized
2. **Workshop exercises** consisting of group and individual activities, interactive working sessions and formal presentations
3. **Learning Moments** - digital and in-person presentations and dialogues between industry experts and community participants
4. **Workshop evaluations** and **feedback forms**

Sense-making

The Energy Futures Lab Roadshow team has a wealth of experience synthesizing and making sense of the outputs from what may seem like unrelated data points. Each Roadshow activity is designed with a specific intention, and together they work to reinforce findings and build towards answering the question around which we’ve convened.

To the extent possible, we have documented our process to create breadcrumbs back to the origins of important points in the conversations so that our recommendations are grounded in participants’ input, insight and feedback. These recommendations aren’t an exhaustive list, but rather a starting point that represent the team’s best advice on where we believe the greatest progress can be made with the resources available.

Defining ‘Alberta’s electricity system’

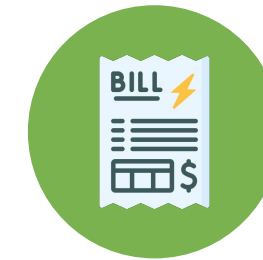
Our electricity system is big and complex, having been built in layers over the past century and a half as Alberta’s population and demand for electricity have grown

In typical electricity system consultations, the system is thought of as having 4 main components: generation, transmission, distribution and retail. This framing isn’t incorrect, but for our purposes it’s incomplete. Therefore we find it useful to clearly outline that our projects dealing with the electricity system look at components beyond this limited framing, as some of these additional players exert a considerable amount of influence on how the system is run and what its priorities are, and may need to play a part in solutions to address the system’s challenges.

We define the electricity system and the actors involved as encompassing:



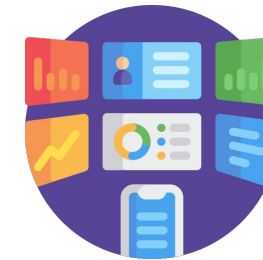
People – individuals, communities, and businesses that rely on electricity



Retailers – businesses responsible for selling electricity to people and businesses



Power Producers - owners and operators of electricity generation facilities



Market Operator – entity responsible for developing the rules, enabling access, and operating the wholesale market



Regulator – entity responsible for regulating electricity markets to protect the social, economic and environmental interests of Alberta



Wires Owners - owners and operators of delivery infrastructure (both transmission and distribution)



Government – bodies responsible for developing relevant federal, provincial, and jurisdictional policies and mandating regulations that govern the electricity system



Drivers and Barriers to Electricity Systems Change

The following slides summarize the **drivers** (forces prompting change) and **barriers** (roadblocks to change) to the electricity system in Viking & Area as identified by interviewees of this research project.

For more detailed information, please refer to the [*What We Heard Report*](#).

Drivers and Barriers

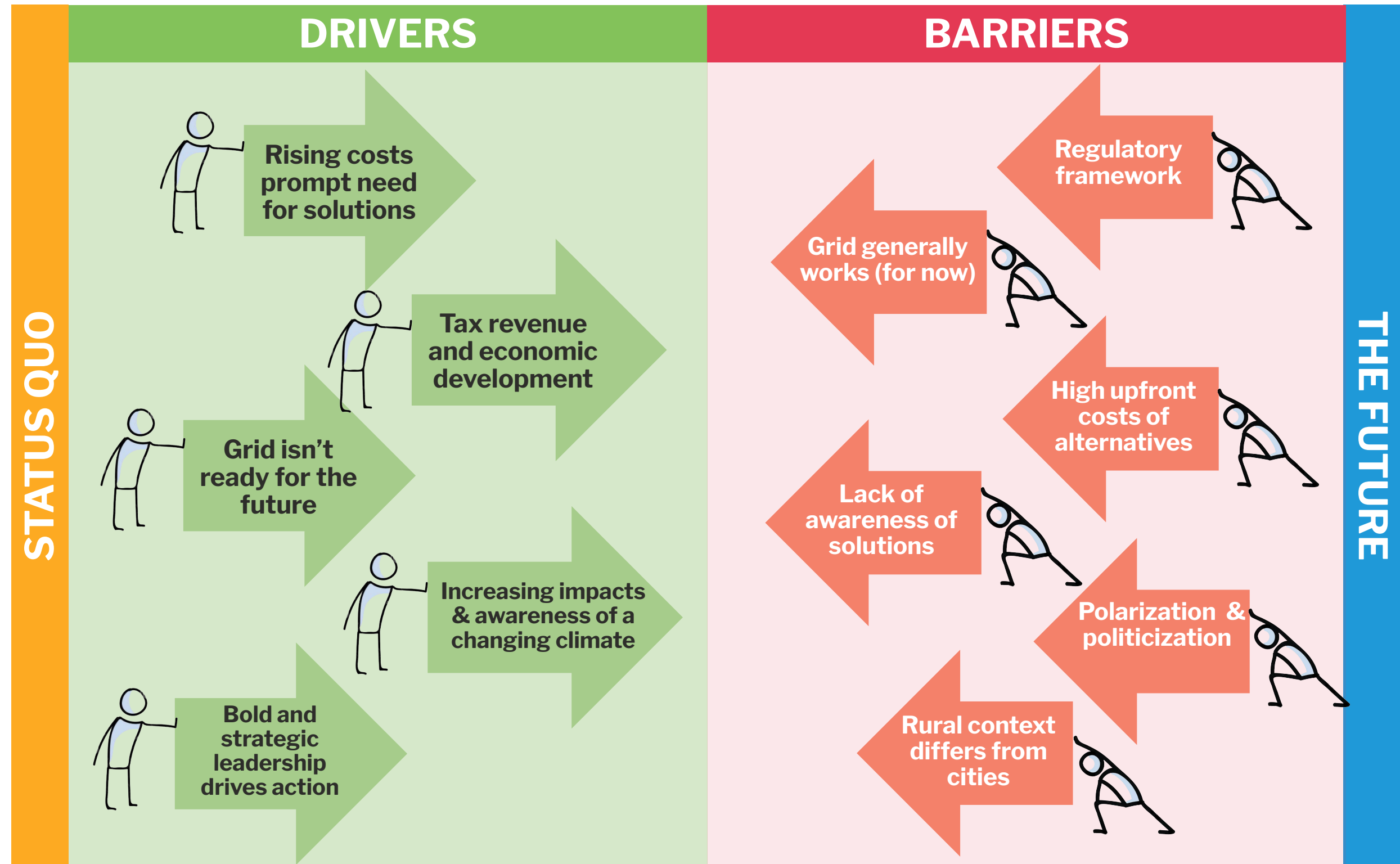
Drivers and Barriers to electricity system change in Viking & Area (as identified by the interviewees of this research project)

In any system there are forces driving towards the future and those working to keep things as they are

Neither the status quo or the future are perfect - but our desire to move towards one or the other is often a reflection of how well the system in place is meeting people's needs. Of course, with variable needs and desires, different groups of people are not always perfectly aligned on their priorities. When a system starts to meet the needs of fewer people, it prompts innovation and disruption - in a word: change.

