



SMART GRID

INNOVATION NETWORK

A roadmap for 2022 - 2026

Nov 2021

With the assistance of:



POND-DESHPANDE CENTRE
AT THE UNIVERSITY OF NEW BRUNSWICK

Version 1.0
November 2021

TABLE OF CONTENTS

BACKGROUND AND CONTEXT	3
SITUATIONAL ANALYSIS	4
SGIN SWOT ANALYSIS	13
STAKEHOLDER QUESTIONS	14
SGIN VISION, MISSION, AND BRANDING	14
POTENTIAL SERVICES	17
PRIORITIES, GOALS, AND WORKSTREAMS	20
APPENDIX 1 - SGIN's IDEA BANK	26
APPENDIX 2: Framing the problem: workshop meeting harvest	28
APPENDIX 3: Diverging workshop meeting harvest	32
APPENDIX 4: Converging workshop meeting harvest	43
APPENDIX 5: Results of survey to associate members	46

Version Control

Ver	Description	Notes	Date
0.1	Initial Draft		July 21
0.2	Submission for committee review	General edits	Aug 21
0.3	Submitted for board review	Initial submission	Sept 21
0.4	Submitted for Approval	Approved with request to add Indigenous component	Oct 21
1.0	Approved	Final version	Nov 21

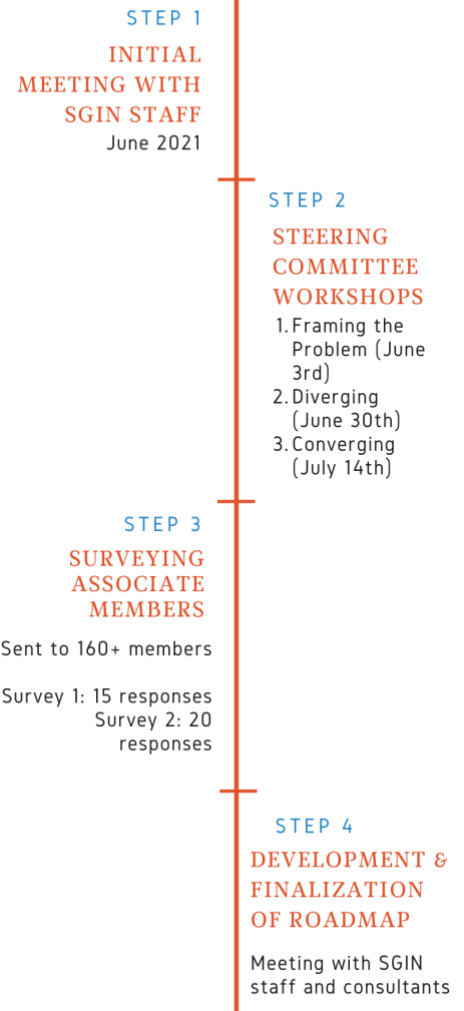
BACKGROUND AND CONTEXT

Smart Grid Innovation Network (SGIN) launched in 2016 as a partnership between NB Power, Siemens Canada and the University of New Brunswick, all of whom were active on smart grid activities in New Brunswick. The goal of SGIN was to bring together experts and leaders in smart grid innovation to ensure the smart grid transition work being done in New Brunswick would be transformational and the lessons applied to new jurisdictions. In 2018, SGIN, its board and steering committee embarked on a journey to develop a roadmap that would take them into the coming years. This work has been instrumental in the achievements of SGIN over the last few years in Atlantic Canada.

In 2021, SGIN took stock of the opportunities presented to the organization and realized that it had the chance to play a stronger role in supporting energy transformation. Smart grid market, regulatory, technology, workforce and business model needs have shifted, opportunities have opened up on a national scale and SGIN is poised to leverage the work done since its inception. The original partners - NB Power, Siemens and UNB - remain involved and have been instrumental in launching SGIN to serve broad smart grid market needs across the country.

In order to take advantage of this new direction for the organization, SGIN engaged the Pond-Deshpande Centre at UNB to assist in the development of this organizational roadmap to take the organization into its next level of development. The process used in engaging stakeholders in the development of this roadmap is highlighted in the schematic on this page. This roadmap was developed with support from the Pond-Deshpande Centre.

If the electricity grid is vital to Canadians, Smart grid supports smart Energy Solutions, especially with our continent’s transition toward supporting decarbonization, renewables integration, new storage technology including hydrogen and innovation such as the large-scale transition to electric cars. In this document, we focus on how SGIN can drive smart grid, smart energy technology, and market reform, to help realize a cleaner energy future for Canada.



SITUATIONAL ANALYSIS

“In 2020, the US installed 26GW of new clean power, with utility solar, wind power and battery storage capacity now exceeding 170GW. Combined wind, solar, and battery storage power represent 78% of new power installations in 2020.”¹

The Smart Energy, Smart Grid or Grid-Edge Industry

The energy system and industry throughout North America is going through drastic changes which reflect global trends. These changes are increasingly felt by system owners and operators.

The Canadian electricity system has grown more diverse - though also more disjointed in cases, more strained and in some areas, more fragile from technology changes, including localised major shifts in customer behaviour. Pressures from the top – such as utility visions or government policies aimed at decarbonization or increasing end user efficiency, complements data-driven private sector electricity innovations and a widely-anticipated, but still uneven ‘prosumer revolution’ from the customer. This top-to-bottom dynamic change among industry customers and partners, will continually and increasingly force change throughout the full energy system – not only the electricity system - in the coming years.

Smart-Energy Solutions, including Smart Grid technologies, is a new market sector that is yet to be fully defined. Major changes in North American markets include:

1. New entrants in the utility sector, including a range of new globally-focused products, established or increasing Internet of Things (IoT) offerings and approaches, and also a growing number independent generators, often backed by provincial or state policy at subsidized rates, carrying few legacy costs;
2. Communities and individuals exploring early-stage implementation of energy independence, i.e. creating local movements toward local generation or distribution;
3. Climate policy pressure from insurers, investors, customers, and governments;
4. Data mavens and entrepreneurs growing and destabilizing the traditional ‘one-direction’ grid operation, pushing for both data and electrical access and services to create new businesses;
5. The utility’s role is changing from the inside - whether the business focus is to provide power, or reliability, or to transport energy, or new energy-solutions;
6. Utility revenue potential is unstable in many jurisdictions. Threats come from policy risk like carbon prices, municipal generation or conservation schemes, non-coordinated local renewable power systems, or from greater risk premiums per se. Stranded assets, businesses and knowledge from a combination of these threats is in some cases causing revenues to decrease despite rising overall energy demand, or necessitating revisions to amortization schemes;

¹ US solar 4000% up on 2010 as industry booms and utilities no longer dominating new contracts. PV Tech Magazine, via <https://www.pv-tech.org/us-solar-4000-up-on-2010-as-industry-booms-and-utilities-no-longer-dominating-new-contracts/> accessed 2 Aug 2021. Discussing the report at <https://cleanpower.org/resources/clean-power-annual-report-2020/>.

7. Energy trading is in some jurisdictions moving from wholesale-centralized to peer to peer;
8. Grid architecture needs to change to accommodate many of these changes - both data and electrical – sometimes radically, in addition to the normal aging out of equipment;
9. Most importantly, the general public is no longer accepting the utility and regulator status quo – there is public pressure around control, social values, rate support, etc.

Additionally, utilities are experiencing a heightened need for new products and services to replace lost revenue. Advancements in technology to generate electricity and use it, have now made it possible for more consumers to invest in grid components which provide them more control over their energy independence – and they like their new power.

The drive towards data intensive solutions is creating new opportunities for companies to enter electricity markets that were historically left to the utilities. Advanced artificial intelligence automation and interoperable solutions coupled with new 'Internet of Things' (IoT) possibilities have combined to create a set of concepts sometimes nicknamed Energy 4.0.

Key questions faced in each region and from various stakeholder perspectives, include how to build energy reliability and system resilience, how to lower energy poverty, while decarbonizing as much as possible, in an environment growing generally less predictable each year.

At the centre of all this change sit networks - the backbone of how energy is moved across the continent. Even within the electric energy industry and energy policy worlds, the link between users - known as the grid - is a largely forgotten giant, the background to exciting new technologies such as practical electric cars, smart homes and appliances, zero-carbon greenhouses, or new industrial heating systems. This means that underneath all of this excitement of new directions and technologies, there are a few key trends that are important to highlight for the future considerations of SGIN.

Grids are fundamental, key national assets. Generated electricity, however sustainable or vital, must physically reach end customers. Like the railroad or our national transport network, our grids connect the economy and the people of Canada. Electric grids or other transmission and distribution systems are fundamental to the constant healthy and at times, safe life of the country and the economy. Also, this new drive toward digital solutions on the grid and behind the meter, requires the industry to enhance the digital network for energy systems.

Grids are strategic keys to decarbonization, other national goals, and new technologies. The global economy is increasingly electrified, and many provinces and states are intentionally looking to electrify more of the economy and consumer lives. Without grids, this is impossible, and without the most modern updated digital and innovative grids, we threaten to continually

handicap ourselves and our economy through massive opportunity costs and intentional systemic waste.



Grids enable new technologies, and can eliminate economic and technical friction across the country. A variety of new electricity technologies and uses – wind stations and solar homes, but also electric vehicles and local energy storage centres - are growing, and asking more of other technologies, placing new demands for communication across the grid, and demands for more sophisticated tools on the grid. This makes Canada’s grids more important, rather than less.

Grids are a product of - and in some cases, a time capsule of - the data revolution. New technologies are often restricted by legacy technology architecture. Meters very often communicate through cell phone networks, even though they sit on our society’s biggest network in the grid. Data on customer changes can enable

a range of predictive tools, insights into actual needs, and allow the system to use some of society’s great innovations in analytics to operate more efficiently, potentially easing strain, reducing system losses, and in many cases, growing return on existing assets through simply faster and more accurate exchange of orders and patterns.

Canadian power and its management, like global power, is generally moving from centralized to decentralized. This deep change is being affected from the user – the ‘prosumer’ we can see emerging in spots across the continent – and if Canada’s digitalised grids cannot support major change to the advantage of Canadian users, major change from the consumer will be visited upon the system.

Finally, **unreliable grids and energy distribution systems cost Canada and Canadians productivity 24 / 7 – affecting our national economic performance and our quality of life.**

It is critical that we embrace a newly designed grid that support future generation and smart energy solutions. Not only do we need to expand our electricity system in some important ways, our old and disjointed system and system architecture cannot keep up with substantial innovation, and now increasingly creates constant low-level un-intentional background economic waste, which actively holds Canada back from its full potential. For example, effective regular access to low-cost carbon, free hydropower across Canada’s oil-rich prairies, could enable both fossil dependant regions and more broadly, Canada, to strategically and effectively deploy fuels, significantly increasing export earnings, funding Canadian innovation, all while decarbonizing energy at home.

In sum, today’s grid was built starting in the 1940s and updated in patchwork over decades. It serves regional needs using older technology. Some of its limitations include not connecting regions well, failing to foster the instant communication or data integration possible across our great territory, and underperforming for Canada’s economy and our increasingly urgent decarbonisation needs.

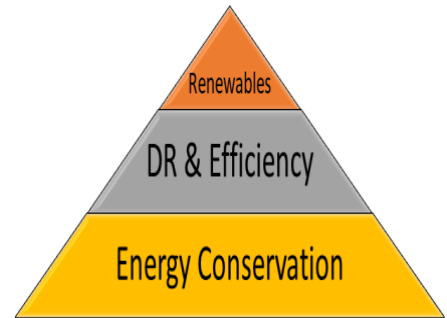
Canadian Frameworks

In Canada, five regional grids function essentially independently, with limited interaction. Energy system funding is split by province, and by technologies, sometimes in vertically

integrated systems such as Quebec’s hydropower system and sometimes mixed and semi-de-regulated systems, as in Alberta.

Most jurisdictions however follow an energy evolution framework which looks much like this:

In this framework, national / regional initiatives to improve energy effectiveness consumers advance upward through the levels of the pyramid, satisfying each approach, before addressing the next tier up. This structure has no explicit place for Smart Energy approaches, and technologies are separated out, allocated to each tier rather than unified, nor are there national policies, funding or guidance on the top tiers.



Barriers to Smart Grid Deployment

Similarly, regulations are built to an original framework focused on safety and reliability of one-way, utility owned power delivery. In rapidly changing regional business environments, barriers to Smart Energy technology deployment can include regulatory approaches keyed to this older system, and also disparities and the sometimes-weak connections between regional approaches and decisions.

Private discussions consistently point to a wide need for regulatory or market reforms, which explicitly includes the need for increased renewables and improved grid flexibility opportunities, and generally favours electrification with more flexible (smarter) grids. These reforms would require lengthy engagement, as well as the development of detailed regulatory and technical positions, and national / member consultations.

Key priorities for the Canadian Federal Government include:²

- Using the current network infrastructures in an optimal way
- Improving the quality of service
- Ensuring the integrity of the network
- Reducing the cost of isolated networks
- Optimizing the electricity production and recently;
- Leveraging a clean grid as a path to decarbonization

Finally, the Canadian Electricity Association (CEA) has developed four potential scenarios for the future of the electricity industry in Canada from now until the year 2040. These scenarios are highlighted in the table on the following page. The CEA states that each scenario may be considered as equally plausible. These scenarios form an important context as we prioritise SGIN activities.

² Source NRCAN.gc.ca [Smart Grid \(nrcan.gc.ca\)](http://nrcan.gc.ca)

The CEA's Perspective on the Future of Energy

Summary of Scenario Characteristics Table

<p>Closer to Home</p> <ul style="list-style-type: none"> • Distributed technology-based value propositions offered by new market entrants and utilities • Technology creates customer options and helps utilities adapt • Existing utility systems and expertise are leveraged to help deliver solutions • Policy and regulation supports a smooth, manageable transition: competition works where it can, safety and consumer protection • Utilities adapt, compete and act as system orchestrators to deliver sustainable solutions 	<p>Large-Scale Renewables</p> <ul style="list-style-type: none"> • Market economics drive change • Large-scale renewables become increasingly cost competitive • Advances in large-scale battery storage technology makes renewables dispatchable, which displaces natural gas and coal • Renewed customer trust: cost, reliability and convenience • Roof-top solar fades: hassle and cost, the elimination of subsidies • Low-cost green grid emerges that is politically, economically and environmentally sustainable
<p>Off the Grid</p> <ul style="list-style-type: none"> • Step changes in distributed energy technologies • Customers are engaged on energy issues and at times enraged as utilities fail to adapt, fail to provide value-added services to customers and fail to facilitate the transition among customers, partners and others • Governments sideline utilities and accelerate the transition through pro-distributed-energy and climate policy • Additional shifts in technology leave the utilities behind with stranded assets and a mess of financial, regulatory and legal issues 	<p>Power to the Nation</p> <ul style="list-style-type: none"> • Policy decisions drive change • Convergence of social, Indigenous, environmental and economic issues create support for market intervention • Canadian Energy Strategy drives electrification and the development of an integrated national grid that matches renewables with hydro storage • Large-scale, low-cost renewables dominate new generation • Build out of national grid supports social, Indigenous, environmental and economic objectives

A National Mission

To accomplish the goal of a significantly more productive, decarbonized and prosperous Canada, we need to replace aged electricity infrastructure and re-build our national electricity project at an accelerated rate. This is a generational project, and one which calls on our entire industry – not simply one group or subsector like utilities or regulators or entrepreneurs or academia alone - to do our part. The moment is ripe to build a joint all-industry effort in partnership with governments, to address these generational needs.