The goal in shifting a system (at least in a democracy) should be to meet the needs of the most people, and the natural systems they depend on, over the longest period of time.

Please see **Appendix A** for a more detailed description of these barriers and drivers.





Factors Complicating the Challenge for Rural Communities

Through the Roadshows, the EFL has seen first-hand the additional challenges facing rural communities, compared to urban centres. This clearly tells us that transition solutions must be regionally fitted to each community's unique context.

Examples of these include:

- **Limited Access to Capital and Investment**
Limited access to financial resources and investment opportunities can make it difficult for local businesses to expand, innovate, or start new ventures, thus limiting economic growth and job creation.
- **Aging and Declining Populations**
Many rural communities are experiencing an aging population and out-migration of younger residents seeking education and employment opportunities in larger cities. This demographic shift can lead to a shrinking workforce, reduced consumer

spending, and a decline in local services.

- **Infrastructure Deficiencies**
Some rural areas lack essential infrastructure such as high-speed internet, reliable transportation networks, and modern healthcare facilities. These deficiencies can deter businesses from locating in rural areas and make it harder to attract and retain skilled workers.
- **Economic Diversification Opportunities**
Some rural communities rely heavily on a single industry, such as agriculture or energy. This dependence makes them vulnerable to economic downturns and fluctuations in commodity prices and can be especially challenging to energy transition.
- **Inequitable Distribution of Energy Production Drawbacks**
Rural communities that are home to energy projects experience the lion's share of their drawbacks, such as health and safety risks, noise, and the alteration of views or natural features, whereas urban centres only

experience the benefits. This distribution is seen as unfair and can create local opposition to new projects.

- **Limited Skilled Workforce**
Rural areas may face difficulties attracting and retaining a skilled workforce due to factors like limited access to education and training opportunities, lower wages compared to urban centers, and a perceived lack of amenities and cultural attractions.
- **Remoteness**
The consequences of being without power for longer are higher for rural communities as help is further away. For example, extreme weather is an issue when travelling long distances on country roads which makes automobile reliability extremely important.
- **Low Population Density**
Costs are spread across fewer consumers. This can lead to higher electricity transmission and distribution costs and higher per-capita spend on new projects.



Viking & Area Electricity Vision

Setting out an idea of a future we're inspired to work towards, together.

Desirable Narratives for Viking's Electricity Future

During Workshop #1, participants were asked to imagine a future they would like to see for Viking and area, and translate it into headline statements.

The 5 key narratives represented here integrate participant contributions and feedback.

These narratives offer a glimpse of what participants would LIKE to be hearing in Viking and area in the year 2054, and are one way of guiding strategy and prioritizing actions moving forward.

We proactively invest in tomorrow's prosperity

We are leaders because we are educated on emerging challenges and embrace the opportunities their solutions provide



Rural communities develop new industries and jobs from the opportunities electricity brings

Our small town nimbleness contributes to the adoption of leading innovations and technology

Collaboration, a spirit of cooperation and shared understandings lead to success



Viking & Area Electricity Vision

We, the people of Viking and area, are united as a community of proud, forward-thinking rural leaders, invested in our community's well-being. Our focus on electricity system opportunities enables us to proactively shape an affordable and inclusive future for everyone.

We leverage our unique strengths and nimbleness to adapt and seize opportunities and embrace new industries, ideas, and advanced technologies to create a strong, local economy that empowers us to thrive for generations to come.

100%
of 13 respondents
rated the vision
& or higher
on our survey



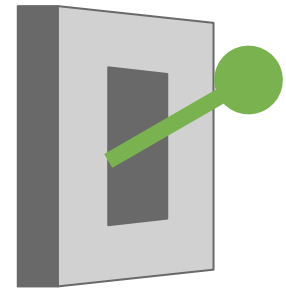
Change Levers & Recommendations

Realizing the community's vision for where it wants to go will depend on its ability to build on the momentum created from the Roadshow. Moving into action and generating quick wins that demonstrate the underlying value proposition of the vision are critical to creating more wide-spread buy-in and recruiting a larger base of 'doers'. While champions of the project and the vision are invaluable, it's important that the goal of realizing this vision be distributed among many people in the community to help the project maintain course and speed.

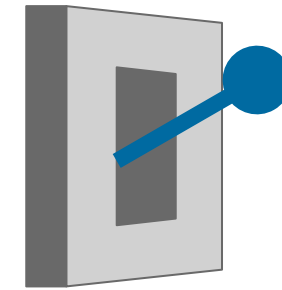


Levers of Change

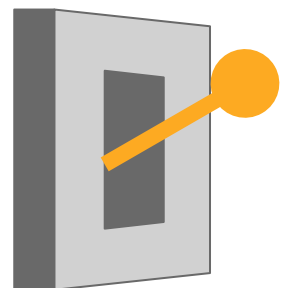
*“We proactively invest in tomorrow's prosperity”
by:*



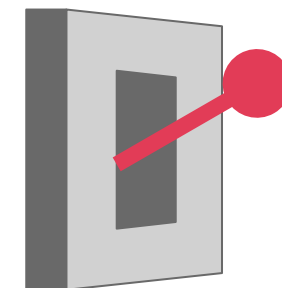
Empowering leaders to take bold and strategic action



Enhancing local awareness of sustainable energy choices and opportunities



Improving municipally focused energy guidelines, policies & strategies



Creating regional clusters for energy generation and advocacy

OVERARCHING THEME

“We proactively invest in tomorrow's prosperity”

Roadshow participants felt great conviction that investing today for tomorrow's prosperity was a necessary, courageous move.

Where this came up:



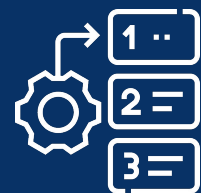
interviews



Desired Narratives



Actions Brainstorm

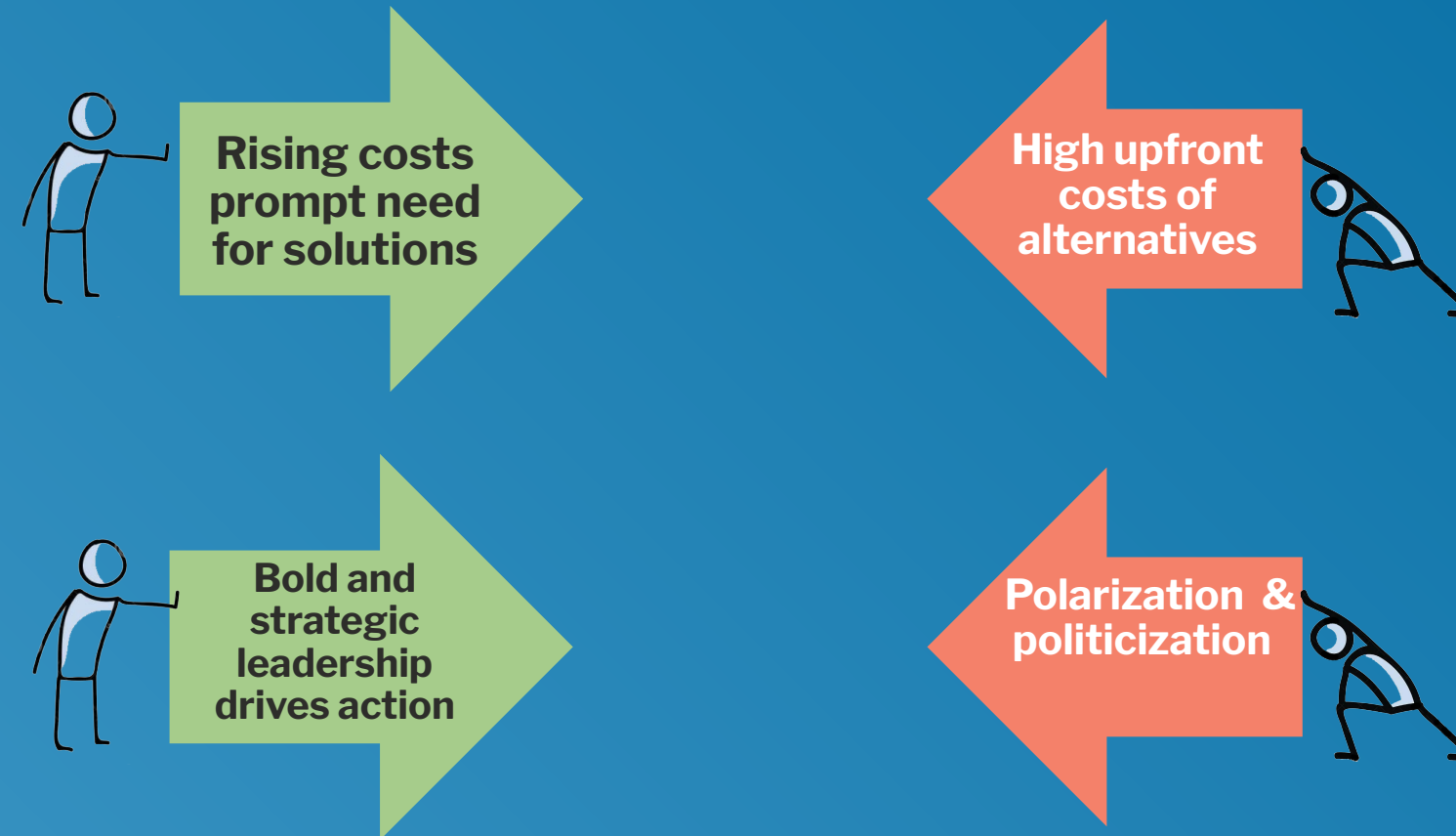


Prioritization

“Change is hard because people overestimate the value of what they have and underestimate the value of what they may gain by giving that up.”

– James Belasco and Ralph Stayer

Throughout the entire roadshow process, the tension between comfort today and preparing for tomorrow persisted.



STRENGTHS

- A collective mindset of making do with what we have to build what we need

WEAKNESSES

- Attracting skilled labour



CHANGE LEVER #1

Empowering leaders to take bold and strategic action

Why this matters:

Leaders today are faced with unprecedented levels of uncertainty, fast-moving technology, and enormous social and economic challenges. There are no easy wins or clear answers. It will take courage, long term thinking and a willingness to cut a new path to successfully lead communities and organizations into a better future. Leaders need communities of informed and engaged citizens supporting them to be able to confidently and bravely face the unknown and make strategic choices for our future.

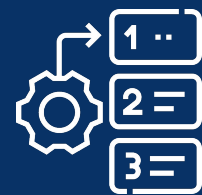
Where this came up:



interviews



Desired Narratives



Prioritization

“They have solid leadership and very much a can-do attitude at the town. Anything new is risky. And the new energy paradigm is risky. Somebody's got to take the risk. But is it worth it in the end? And I think, based on their track record, they took a risk. They made the investment and it's turned out wonderfully for them.” - Interviewee

Participant-suggested actions related to this goal:

- Expand net-zero infrastructure projects, ie: additional solar and EV charging station.
- Add storage for excess electricity generation such as hydrogen infrastructure.
- Conduct feasibility studies and funding sources for prospective projects.
- Set a clear vision for the future.
- Lobby provincial government in support of demand side management, storage and other policies and incentives that support renewable energy development in rural Alberta.

Recommended next steps:

- Finalize, share and engage people in Viking and area around the vision for the future
- Leverage available funding and resources (e.g. MCCAC, AB Innovates, PrairiesCan, Federation of Canadian Municipalities,, Alberta’s Electricity Future, etc.) to equip leaders to take action
- Improve connectivity and awareness of what is going on elsewhere in Alberta and for municipal leaders to have a network of peers to support them (e.g. Alberta Municipal Climate Leaders project from Community Energy Foundation, participate in AEF, etc.)

Resources:

- [Alberta Municipal Climate Leaders](#)
- [ATCO Community Energy Fund](#)



CHANGE LEVER #2

Enhance local awareness of sustainable energy choices and opportunities

Why this matters:

Being well-informed empowers individuals to make decisions that are more likely to succeed within their specific contexts. Increasing awareness will also foster local interest in the opportunities presented by the future electricity system. Offering residents and youth opportunities to enhance their knowledge and skills broadens career and employment prospects. A community with a skilled and knowledgeable workforce is better positioned to take control of its own future. Engaging with residents helps leaders understand what the people of Viking really want.

Where this came up:



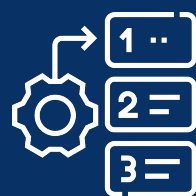
interviews



Desired Narratives



Actions Brainstorm



Prioritization

"I think one of the things at play here is just understanding. I think everybody is generally aware that we need better solutions and that there's new technology but the depth of understanding I'm not sure is there quite yet." - Interviewee

Participant-suggested actions related to this goal:

- Educate the public, Town Council & Administration as well as students on the opportunities (and challenges) of new technologies
- Incentives or scholarships for younger generation to pursue alternative energy careers
- Use surplus revenue from TOV solar project to fund a subsequent project selected by the community. Focus on raising awareness through this effort.
- More public education on our electricity needs and challenges

Recommended next steps:

- Widely share and celebrate the success of current solar farm and proposed PACE project
- Host regular community conversations about energy topics. Utilize both in-person and online platforms to feature guest speakers on topics of interest.
- Provide training opportunities for municipal and county leaders and teachers.
- Research and invest in programs for youth education (e.g. training opportunities for teachers, curriculum, etc.)

Resources:

- [Ten Peaks](#) (Alberta based educational programming for youth),
- [Energy Ecosystem Website](#) - Useful for anyone interested in learning more about energy
- [Net Zero Changes Everything: A Strategic Approach](#) (Course)
- Field trips and site visits - ie: Lakeland College



CHANGE LEVER #3

Improve municipally focused energy guidelines, policies & strategies

Why this matters:

Residents and project developers look to the Town to understand what kinds of development and improvements are allowed and encouraged within the community. Clear and easy to follow policies and guidelines can incentivize projects that will enhance property value, create economic development for the region and move towards the long term vision. A guiding vision and strategy helps decision makers select the types of projects to incentivize and narrows down the mechanisms to do so.