Canada's Association Landscape and Framework

Any strategy in such a complex and rapidly changing environment as SGIN finds itself may need to be re-examined more frequently than in a stable market environment.

The funding and business development environment is complex, with undefined private stakeholders, and public stakeholders including 13 provincial and territorial governments, and at least as many complex federal conversations. The challenge of communicating with 13 governments at three Ministries each, plus approximately the same number of federal Departments, and approximately the same number of utility teams, is nearly impossible for a small organisation, which cannot physically reach stakeholders to assess, agree, and produce results. Selection, focus, and clarity is paramount:

“Having conflicting goals, dedicating resources to unconnected targets, and accommodating incompatible interests are the luxuries of the rich and powerful, but they make for bad strategy. Despite this, most organizations will not create focused strategies. Instead, they will generate laundry lists of desirable outcomes and, at the same time, ignore the need for genuine competence in coordinating and focusing their resources. Good strategy requires leaders who are willing and able to say no to a wide variety of actions and interests. Strategy is at least as much about what an organisation does not do, as it is about what it does.”

Rummelt, Richard. Good Strategy, Bad Strategy. Crown Pub. 2011, New York.

While traditional association efforts focus on knowledge-sharing, advocacy, and common causes like standards development certification and training, the industry also requires original thinking and a more visionary approach for the speed of change and potentially transformative moment the sector finds itself experiencing. A successful association strategy in this context will choose principal activities carefully and adhere to them diligently. A successful association strategy will begin with and return to a compact vision or mission statement, led by the CEO.

Therefore, Given the wide range of possibilities and our very limited resources, we must establish our core desired impact and a very few, narrow, strategy targets: does the organisation have a medium, helper attitude with expected acceptable and safe approaches and results, or is a deeper more transformational approach prioritised? Should Canada's smart grid leaders attempt to serve general member needs, or to lead and push the change? The vision and mission suggest answers to these questions.

Partner Associations and Competitors

The class of technologies known as smart grid has historically been a utility term. As the market expands to provide opportunities for grid-connected generation and for products like smart buildings, communities, integrated renewables, and energy storage, innovative areas like trading-in-the-cloud solutions also become possible.

From an industry association perspective this creates both a challenge and opportunity - and the potential for overlapping mandates increases. The table below highlights current association areas of operation.

Focus Areas	APPRO – Assoc of Power Producers	CEA - Canadian Electricity Assoc	Storage Canada	Decentral-ized Energy Canada	CANREA	Water Power Canada / Marine Renewables Canada	Quest	Réseau Canada Grid
Renewables		Minor		Minor	High	High		Minor
Generation (Utility)	High	High				High		
Grid Operations – Transmission (Utility)		High						
Grid Operations - Distribution (Utility)		Minor			Minor			
Load (Consumer)		Minor					Minor	
Storage (Utility)	Minor	Minor	High		High	Minor		
Regulation	Minor		Minor	Minor			Minor	
Fossil Fuel	Minor		Minor	Minor				
Grid-Focused Innovation (eg cloud trading)			Minor	Minor				Minor
Investment Frames			Minor	Minor				High

Legend:

None	Minor	Moderate	High
	Minor	Minor	High

From this figure, we can see that a number of associations compete for member attention in the energy sector, and there is an opportunity to address grid operations in transmission and distribution, as well as consumer load issues, and grid-focused innovation.

Of note in the above figure is the newly forming **Réseau Canada Grid**. This is a project of a group called The Transition Accelerator, managed by a former business development lead for a 'clean power developer', who prior to this work served as the Parti Québécois's Cultural Affairs Attaché for the Government of Québec. According to the founder's LinkedIn statement from

June 2021, the accelerator seeks to build a “non-partisan labour-industry-civil society coalition [...] advocating for a rational efficient framework for investment to enable the trade of clean energy – driving innovation, infrastructure development, jobs, as well as a just and secure energy transition for Canadians.” The statement specifically talks about Smart Grid and the group poses a potential threat therefore to the success of SGIN.

In addition to focus areas, associations typically also compete through overlapping service offerings:

- Conferences (regional, or national, in person or virtual)
- Knowledge events (eg webinars, lunches, public discussion of publications)
- Membership advocacy and influence
- Qualifications and Certification

In terms of dealing with other organisations in our sector, a successful new association strategy must include **structures, policies and actions that fit together in a coherent whole**. Doing so will make SGIN’s advantage essentially unbeatable - unless a competitor copies the structure wholesale and also somehow monopolizes the knowledge that we develop over the first period of organisational learning. That means that for SGIN, as knowledge from key members and activities is added to SGIN’s database and staff knowledge – through activities, that is, through executing - under a clear set of priorities and objectives, SGIN’s services and structure will be increasingly less open to threat by other associations – SGIN services will sit together in a stronger and stronger nest of services and resources that better serve industry and member needs.

An important organizing question in this regard is, **what are the existing associations not targeting or accomplishing at this moment?** What are they failing to do? Though this ideally will be asked more deeply of industry members or potential members, one immediately answer may be that the range of groups at work in the field today is failing to address energy networks in a deep manner, and failing to provide either original insight, organised access to the best knowledge on the topic, or opportunity for new entrants – entrepreneurs, academics, utilities, governments, or system managers – to advance their own agendas or visions. An association which can visibly accomplish this knowledge and connections work, around the question of Smart Energy networks or Smart Grid, in unique ways, have a solid future.

Put another way, a new industry group focused on investment pathways but without a range of participating organisations focused on system management or ownership, knowledge development, service provision, or a range of tasks needed by the sector, will not take a dominant position.

WHAT DO ASSOCIATIONS NOT DO IN THIS SPACE AT THE MOMENT?

One answer may be that the range of groups at work in the field today is failing to address energy networks in a deep manner, and failing to provide either original insight, organised access to the best knowledge on the topic, or opportunity for new entrants – entrepreneurs, academics, utilities, governments, or system managers – to advance their own agendas or visions.

SGIN, by providing more comprehensive services, building on history with system-level owners and actors as well as entrepreneurs and government, doing so reliably in both official languages, engages the smart energy discussion with governments, utilities, and potential members in a better position than other associations.

SGIN SWOT ANALYSIS

In this context, SGIN has specific strengths, weaknesses, opportunities and threats. This table has been constructed by SGIN staff using input from stakeholder consultations including workshops with the SGIN steering committee and SGIN stakeholder surveys.