Where this came up:



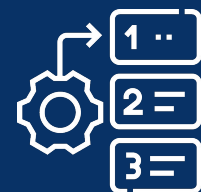
interviews



Desired Narratives



Actions Brainstorm



Prioritization

“Municipalities need to develop bylaws to approve projects which makes project approvals and development very one-off, slow and unpredictable. It also places a burden on the municipality to figure it out each time, and for the developer to educate and work closely with the municipality and local residents.” - Interviewee

Participant-suggested actions related to this goal:

- Conduct a review and assessment of the current state of municipal policies to understand what exists, what is lacking, what could be achieved.
- Update existing policies to support renewable energy projects & demand-side management
- Look for ways to bring solar to homes or the school

Recommended next steps:

- Share outcomes from Energy Futures Roadshow with key stakeholders and work together to develop a local strategy.
- Connect with folks from Innisfail Town Council and Administration to learn from their experience (e.g. Council approved energy transition plan, Net Zero course, etc)
- Consider investing in an a MCCAC subsidized Energy Manager role to lead the review and implementation

Resources:

- [Solar Friendly Municipalities, Municipal Energy Managers Program, or Roving Energy Manager Program, \(MCCAC\)](#)
- [Clean Energy Improvement Program \(CEIP\)](#)



CHANGE LEVER #4

Create regional clusters for energy generation and advocacy

Why this matters:

Most small towns, counties and municipalities are strapped for resources and funding. It makes sense to work together, capitalizing on strengths and successes. A regional strategy will help ensure that different areas are not competing against one another and are uniting their voices for greater influence. Involving more stakeholders in conversations and decisions aids efficient development through public support and buy-in.

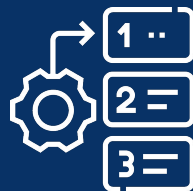
Where this came up:



Desired Narratives



Actions Brainstorm



Prioritization

“The underlying question is how can we make this work and how can we get along? The more we can sit down and talk about stuff and figure out what works, the better” - Interviewee

Participant-suggested actions related to this goal:

- Regional alignment and collaboration with partners on developing projects, funding avenues, enhancing public awareness and conducting feasibility studies
- Unite neighbouring counties in support of provincial policies for demand side management
- Develop a regional growth strategy

Recommended next steps:

- Create a shared vision with neighbouring counties and municipalities by committing to come together and continue the work started in the Roadshow.
- Attend conferences and other electricity innovation events to connect with like-minded communities and stay current on emerging trends.
- Strike a coalition of willing participants from other rural areas to advocate for provincial policy change on key issues

Resources:

- [MCCAC](#)
- [Alberta Innovates Regional Innovation Networks](#)
- [Rural Municipalities of Alberta](#)
- [Community Energy Association](#)



Summary of Recommendations





Next Steps

“Knowledge doesn’t become power until you act on it.”

-Sarah Moffat



Parting Thoughts

So what? Now what?

Over the course of the past five months, community members in Viking and area have come together to identify the current state of the region's electricity system, articulate a vision for their electricity future, brainstorm initial actions they could take, all the while being supported by electricity system actors, community builders, artists and mentors.

The conversations haven't always been easy - and there remain plenty of 'crunchy questions' to be explored, but collectively we've come a long way from where we started. Most importantly we've learned to come together as a diverse group of people, check our assumptions/ politics/ judgements at the door, and really *listen to one another*. Creating welcoming, respectful and equitable spaces for tough conversations has been a critical part of this work to-date, and will continue to be. The great news is that you now

have access to some tools and frameworks (and to the EFL team) that can help you continue to build those skills as you move forward.

Our team has greatly valued this opportunity to work with and get to know The Town of Viking, the region, and each and every person who has taken part in this project - whether that's been as an organizer, sponsor, interviewee, workshop participant, event attendee, vendor or one of the many people in the community we got to know along the way. It has been a true pleasure to be welcomed so warmly into the community, and to get to spend some time with people who are deeply passionate about it. You've inspired us!

Having gone through our Roadshow program, we now consider you part of the ever-expanding EFL Community, and though our team must move on to new projects we remain committed to the work that was started here. Members of our team are available to brainstorm, talk through challenges, share and celebrate successes, and make connections as needed. Please don't hesitate to

reach out!

With that, though, we want to emphasize that **the next steps are now in the hands of those reading this report**. Whether you are a student, retiree, a councillor or business owner - **you are the ones you've been waiting for**. If you have an idea for how to move the vision forward - don't let it go unshared. Your willingness to take action is the project's most valuable asset. Of course, there are many ongoing efforts led by EFL, industry, government and others that will be relevant to this challenge, but the most important steps will be the ones taken in your own backyards.

Let the inspiration carry you, go forth and reap the rewards of your hard work!

“The greatest danger in times of turbulence is not the turbulence – it is to act with yesterday's logic.”

- PETER DRUCKER



Optimistic

Reassured

Informed

Grateful

Educated

Awesome

Committed

In 1 word, how are you leaving today?

(responses from Workshop #1)

Encouraged

Excited

Wonderful

Learning

Motivated

Energized

Interested

Happy

Hopeful

Heart-Warmed

Community

Enlightened

Pumped

Tired



energy futures lab



On behalf of Juli, Matt, Scott, Ashley, Maureen, Maggie, Eveline, Todd, Leanne and the rest of the Energy Futures Lab community...

Thank You!

Creating
the energy system
of tomorrow,
together





Appendix A

- Viking & area Drivers and Barriers: detailed findings
- Alberta-wide & global trends
- Helpful frameworks

Drivers

“What are the drivers of electricity systems change in Viking and area?”



Interviewee Quotes

- "Currently we're paying what we can afford to pay for power, but I don't know if we can afford to pay much more."
- "So one of the common complaints is the cost of electricity that just keeps going up and up and up. And it's based on cost of delivery being 40 to 60 percent of your bill. If we keep investing in the transmission system, all that's going to do is drive those costs up because load pays in Alberta."

Where are we seeing these trends appear?



Globally



Provincially



Locally

Driver #1: Rising costs prompt the need for solutions

Essence: Increasing electricity costs are putting pressure on wires owners, retailers and consumers to innovate. Consumers are looking for ways to reduce their own energy bills and expect the system to support them to do so.

- The cost of electricity is rising, and despite having a deregulated system Alberta currently has the highest power prices of any Canadian province
- Connection fees make up a large portion of people's energy bill which leaves consumers feeling powerless and unclear on the what they're getting for those fees
- Consumers' pocketbooks are stretched thin with inflation increasing the cost of living across the board
- Creative solutions are emerging and people are more open to learning about new technologies because of how unsustainable the status quo feels
- Unpredictable and volatile prices make planning for the future difficult; especially for fixed income individuals, small businesses, charities and non-profit groups. This drives people to look for solutions with greater long-term certainty or predictability

Interviewee Quotes

- "The electrical system that supports Viking is out of date. It is currently being asked and will be asked more in the future to do many things that it was not originally designed for. It was designed to dump power one way from large generation sources down to the consumers or the small communities."
- "Things are going to need to change for it to keep up with everything in the future"

Where are we seeing these trends appear?