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> ● Expert members / staff, with expertise at a local, regional, national and international level ● Small team at the moment, agile operations ● Regionally recognized brand ● Staff footprint in three provinces, bilingual potential, association experience ● SGIN is only smart grid association in Canada ● Strong ties with local regional development authorities and members ● New board of directors keen to dig in ● Need for association identified ● Promising new relationships in federal gov't ● Relationship inroads with large actors eg utilities and also entrepreneurs ● Partnerships with other associations likely complementary and straightforward to create ● Smart grid is transformational and is a universal problem – lots of existing interest ● Smart grid is a national need, private and public, with regional differences – solutions and information can be adjusted and deployed more than once ● A diversity of member types gives SGIN many potential angles of entry and influence in diverse jurisdictions 	<ul style="list-style-type: none"> ● Small team, Atlantic focused at the moment ● Too many opportunities to pursue with current resources ● Lack of critical mass / anchor services ● Shared language around smart energy is not always clear ● Inability to seize opportunities quickly - need to balance diverse stakeholder interests ● Lack of big-org project delivery resources, processes and tools ● Lack of marketing processes or resources ● Limited outreach capacity at the moment ● Org model still flat, not offering based ● Deep clarity on value to members lacking ● Funding for strategic, high-level development of a smart energy ecosystem is very difficult. ● COVID has made expanding footprint an 'extra' challenge for a previously regional organisation
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> ● Grid decarbonization will play a major role in climate change adaptation and mitigation ● There's a national space for a thought leader in grid modernization as a stand-alone centre ● SGIN could provide access to simulation environments, lab services ● Need for a speaker's bureau, industry-focused newsletter, and policy positions ● Need for better data ● Bilingualism – executing everything in two languages grows influence and is fundamental for engaging with governments / from a national perspective.. ● Emergence of IOT has added interoperability complexities -SGIN can provide a stand-alone service. ● Need for a forum to unify the discussion - becoming the nexus of information and discussion ● Many foreign firms showing interest in coming to Canada to work in the sector 	<ul style="list-style-type: none"> ● Founding members don't all necessarily see themselves in the next version of SGIN ● Falling back into previous organizational model, which was a Fredericton-centric service organization ● Many stakeholders means many different priorities, may at times competing with one another ● Funding is project-based, need is long term ● Short financial runway ● Political influence of smart grid investments ● In the smart grid transition, there is a need to balance needs of utilities with others who may be advocating for distributed generation ● Member diversity requires cross member solutions to attract and retain loyalty ● Other associations may feel encroached upon

STAKEHOLDER QUESTIONS

Some major themes emerged from consultations with SGIN stakeholders:

Statements	Resulting Question	Possible Answers
1. The smart grid ecosystem includes utilities, private sector, and vendors, as well as direct customers of the grid.	How can SGIN reflect this full ecosystem?	Membership categories to reflect the full range of market actors. Working Groups targeted / checked to address each member category top concerns.
2. SGIN began with a partnership between 3 organizations - NB Power, Siemens, UNB.	How can we leverage what has been done as a foundation from which to build?	While pursuing new ventures, use the core elements of prior offerings: e.g. establish a Centre of Excellence or Think Tank function at the new association.
3. There is national space for a thought leader in distribution grid modernization. There is a strong desire to be the network of thought leaders related to smart grid in Canada.	How can SGIN be a leader in large goals like climate change coming out of the work in smart grid?	Relationships must be high-level in both government and membership, to create and sustain nationally important discussions. Discussions held in the language of stakeholders to ensure full interaction and inclusive approaches. Create high-level documents to engage and build visibility.
4. SGIN cannot offer all services to everyone throughout the country - regionality will be important because the grid is regional.	Which services and activities will fulfill SGIN's vision or mission, best?	Partnering with key regional actors and senior members of the regional discussion. Seeking out and engaging 'hidden' influencers. Choosing priority topics by region.
5. There is a strong desire to ensure that SGIN is a self-sustaining organization that strategically adds value to the ecosystem, while broadening its membership.	What shared language do we need to use to ensure continued ecosystem development?	Prioritizing the terms: decarbonisation, clean energy, system optimization, market growth, and member positions and needs. All relevant materials and discussions must be available in both official languages.
6. There is a tension between going 'deep and narrow' versus 'broad and shallow' - there appears to be an appetite for SGIN to go deep and narrow.	How do we ensure members are engaged at the level of value they are receiving for their membership?	Board Decision Daily staff focus and attention

SGIN VISION, MISSION, AND BRANDING

Early in 2020, SGIN board was taken through an updated visioning exercise. This strategy refresh work led to a review of the vision, mission, brand positioning statement, brand promise,

and organizational values of SGIN to ensure that they align with the current view of its members.

Minor changes are recommended to the Brand Positioning Statement while no changes to the other text were recommended.

Vision

A clean energy future for all Canadians.

Mission

We foster Canada's transition to a clean energy future.

Brand Positioning Statement

Current (developed in partnership with The Ginger Agency):

The Smart Grid Innovation Network supports Canada's clean energy transition by advocating for the smart energy sector.

Through education, vendor support, business model innovation and smart grid technology, we leverage our position in the Canadian energy sector to create impact. We are dedicated to building a clean energy future for the benefit of all Canadians.

Proposed SGIN Canada Brand positioning statement, developed in collaboration with the SGIN Steering Committee:

SGIN is a national member network focused on enabling the smart energy sector for the purpose of decarbonization. We do this by understanding and leveraging the diversity of regional strengths and providing opportunities to co-create and mobilize knowledge and connections across the country. We are dedicated to building a clean energy future for the benefit of all Canadians.

Brand Promise

Developed in partnership with The Ginger Agency

The Smart Grid Innovation Network was founded to advocate for the many benefits of smart, clean energy in Canada. As a non-profit, member-driven organization, we promise to:

- Act as leaders, modeling the changes we are working towards;
- Remain focused on providing a benefit to society;
- Dedicate ourselves to open and fact-based information sharing;
- Encourage diversity of perspectives in the clean and smart energy space;
- Operate on a non-partisan basis;

- Take a holistic, systems design approach to solving problems through education, vendor support, technology and business model solutions

Organizational Values

Developed in partnership with The Ginger Agency

- Collaborative
- Purpose-driven
- Non-partisan
- Adaptive
- Curious
- Open-minded
- Action-oriented
- Decisive
- Responsive

Organizational Structure

Throughout the consultations, focus was placed on aligning with an organizational structure that would serve the needs of members as well as needs of the industry and ecosystem.

The models that were explored were:

- Membership-based organization
- Trade / industry association
- Centre of Excellence
- Vendor Support
- Consultancy

Through consultations with SGIN staff, the steering committee, and the associate members, it was agreed that being a membership-based organization was fundamental and foundational to SGIN Canada. The other two organizational structures that emerged as the most relevant were to serve as a trade / industry association or a centre of excellence.

Specifically, SGIN staff and its steering committee concluded that an industry association model would serve the needs of its members and the broader ecosystem more directly at this time. Importantly, we note that becoming an industry association does not preclude a need for deep technical and policy expertise, if anything, it calls for increased specialisation. Advocacy emerged as an important need that associate members would like - SGIN has an opportunity to work on evidence-based government relations.

POTENTIAL SERVICES

We took two approaches to uncovering possible services and priorities.

First, in a survey, members were asked to rank 6 potential services from most to least important to them. The results are highlighted in the graphic on this page where working groups on specific topics, advocacy and access to data emerged as the top 3 most desired member services. This graphic represents 20 responses from a distribution list of 160+ members

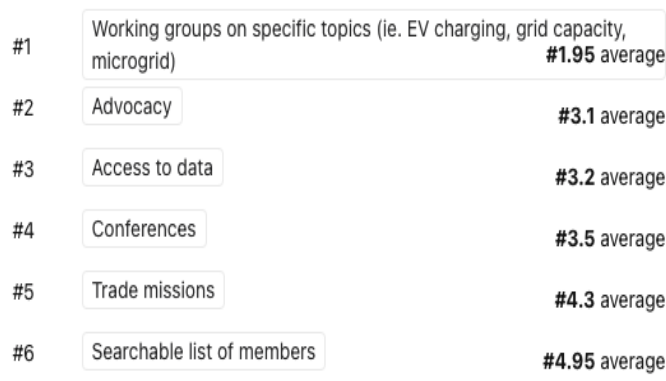


Figure 1 - Member Survey Results

To evaluate inputs, staff also compared each member service theme against three dimensions:

1. Alignment with vision, mission and member interest
2. Alignment with funding priorities (both in energy policy and economic development)
3. Future proofing – Alignment with CEA’s energy transition scenarios

Themes	Score	Member Priority (1-4)		
		Utility, Vendor, Academia, Government	Funding Priority (1-4) (Econ Dev, Environment, Utility, Research)	Future Proof (1-4)
Electrification				
Net zero				
Data				
Cyber				
Workforce				
Grid Design				
Smart Energy				
Vendor Business				
Distributed Energy Resources				
Regulator				
Utility Operations				
Prosumer				

Figure 2 - Service Themes vs Priority Criteria

Combining Figure 2 results with the desired member services survey results, these focus areas:

- Electrification – the focus on increasing beneficial electrification across Canada
- Net Zero – focus on reducing dependency on fossil fuels
- Data – access to more granular data
- Advocacy (including government and public relations) – fact based, non-partisan promotion of concept

Other organizational structural issues

A centre of excellence will remain as an aspirational goal for the organization. While the organization will continue to do vendor support, it will not be a focus for the organization at this time. Additionally, while opportunities for consulting may present themselves, they will be vetted with organizational leadership to ensure that there is no conflict of interest with members, and consulting will not be a focus for the organization at this time.

Revenue generation strategies

An additional pillar that emerged as critically important and sitting at the foundation of SGIN's organizational structure is ensuring organizational sustainability through revenue generation. The 4 revenue generation streams that emerged are:

1. Membership
2. Projects
3. Association grants
4. Program administration of federal programs

Additionally, SGIN staff have identified the following major short-term funding paths include:

- Regional development (all regions)
- Federal grants for NFP
- Climate Change Action Fund
- Strategic Innovation Fund
- Export Development Canada and Foreign Affairs' Going Global programs
- Natural Resources Canada
- Environment Canada
- Federation of Canadian Municipalities, and join large-municipal efforts

In the 4 revenue generation areas of membership, project, association grants and program administration, increasing membership will remain a focus for SGIN.

In terms of ranking potential projects, associate members were consulted on the types of projects that were most relevant to them. Out of 6 potential focus areas, addressing major industry challenges, technology development and greenhouse gas reduction emerged as the top 3 most relevant. The results in the graphic below represent 20 responses from a distribution list of 160+ associate members:

#1	Addressing major industry challenges	#2.7 average
#2	Technology development	#3.05 average
#3	Greenhouse gas reduction	#3.2 average
#4	Economic development	#3.45 average
#5	Capacity development (education, workforce development)	#3.85 average
#6	Export development	#4.75 average

Operational Attitudes and Working Methods

Recent research³ shows that organizations succeed most often when they prioritize:

1. **Revenue before costs** – organizing higher revenues is more indicative of long term organisational success, than other factors. Organizations can raise unit prices or raise unit volume – successful companies tend to do either or both rather than cutting assets or cutting costs.
2. **Better before cheaper** – charging a high but appropriate price because we have spent time getting product quality as perfect as possible, rather than trying to cut costs, is a better way to success.
3. **There are no other rules** – for private companies. For associations, an influence and message strength must be built. This is different than branding, as the message goes to members, and then to governments, utilities, and other ‘partners’, i.e. funders.

SGIN will develop an operational process to revisit goals quarterly and review process against their strategic objectives annually. This would be conducted with both the board of directors, as well as the steering committee who at the time of this writing, assists with operational strategy and execution.


³ “Are Great Companies Just Lucky?” Michael Raynor, Mumtaz Ahmed, and Andrew Henderson. Harvard Business Review, April 2009. Also discussed at length in Raynor and Ahmed’s book The Three Rules. Penguin, NY, 20113.

PRIORITIES, GOALS, AND WORKSTREAMS

Through consultations with the SGIN steering committee, the following 4 priorities were identified and related goals discussed with Ponds Deshpande Centre staff.

These priorities and related goals were reviewed by SGIN staff and iterated from their existing plans and actions into themes and goals.

SGIN will leverage its strengths in its business model and its members, aligned with a strong social purpose, to provide membership value and address societal needs federally and locally. We will execute the fundamental facets of managing and growing the organisation well, and follow the below structure and best association management practices.



VISION: A clean energy future for all Canadians.

MISSION: We foster Canada's transition to a clean energy future.

SGIN is a national member network focused on enabling smart energy sector for the purpose of decarbonization. We do this by understanding and leveraging diversity of regional strengths and providing opportunities to co-create and mobilize knowledge and connections across the country. We are dedicated to building a clean energy future for the benefit of all Canadians.

PIRORITIES & RELATED GOALS

MEMBER SERVICES		ORGANIZATIONAL SUSTAINABILITY			KNOWLEDGE ACQUISITION & DISSEMINATION		ADDRESSING INDUSTRY CHALLENGES	
Enhance Member Services	Expand services nationally	Formalise the delivery model	Formalise the revenue and business model	Diversify revenue	Develop and deliver a national SE knowledge management strategy in partnership with prov & fed gov.	Enhance market presence through tool-kit approach	Baseline and continually address initial priorities	Address current known industry challenges, leveraging existing services
<ol style="list-style-type: none"> 1. Trade event for members. 2. (2) member interaction events/year. 3. Searchable national database. 4. Member profile opp. 5. Member opp to work on SGIN SE projects. 6. Multi-year national export support strategy. 7. Revenue-generating working groups. 8. National, member advocacy event / year. 9. Equity Diversion and Inclusion program. 	<ol style="list-style-type: none"> 1. Partnership(s) with indigenous community associations. Rep in Board and working committees. 2. Presence into 60% of provinces. 3. Services/ info in Canada's Official Languages. 4. Launch work involving members in each province. 5. National member working committee. 6. National marketing campaign. 	<ol style="list-style-type: none"> 1. PM method/ toolset. 2. New service offering re: SE projects. 3. National partnership/ affiliate model. 4. Case study / lessons learned library 5. Capability model associated improvement plan. 	<ol style="list-style-type: none"> 1. Formalize sales process 2. Member inclusive enterprise sales strategy for the fed/ prov gov 3. Funding plan for the next 12 months. 	<ol style="list-style-type: none"> 1. Market assessment/ national relaunch plan of existing offerings. 2. Program admin offering 3. Establish process to capitalize on opp funds. 4. Develop capacity building opportunity. 5. Partnership strategy with Energy Champions. 	<ol style="list-style-type: none"> 1. Develop knowledge HUB Strategy lead by a SE knowledge hub partnership. 2. Hold inter-organization national event to share knowledge. 3. SE learning platform. 	<ol style="list-style-type: none"> 1. Build database & CRM. 2. Build website traffic and impressions. 3. Engage media through press release campaign. 	<ol style="list-style-type: none"> 1. Develop approach to prioritize /address industry challenges. 2. Launch priority industry challenge national project(s). 3. Complete cross sector national baseline report. 4. Release report card on SE capability annually. 5. Develop industry relevant white paper. 	<ol style="list-style-type: none"> 1. Perform market needs assessment for lab environment. 2. Develop national database of SE companies. 3. Champion national electrification for SE + Decarbonization strategy – develop a public campaign for proposal and member funding.