Provincially



Locally



Driver #2: The existing grid is not sufficient for meeting future needs and demands

Essence: The current system is designed to move power in one direction: from generators to consumers and will be challenged to both meet growing demand and handle two-way flow while maintaining overall stability/reliability and affordability.

- The current system relies on a highly-functioning centralized transmission system that carries power from one part of the province to another
 - Ensuring that this system is in good working order is very expensive and those maintenance costs are being applied directly to consumers' energy bills. Consumers are not happy to pay for these heavy maintenance costs while not understanding the benefit it provides
 - The current grid isn't equipped to add industrial loads affordably
 - Supply and demand balancing has been relatively straightforward due to a small number of generators who produce a significant amount of the power. As the sources of supply diversify and more producers join the market, it will be increasingly difficult to ensure stability of the system due to a larger number of inputs that need to be coordinated
- A decentralized system can foster stability at the local level by granting greater autonomy for local management. However, achieving this requires enhancing functionality to facilitate two-way electricity exchanges

Interviewee Quotes

- "They have solid leadership and very much a can-do attitude at the Town. Anything new is risky. And the new energy paradigm is risky. Somebody's got to take the risk. But is it worth it in the end? And I think, based on their track record, they took a risk. They made the investment and it's turned out wonderful for them."
- "There are going to be wars over water. There are going to be wars over power. All of the essentials there are going to be wars over. And we have to be conservative, we have to conserve and be forward thinking and proactive."

Where are we seeing these trends appear?



Globally



Locally



Driver #3: Bold and strategic leadership drives action

Essence: Leaders with strategic perspectives are advocating and leading the implementation of technologies today that mitigate future challenges and respond to future opportunities.

- Investing in new and novel opportunities requires taking a risk and being scrutinized for those decisions. This requires courageous leaders who have the conviction of their decisions
- Thinking strategically about the long-term future requires people to get out of the day-to-day mindset and carefully balance the needs of future generations against the needs of today. This is not the common approach where many leaders often focus mainly on the present and near future, but the need to adopt longer-term thinking and planning is becoming more evident
- Decision-makers are increasingly aware of emerging opportunities to help implement these initiatives. This includes entertaining opportunities for innovative technology and leveraging subsidies or other financial incentives



Interviewee Quotes

- “So I think Viking is a little more forward-thinking when it comes to sustainability and economics and resources. We are working with [prospective developers] to lease property and then ultimately create a bit of a tax revenue, which would be put back into infrastructure to support some our upgrades to our community.”
- “I think a lot of it is driven by profit - the competitiveness piece... From a municipal perspective, people are worried about the amount of oil and gas that has shut down and how you would ever replace that tax revenue.”

Where are we seeing these trends appear?



Globally



Provincially



Locally

Driver #4: The electricity system can generate tax revenue and economic development opportunities

Essence: Through renewable energy development, communities can develop revenue generating opportunities which allow them to produce their own electricity while increasing their tax base. Having more affordable electricity is also key to maintaining a community’s attractiveness to new industry and businesses.

- Rural municipalities are seeing slower population growth than urban areas, and combined with declining oil and gas development, have a need to replace tax revenues. Utilizing municipally-owned land for renewable energy development creates an alternative revenue source for municipalities.
- Economic growth can be realized through new business opportunities that renewable energy provides, as well as the types of businesses that it attracts.
- ‘The Alberta Advantage’ for new industry looking to locate in Alberta is eroded by high electricity prices - especially for national or international companies accustomed to greater choice in providers. This creates tension between the desire for new investment and the jobs new industry creates in rural communities and the limitations of the current electricity system.
- With the support of Municipal Climate Change Action Centre, the Town of Viking was able to invest in a municipally owned solar system, which has created net-positive revenue for the town in addition to supplying emissions-free power for town buildings.

Interviewee Quotes

- "Something that's come to mind is the crazy weather that we experienced last summer when we saw those extreme heat conditions and this winter when we saw extreme cold conditions. When the world is going to put way more demand on our grid, how are we going to be prepared?"
- "Across the country there is a change in the attitudes about power. As a community, we're following along those lines or are trying to do the best we can with what makes sense for us economically. If we have the choice of the old refrigerator that's sitting there, humming in the corner and drawing all that power or the 15 watt fridge, we're making those choices because we're more socially aware and feel more responsible that way."

Where are we seeing these trends appear?



Globally



Provincially



Locally



Driver #5: Increasing impacts and awareness of a changing climate

Essence: The general public (especially the youth) is becoming more aware of human impacts on the planet. There is an increased desire to make choices that feel like "the right thing to do." Increasingly volatile and unpredictable weather events place further strains on the electricity system.

- Younger generations are experiencing the worsening realities of climate change, and their future prospects are affected by its longer-term impacts. To them, the issue is undeniably real and increasingly urgent to begin to address meaningfully
- Record-breaking temperatures, smoke-filled summers, droughts and floods are changing people's needs and behaviors. These disturbances are also increasing costs, affecting everything from insurance to food. Additionally, they're driving up electricity demand from individuals and businesses, particularly for items like air conditioning or remote watering systems
- The awareness and acceptance of climate change as a real, human-created phenomenon and its destructive potential is growing, and along with it a sense of duty or personal conviction that ensuring a livable future for all people will require us to take greater social and environmental responsibility

Barriers

“What are the barriers to electricity systems change in Viking and area?”

Interviewee Quotes

- "We've taken it for granted. The power will be here. We use it. We pay for it anyway."
- "Well, personally, for the most part, I get up every morning and I turn the coffee on and it, it works. I turn a few lights on when I need to, and they work. So that's working. My needs are met."
- "Why it might need to be changed in the future when you can say, I've never had a problem with it. Why would I change it if it's good for me?"

Where are we seeing these trends appear?



Provincially



Locally



Barrier #1: The grid generally works (for now)

***Essence:** The overall system produces enough electricity and is maintained to be resilient enough to meet our current needs.*

- If a system works reliably then why change it? Interviewees reported high reliability of electricity in Viking, meaning they have access to the electricity they need, anytime they need it
- Very few disruptions in service and quick resolutions to disruptions creates the impression with the public that "all is well." It's not until there are province-wide alerts that consumers have started to notice or wonder how reliable the system really is
- Ensuring high reliability and low down-time requires that wires owners invest heavily in routine maintenance and resources to quickly resolve outages. To date, these costs have been seen as a necessary cost of business



Interviewee Quotes

- "Regulatory world is "burping along" in response to needs and ends up being behind vs in front. Some technologies are favoured over others."
- "Several utilities submitted applications for demand side management (DSM) and only one was approved and it was approved as a pilot only. There is no mandate for DSM programs in Alberta and the commission only works within the mandate that they have...Utilities have to go and drive some policy changes and that takes a lot of time as well."
- "I think entrepreneurs maybe avoid the energy sector when it comes to innovation, because it's so highly regulated."

Where are we seeing these trends appear?



Provincially

Barrier #2: Regulations are designed for existing infrastructure and market

Essence: The robust, established policy and regulatory framework favours investment in the existing system and technology. Regulatory change is extremely difficult and slow and the status quo prevails.

- Regulatory bodies work within the mandates they're given from government departments. Therefore, changing elements of regulations that don't work for an emerging system requires changes at the policy and legislative level. For good reason, those kinds of changes are labour intensive and very slow.
- Due to the complexity of Alberta's regulatory frameworks, novel approaches to power production, transmission, distribution and load management cannot easily be incorporated. This hinders producers, wires owners and retailers from innovating at the pace demanded by consumers.
- Policy changes are trailing behind developments in other global markets, indicating an inevitable need for change. However, the reactive approach and ambiguity surrounding the specifics of potential policy revisions create uncertainty for businesses and investors, deterring investment and hindering progress.
- Although the approval and permitting processes are clear for certain types of projects at the Provincial level, municipalities can create their own land use policies for new project development. If not done effectively, it can be labour intensive, time consuming and doesn't always produce the best results every time a new project is proposed.



Interviewee Quotes

- "It's where people are getting their information from. People are very selective as to where they go for their information sources and it's unbelievable what kind of trust they will put it in to information that has no credibility."
- "Our federal government is so hell bent on the ideology behind these taxes."
- "You'd be hard pressed to find anybody who would agree with an electric vehicle here because of where they come from, where they make their money"

Where are we seeing these trends appear?



Globally



Provincially



Locally

Barrier #3: Polarization & politicization

***Essence:** Where we get information from matters. Information to support any perspective can be found and not all sources are credible. Energy topics are intensely politicized and polarized which leads to a 'with us or against us' mentality.*

- Entrenched beliefs and mindsets reduce people's genuine consideration of alternative perspectives. Dominant narratives and polarization create cultural barriers to change, where adopting renewable energy technologies becomes equivalent to betraying the oil and gas industry, 'the lifeblood of Alberta,' or tarnishing the legacy of past generations.
- Politicization of energy solutions has created a stalemate between the provincial and federal governments, where altering a position or messaging would be akin to 'backing down' or 'losing the battle.'
- Misinformation spreads faster than facts and leads to poor decision making and confusion.
- A lack of consensus on the most appropriate technology solutions exists, in part, because people are divided ideologically instead of exploring the data. Furthermore, people's belief in facts or arguments presented depends on how much it aligns with their current beliefs and the trustworthiness of the source may be subjectively evaluated or not considered at all.
- Limited opportunities exist in our society for deliberate, respectful conversations with individuals holding differing viewpoints. Consequently, this fosters entrenched beliefs and a tendency to engage in disagreement primarily through online platforms, potentially anonymously, with group dynamics enhancing the potency of disagreement.



Interviewee Quotes

- "I think one of the things at play here is just understanding. I think everybody is generally aware that we need better solutions and that there's new technology but the depth of understanding I'm not sure is there quite yet."
- "I've always been a rural Alberta kid. I think right now we're being pushed to the side. Everybody needs to look at rural Alberta as more valuable. And if these people could come out and educate our people and teach them the benefits...and explain all these different scenarios...and this is going to be the cost, are there any rebates or grants? I think that would be huge."

Where are we seeing these trends appear?



Locally

Barrier #4: Lack of awareness of solutions

***Essence:** The general population lacks awareness about what viable technology options are and the pros and cons to each. They don't have a sense of what might change as a result of implementing these technologies.*

- People are generally unfamiliar with solution options (technological and other) and likely don't know anyone personally who has successfully implemented new technology like electric vehicles, air-source heat pumps or personal solar arrays.
- The full implications of converting to new technologies are not well understood and the tendency is to be wary or suspicious of new things. Folks are not aware of the upfront and full life-cycle costs, incentives and rebates and lifestyle changes associated with new technologies.
- Similar to many organizations, the staff supporting small municipalities are constrained by capacity and pulled in many different directions. Generally speaking, there are not enough staff and they don't have knowledge or experience with emerging energy trends. These folks often support other very high priority areas elsewhere within town operations and it's difficult to find the time to conduct research and explore innovative options.

Interviewee Quotes

- “Definitely prices of all that stuff. That's definitely a barrier.”
- "There are many players that are seeing a business opportunity and are making the investment so that they can gain financially from their investment. There are advances that have been made in battery storage technology and it's also enabling this to happen. I'm confident that there's going to be a lot more uptake on it in the fairly near future, but I'm not aware of others that have gone down that path yet. I'm certainly not going to oppose it when it makes economic sense to do that, but I need to see a demonstrated business case that would justify that additional investment."

Where are we seeing these trends appear?



Provincially



Barrier #5: High upfront costs of alternatives

Essence: Installing new technology often requires a large, upfront investment and many don't have access to this amount of capital. Investments with a long payback period are seen as too risky for some stakeholders and furthermore, the business case isn't always clear.

- New technology requires a significant investment of money and time to successfully implement. Many individuals and small businesses don't have a surplus of either at the moment, and therefore don't see these solutions as being viable alternatives at this time. Many options are viewed as only for the wealthy and most innovative folks.
- For any investor, whether personal, municipal or business, the economics need to make sense and be compelling enough to invest. Working towards a net-zero electricity system needs to make financial sense - it can't just be a nice thing to do.
- High upfront costs combined with a long payback period are made worse by high interest rates.
- The general population often doesn't have access to reliable information needed to conduct an economic assessment, even if they wanted to. When the information is available, there is low confidence in it and most people don't personally know of others who've had success.
- Subsidies and loans are available which helps with the economics, but many people don't want government handouts and can signal that the economics are insufficiently positive. They also want lower taxes overall, making subsidies even less appealing.



Interviewee Quotes

- “I would say that probably the dominant view locally here is that it's not sustainable for rural Alberta. And that's something that, unless they can figure out, you won't get buy in from rural Alberta until, that's resolved.”
- "For a farmer to run his combine or his tractor or the truck to town to haul his grain, or drive 40 minutes to 2 hours to a hospital or healthcare in the city; electric vehicles are not going to work on days like we saw even last week."

Where are we seeing these trends appear?



Locally

Barrier #6: Rural context differs from cities

***Essence:** Rural communities are systemically de-prioritized and overlooked, and technologies don't necessarily work well or translate to rural or remote applications.*

- Low population density leads to higher electricity transmission and distribution costs.
- The consequences of being without power for longer are higher. For example, you could find yourself stranded or needing to wait a long time for help to come. Extreme weather is an issue when travelling long distances on country roads (i.e. range loss in EVs in colder weather).
- There is low confidence in the reliability of new technologies and folks don't have a working knowledge of or the ability to repair new technologies. Authorized service technicians may only be available in the nearest city. This leads to a need for additional backup systems that can work seamlessly with existing systems, and building that redundancy can add to costs.
- Due to the larger distances travelled combined with low population density, participants felt that rural areas need different transportation solutions than urban areas. For example; bikes, e-scooters, and public transit are not presently seen as viable transportation options in Viking.
- Small towns and rural communities have been deprioritized politically, technologically and socially. Residents don't see themselves as being as influential as urban voices in political decisions. Technology is developed, tested and marketed with urban customers in mind. Energy transition narratives don't resonate {as much} with rural audiences as urban ones.
- New industrial development located nearby might not directly positively benefit the community.