Strategic Partnerships	Address Government / Industry Priorities	Leverage member capabilities
-------------------------------	---	-------------------------------------

- With sister associations who require SGIN member solutions and services
- Enable active participation of key public agencies

- Focus on opportunities and challenges in electrification for climate change
- Creating an environment of collaboration and diversity
- Economic recovery and development

- Build information sharing members capabilities
- Share learnings from member projects

- Leverage Membership relationships to add value

- Position to collect anonymize and build on data

Workstreams

From the above considerations, staff has identified the following tasks, goals, and milestones.

Workstream: (Continue to) Diversify and grow our member base

Goal 1: Enhance member services

Initiatives		Measures
1.	Provide trade event opportunities for members	Annual inbound or outbound mission
2.	Provide two-member interaction events per year	Events per year
3.	Establish searchable national member database	Number of searchable members
4.	Provide member profile opportunities	# of members profiled
5.	Promote member opportunities to work on SGIN smart energy projects	# of members partnering on projects
6.	Develop a multi year national export support strategy	Export strategy
7.	Engage members through revenue-generating working groups	# working group artifacts
8.	Co-ordinate one national, member led advocacy event per year	# events per year
9.	Launch an Equity Diversion and Inclusion program	

Goal 2: Expand nationally

Target: 150 paying members by 2026. 50% of members are outside of Atlantic Canada

Initiatives		Measures
1.	Establish partnership(s) with indigenous community association. Create representation role(s) in Board and working committees	# Partnerships
2.	Expand our presence into 60% of the provinces	Member home province
3.	Where there is a need, offer services and information in Canada's Official Languages	Web pages translated Bilingual staff to answer inquiries and member needs

4.	Launch work involving members in each province	Work package / event location
5.	Establish national Member services working committee	Member Satisfaction score
6.	Launch national targeted marketing campaign, with national branding and messaging	Audience reach

Workstream: Solidify Organizational Sustainability

Goal 1: Formalise the delivery model

Target: *Improve Project Delivery*

Initiatives		Measures
1.	Develop and implement standard PM methods and toolset.	Project deviations
2.	Establish project initiation and delivery service offering for Smart Energy projects as a new service offering.	# projects revenue
3.	Establish national partnership/affiliate model to extend our delivery capability	# of delivery resources
4.	Perform case study / lessons learned library, of major member smart energy projects	# case studies
5.	Develop capability model and an associated improvement plan	Operational improvement

Goal 2: Formalise the revenue and business model

Target: *Secure funding to address one business challenge per year.*

Initiatives		Measures
1.	Develop a formalized sales process to enable better revenue forecasting	Win probability >50%
2.	Develop a member inclusive enterprise sales strategy for the federal and provincial governments	
3.	Develop a funding plan for the next 12 months	\$1-\$5 mill per year

Goal 3: Diversify revenue

Target: *20% Members, 20% Services, 20% Program Admin, 40% Matched contributions/grants*

Initiatives		Measures
1.	Perform market assessment and develop a national relaunch plan of existing offerings	Revenue per offering
2.	Establish one multi year program administration offering	Revenue

3.	Establish process to capitalize on opportunistic funds	Revenue
4.	Develop one multi-year capacity building opportunity	Revenue
5.	Develop a partnership strategy with energy champions to support priorities with other leveraging opportunities.	Revenue with Energy Champions

Workstream: Knowledge Acquisition and Dissemination

Goal 1: Develop and deliver a national Smart Energy knowledge management strategy in partnership with provincial and federal governments.

Initiatives		Measures
1.	Develop a knowledge HUB Strategy lead by a SE knowledge hub partnership	
2.	Hold an inter association / annual, regionally sensitive, national event to share knowledge	Annual conference(s)
3.	Establish a Smart Energy learning platform	

Goal 2: Enhance market presence through a tool-kit approach

Initiatives		Measures
1.	Build database and contacts list (CRM) for industry reach and impact	Number of contacts
2.	Build website traffic and impressions through affordable effective marketing	Number of total impressions
3.	Engage media through press release campaign	Number of press releases and mentions

Stretch Scenarios

Following are more aggressive development scenarios that include the addressing of key industry challenges, and will require additional director and member commitment, including potentially acting to source contacts, serve as an ambassador for SGIN, or otherwise help advance the organisational mission.

Workstream: Tackle Industry Challenges

Goal 1: Baseline and continually address initial priorities

Initiatives		Measures
1.	Engage members to develop approach to prioritize and address industry challenges in. <ul style="list-style-type: none"> • Electrification 	Idea bank

	<ul style="list-style-type: none"> • Net Zero • Data • Advocacy (including government and public relations) 	
2.	<p>Launch two priority industry challenge national projects through 2026, for example, uniting system-level actors – utilities, system operators, and governments around:</p> <ul style="list-style-type: none"> • Electric vehicle and vehicle-to-grid roadmap and action plan • Creating and leading a national heat pump market transformation, to serve system-level needs • Creating a joint academic network and an industry data repository, leading a secured, anonymized subscriber data service on smart grid tools performance and field reports • Building an industry-showcase and clearing house for new entering technologies to be pre-approved for utilities 	Two projects
3.	Complete cross sector national baseline report on electrification for decarbonization readiness, opportunities, and challenges. (Example: utility, community, workforce and academia)	Completed report
4	Release a provincial / regional / federal report card on smart energy capability for utility, regulatory and community readiness, annually.	Annual report card on site
5	Develop one industry relevant white paper that reflect the state of the industry per year to be presented at a national federal audience.	Report completed and presented

Goal 2: Address current known industry challenges, leveraging existing services

	Initiatives	Measures
1.	Perform market needs assessment for lab environment (that support grid ready services and extend collaborative lab services as identified).	Service offering with partners
2.	Develop a national database of smart energy companies. (SE Supply Chain)	Database on website
3.	Champion national electrification for Smart Energy + Decarbonization strategy – develop a public campaign for proposal and member funding.	Key messages Leave behind docs Fact sheets

APPENDIX 1 - SGIN's IDEA BANK

Through evolving discussions over past years, an idea bank has been generated by SGIN staff, consisting of approximately twenty-six revenue-generating ideas to address industry challenges. The ideas were sorted into 'transformative', 'expansive', and 'initiative' categories, and then ranked by industry importance, current member financial interest or commitment, future potential funding commitments, and national policy alignment. The idea bank includes:

- 26 total ideas, including
 - 3 transformational ideas, of which two have known funder interest,
 - 18 expansive ideas, among which nine have high industry impact.

Of the total list, three ideas float to the top as high industry impact, current funding commitment, and strong national policy alignment:

1. **Deal Name:** Grid Edge Data Platform

Deal Description: Access to data is critical for industry to develop new solutions, yet a significant portion of the data in the electrical sector has access limits on it. There are national open data projects going on in the Academic environment, but little attention to getting access to the highly valuable secure data in a manner that meets the data owners requirements. This initiative would address this for its members.