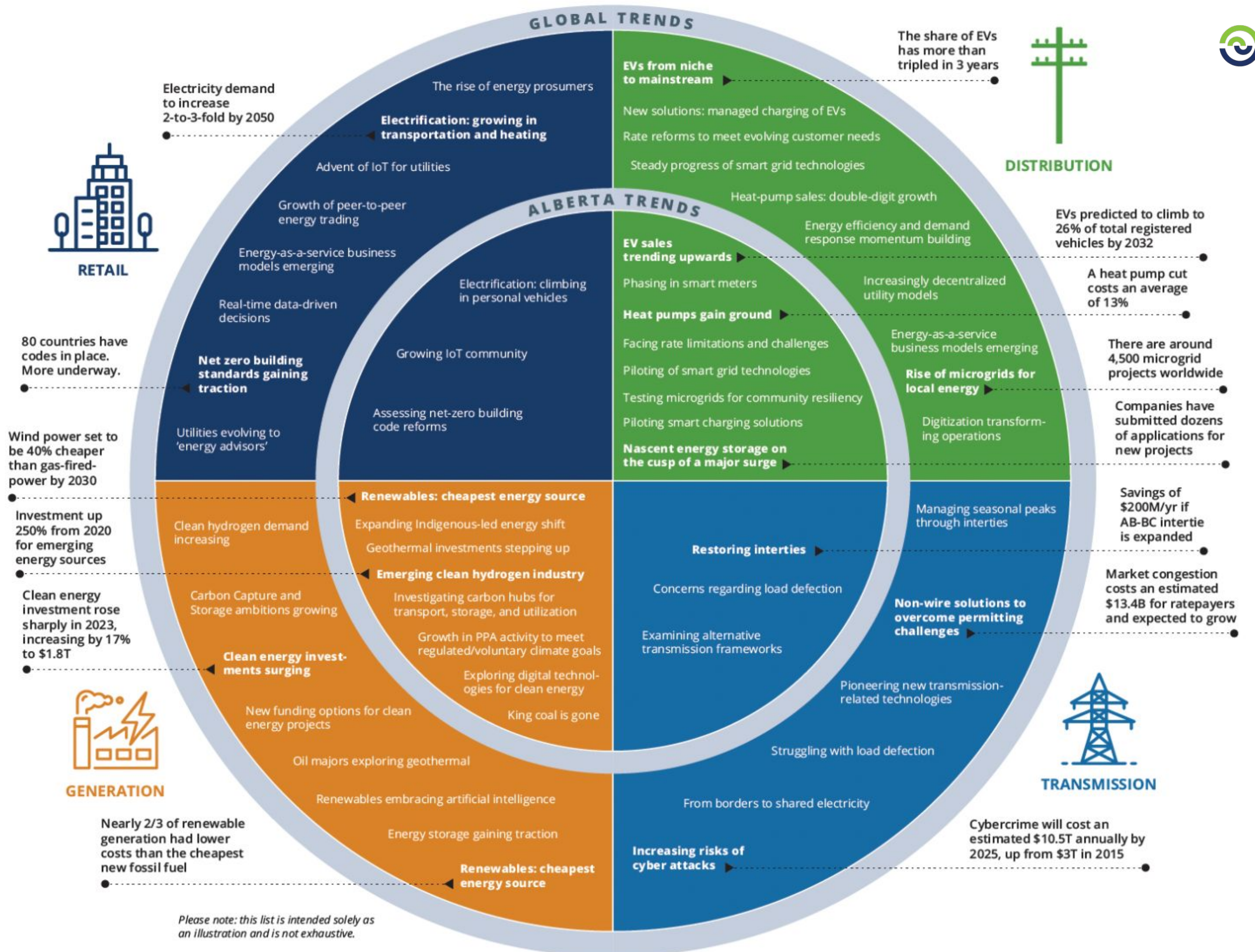


Alberta-Wide & Global Trends

“You can listen to what people say, but you will be far more effective if you observe what they do.” - Seth Godin

Alberta-Wide & Global Trends

This diagram is taken from [Leading the Charge: A Vision for Alberta's Electricity Future](#) - an early output of another EFL initiative. Taken together, these long-term trends show that, to continue to power Alberta's progress, we must expand on the strong foundations of the province's electricity system today to meet our ambitions for the future. Moreover, they make the case that the shift needs to start now, as electricity will need to move ahead of the curve, as its role in accelerating pathways for other sectors to decarbonize is essential.



Scan to read the full report



Frameworks & Principles

Useful models for thinking about the challenge of changing deeply ingrained systems, such as transitioning from one energy system to another, and how we define success.



7 Generations Teaching

The 7 Generations Teaching is a philosophical teaching found within many Indigenous cultures in North America.

From Jayla Rousseau-Thomas:
The teaching “puts the onus on decision makers to consider the options and their impacts outside of just the current context when making decisions at the individual, family, and community levels. Each person is to consider the decision they are seeking to make, in addition to considering what the seven generations before them would have done, and how this decision will impact seven generations into the future.”

“The Peacemaker taught us about the Seven Generations. He said, when you sit in council for the welfare of the people, you must not think of yourself or of your family, not even of your generation. He said, make your decisions on behalf of the seven generations coming, so that they may enjoy what you have today.”

*- Oren Lyons (Seneca)
Faithkeeper, Onondaga Nation*

Systems Change and the Geels Framework

How do you change a 'system'?

Systems change (definition): the process of changing the conditions that hold a specific problem in place.

For the Lab, the overarching problem we look to address is climate change, and more specifically the need to achieve a net-zero energy system.

The EFL uses a framework known as the **Geels Multi-Level Perspective**, which posits a theory about how systems change takes place, in practical terms. It suggests that new innovations are launched at the niche level. Those fall within the larger context of institutional structures that define the “rules of the game.” And this, in turn, occurs within the broader cultural landscape.

The Lab’s belief is that systems change happens when a network of actors creates interventions on multiple levels, to help the system (which is prone to inertia) spur on transformative change.