Scope: National

Potential Future Member Commitment (Fund): CEA, NRCAN, Env Can

Economic Development: High

GHG Reduction: TBD

National Alignment: Strong

Industry Challenges: High

2. **Deal Name:** Program Manage Electrification Strategies Across Provinces / Regions

Deal Description: Address all aspects of electrification including regulation, technology readiness, grid readiness, incentive programs, workforce management, supply chain management, export enablement.

Scope: National

Potential Current Member Commitment (Fund): Municipal Utilities

Potential Future Member Commitment (Fund): FCM,

Economic Development: High

GHG Reduction: Indirect

National Alignment: Strong

Industry Challenges: Medium

3. **Deal Name:** Smart Energy Collaboration Center (Grid of the Future)

Deal Description: Create a center of excellence to enable Electrification and Smart Grid. It would include Vendor Collaboration, Program design, Policy Design and Think-Piece Development, Training, Shared Assets, and Export Development.

Scope: Atlantic Canada

Potential Current Member Commitment (Fund): NB Power, UNB, Saint John Energy, Siemens, Simptek, NRC

Potential Future Member Commitment (Fund): All
Economic Development: High
GHG Reduction: Indirect
National Alignment: Strong
Industry Challenges: High

In addition, projects labeled as expanding the industry without necessarily transforming it include an additional priority project:

- Deal Name:** DER impacts on transmission optimization simulation
Deal Description: Launch study on DER impacts on Generation grid potential
Scope: National
Potential Current Member Commitment (Fund): NRCAN
Potential Future Member Commitment (Fund): CEA, NRCAN, Env Can
Economic Development: Low
GHG Reduction: Indirect
National Alignment: Strong
Industry Challenges: High

An additional project has both current funder interest and high relevance to industry challenges:

- Deal Name:** Interconnected Building Metrics
Deal Description: Smart Grid to building interoperability knowledge program
Scope: National
Potential Current Member Commitment (Fund): NRC
Potential Future Member Commitment (Fund): CEA
Economic Development: Low
GHG Reduction: Indirect
National Alignment: Strong
Industry Challenges: High

APPENDIX 2: Framing the problem: workshop meeting harvest

SESSION THEME: Framing the problem
June 3rd, 2021

IN ATTENDANCE:

- Greg Robart - SGIN
- Jenn Bowes - SGIN
- Blake Hunter - NB Power
- Sonya Hull - Siemens
- Andrew Blair - ONB
- Michael Bourque - Emera & NB Power Research Centre for Smart Grid at UNB
- Brent Staeben - NB Power
- Regrets: Ted & Martin
- Facilitators: Karina LeBlanc, Shawni Beaulieu, Vanessa Paesani (PDC)

[SLIDES FROM SESSION](#)

Framing of strategic planning sessions from SGIN's perspective:

- We are halfway done previous 5-year strategic plan, which is great progress
- Currently wondering if we want to put a stake in the ground to become an organization with a national mandate, where we were barely regional previously (mostly focused on NB)

[Overview of the Cynefin framework can be found here](#) (though there are other descriptions available online as well). SGIN appears to be operating in a complex environment.

STEERING COMMITTEE CHECK-INS:

- Andrew (ONB): He'd want people to come to SGIN for questions they have when thinking about decarbonizing the grid. Wondering whether the organizations should be regionalized or nationalized. He is coming from the perspective of economic development in NB through work with ONB.
- Sonya (Siemens): She's been involved throughout SGIN's history. Originally, it emerged from a need to build a smart grid ecosystem, in partnership with private sector vendors, the provincial utility, and government (ACOA had also been a partner). We have evolved fairly significantly since its inception. With the 'demise' of Smart Grid Canada, we could take the place of a centre of excellence for smart grid in Canada - a one-stop shop,

bringer together, market intelligence - the connector of utilities, customers, and the private sector. There is space in the country to fill that space.

- Blake (NB Power): NB Power is a founding member of SGIN. From his perspective, he sees that the first goal is that SGIN has to be self-sustaining. The second goal is growing membership (50+ paying members). Blake describes his approach as narrow and deep instead of broad. He'd love to see SGIN focus more strategically on weak links in ecosystem and said that he really likes the cynefin problem solving technique, as a new way to ensure that the right tools are being applied in the right contexts.
- Michael (Emera & NB Power Research Centre for Smart Grid at UNB): Prior to his current position, he had a long career with NB Power focused in engineering, and said that he was approaching this from an engineering perspective. He is wondering how SGIN can delve into more of a service offering - he is helping Greg with a proposal to Environment Canada for a service offering that would change the course of SGIN significantly.
- Brent (NB Power): In his role as director of smart grid, he saw the establishment of SGIN as putting in place smart grid vision that , bumping against all precipitates all of the other challenges like the technology challenges and customer challenges. He believes that customer acceptance of smart grid is vital to acception of adoption of smart grid. He notes that his head space is not in the new SGIN with a potential national scope because he is struggling to understand how he should be involved. Initially, he had a much smaller vision for SGIN and how it could be leveraged for the benefit of NB Power, specifically for the adoption of smart grid in NB.
- Jenn (SGIN): As member services lead, she sees her role as building a more diverse membership.

THEMES FROM CHECK IN:

- Narrow & deep vs broad & more shallow
- National vs regional vs provincial
- Becoming a self-sustaining organization

BREAKOUT GROUPS ON QUESTION:

How might we drive a smart grid ecosystem for innovation and technological advancement?

JAMBOARD HARVEST

SHARE BACK - Group 1:

- SGIN's current mandate is unclear - too broad, too narrow? Maybe at times, both too broad and too narrow
- There is a lack of an effective mechanism for bringing people together

- Funding for strategic, high-level development of a smart grid ecosystem is difficult - as example, government funders want projects, not high-level work
- The different mandates from different stakeholders with different goals can be difficult - these goals and mandates can compete with each other.
- If becomes national, we'll have to get clear on the real value to current stakeholders / founders
- How do we balance the interests of those who are working every day on smart grid development with those who work on it as more of a 'side-of-the-desk' project?

SHARE BACK - Group 2:

- The elephant in room is the utility who is the keeper of large central assets. Others may be advocating for distributed generation, municipal level generation etc, which is in direct competition with utilities - alignment at provincial level isn't clear
- Advocacy - it would be awesome to have clear targets and goal setting for SGIN. For example, if net zero is a goal, the next level of detail would be very helpful to know where to focus
- Your role in the energy future is different based on who you are (utility, customer, private sector, municipalities, etc)
- Shared language is very important (same as group 1 - there exists widely varying levels of knowledge for what the grid of the future could be).
- Art of possible is hard to understand for a lot of people - help people vision it (heard this in group 1 too)

CHECK-OUT:

- Brent: UNB has not participated in a content perspective in a while, said that it was nice to have Mike back at UNB - subject matter expertise for all founders is important. Curious as to whether we can have a broader vision and what that might look like.
- Mike: Smart grid is transformational - need to balance the business and engineering to ultimately lead to decarbonization. Most exciting aspect for him is the engineering side of things, the physical electricity system, because now people have the opportunity to participate in their electricity system. He is curious about how the SGIN expands and builds on its membership, and says that we can debate whether it broadens its perspective
- Blake: 2 things excite him 1) SGIN can have a significant impact on carbon and climate change, 2) how it can pivot. He is curious about areas where SGIN can add the most value and make the biggest difference. He reinforced that its important not to do everything, and focus where SGIN can have the biggest strategic impact.
- Andrew: The tech stuff is great, though we need to ensure that we build this people. These types of conversations are important because it drives the why and how. Looking forward to phase 3 of SGIN, which is what we're moving into.