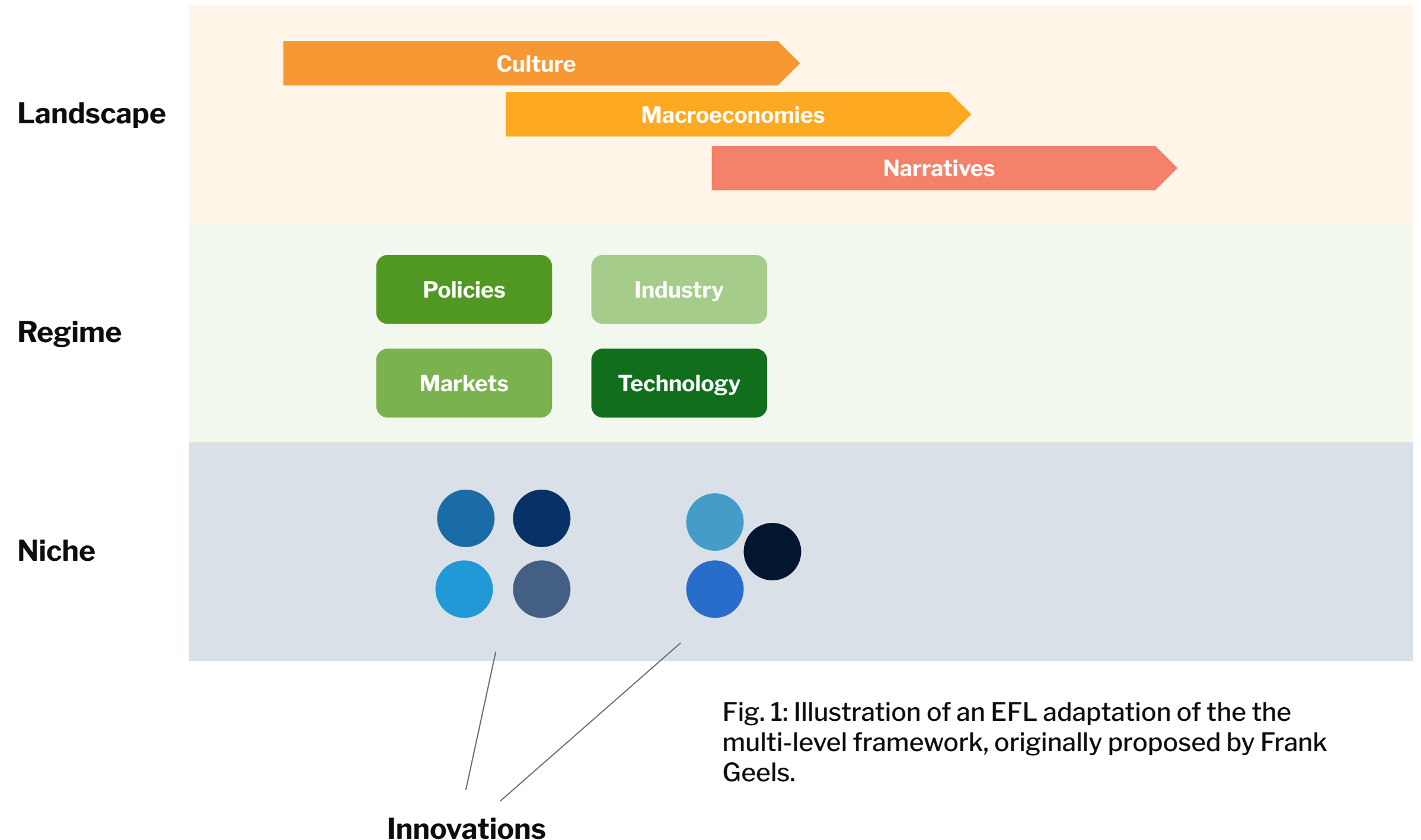
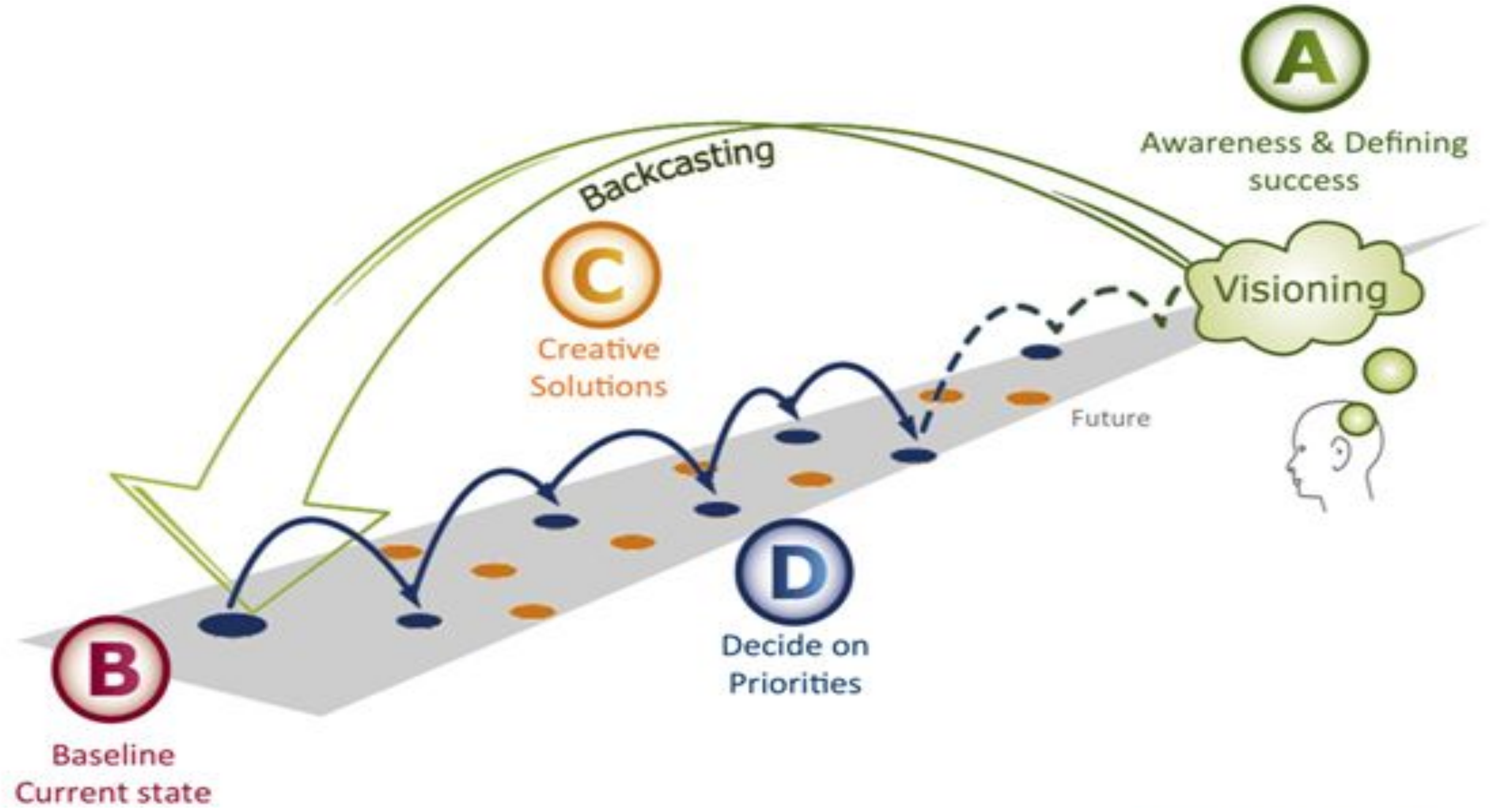


Fig. 1: Illustration of an EFL adaptation of the the multi-level framework, originally proposed by Frank Geels.

Strategic Approach



The Social Innovation Lab Approach



Viking's Desired Electricity Future