- Greg: He is excited to get clarity. His curiosity is around self sufficiency - it's important for SGIN, which can't just be advocacy and education. Figuring out the balance between what many stakeholders want to do will be challenging

OVERALL NOTES ON REPEATED THEMES:

- There is a lot of excitement around decarbonization (where can SGIN make the biggest difference).
- SGIN is the place to go for answers - a desire for it to be the first point of contact of where we should go next when it comes to smart grid. It can be a national centre for excellence, convener of market intelligence, thought leader, connector.
- We need to focus our expertise.
- The smart grid ecosystem needs to include utilities, private sector, and vendors, as well as direct customers of the grid.
- A strong desire to ensure that SGIN is a self-sustaining organization that strategically adds value to the ecosystem, broadens its membership.
- How aggressive does SGIN have to be?
- Put people at the centre of the mandate.
- Tension between going deep and narrow versus broad and shallow.
- Ability to delve into a service model for sustainability, that the organization is currently exploring.
- There is a need to frame the complexity of smart grid to ensure people are talking about similar things.
- Driven by aspiration, while being grounded in the possible.

APPENDIX 3: Diverging workshop meeting harvest

SESSION THEME: Diverging
June 30th, 2021

IN ATTENDANCE:

- Greg Robart - SGIN
- Jenn Bowes - SGIN
- Blake Hunter - NB Power
- Brent Staeben - NB Power
- Sonya Hull - Siemens
- Andrew Blair - ONB
- Michael Bourque - Emera & NB Power Research Centre for Smart Grid at UNB
- Hart Devitt - UNB
- Facilitators: Karina LeBlanc, Shawni Beaulieu, Vanessa Paesani (PDC)

[SLIDES FROM SESSION](#)

Framing of scope from SGIN's perspective:

At an organizational level, 6 board seats have been added - there are 3 outside of Atlantic Canada: 1 x PQ, 1 x ON, 1 x BC.

STEERING COMMITTEE CHECK-INS:

What geographic scope addresses the future purpose of SGIN? (provincial, regional, national, international) ?

- Blake: Thought it had already been decided that the organization was national
- Andrew: Local with a national lens, with a question around whether national is achievable. What this means is that, as an example, the smart grid needs of the prairies are different than Atlantic Canada.
- Sonya: Perception that we had moved to pan-Canadian since our last planning cycle. There is a nuance - we started with provincial ecosystem development - provincial centre of excellence - building on our key founding players: NB Power, Siemens, UNB. While we can remain grounded in a place, the reach can be bigger. NB can be our pillar to go national.
- Hart: There is still work to do here. At the national level, there isn't a sole solution for any jurisdiction. SGIN started off as a wayfinder and now we can still be that at a national level.
- Mike: The problems SGIN exists to solve are universal - climate change and smart grid. The only difference is that solutions are different in different places / scopes. If we don't

broaden the scope, we'll miss out on learning what other jurisdictions are doing. How can we learn from what others are doing?

- Brent: The problems are universal - what do we have to offer that is unique? The differentiators: there is research going on at UNB that has a lot of potential offerings and learnings. As an organization, we are bringing a foundation of experience and results that come out of what Siemens and NB Power have done. How can we leverage what has been done here to benefit others? Trust: what is our trust factor to make someone turn to us as a national service provider?
- Greg: The service offerings need to match the scope. Members will dictate the need. The knowledge we steward is universal and national in scope. We need to remain tied to the grid and need a grid partner. We can convene people, and host different types of conferences.

[JAMBOARD for breakout room discussions](#)

Group 1: Vanessa, Shawni, Hart, Mike, Brent

Group 2: Karina, Greg, Jenn, Sonya, Andrew

BREAKOUT 1:

What scope should SGIN focus at:

LOCAL | NATIONAL | LOCAL WITH A NATIONAL LENS

- What within this option resonates with you?
- What questions does this raise?
- What is missing? What would stop you from engaging with this option?
- Who else would benefit?

SHAREBACK FROM GROUP 1:

- We need to test what we see as the value proposition - define it and then test it in the marketplace.
- Struggled with who is the repository of expertise if Siemens, UNB and NB Power fade into the background. Will there be the same energy and passion in these relationships going forward (2015-2020 to now vs 2021-moving forward).
- What's that foundation - how do we be that organization that is delivering national value on the smart grid?
- Have we already made the decision to be national?
- There is the potential for more momentum around 'local with a national' lens - we could bring in other local players like SJ Energy, Edmunston, and Summerside. They could also provide subject matter expertise. Summerside is in a class of their own in terms of their smart grid vision right now.

- Where is the trust factor for us as an organization? The individuals who will be hired into the organization will matter a lot.
- If we (founding members) fade into the background as support and we're not selling their success as a trust factor, let's make sure that we understand what our trust factor is.

SHAREBACK FROM GROUP 2:

- We're currently not operationally setup for national.
- There are more positives to growing larger, the question is how do we do it? How do we navigate the transformation to a new vision? How do we do this realistically without combusting?
- How do we build the pathway from where we are today to where we could go?
- There is national space for a thought leader in grid modernization. There is desire to be the network of thought leaders related to smart grid in Canada
- There is big potential - Efficiency Canada doesn't have any grid representation.
- Is there a space for an entity to be the driver of some of our large goals, like climate change goals. There would have to be an underlying funding sources
- We can't offer all of our offerings to everyone through the country - regionality in smart grid will be important.

BREAKOUT 2:

Rate & rank the following 5 organizational concepts:

- Member network
- Trade / industry association
- Centre of excellence
- Vendor support
- Consultancy

SHAREBACK FROM GROUP 2:

- Member network is a foundational offering - it's core to what we're doing. Building a member network is a key activity we need to keep working on.
- Trade association and centre of excellence were the next 2 priorities.
- Vendor support and consultancy near the bottom - wondering how a consultancy may conflict with members.
- In terms of vendor support, there are good news stories from SGIN like Stash, Misa, SimpTek - seem to come out of the work, but not a core focus.

SHAREBACK FROM GROUP 1:

- We already provide the member network offering - it feels easier to do, and fundamental.
- Interest in a centre of excellence with the other concepts arising out of that core.
- We could also see ourselves as a trade association with the other concepts arising from that.

- In terms of a consultancy, we had questions around whether this would be within SGIN (and the expertise would be internal staff) or if there would be revenue sharing with members?
- Vendor support: there are not too many TRL8 projects out there - though a centre of excellence may create more

HIGH-LEVEL TAKEAWAYS FROM BREAKOUT GROUPS:

- Increased appetite for national scope, while ensuring a local lens - both within Atlantic Canada and others
- What are the ways we go from where we are now to being national?
- Our member network is an asset, and foundational to what we're doing.
- Strong interest in SGIN being an industry association - we can use a centre of excellence as a way to do that.

STEERING COMMITTEE CHECK-OUTs:

What new perspective did you consider today for SGIN?

- Greg: There is an industry need for centralizing knowledge.
- Andrew: The member network is fundamental.
- Hart: We've already occupied part of the role of a trade association, we could do more.
- Mike: Likes the idea of a trade association. We can also be a data repository that could be part of the association membership - people need the data to know how to sell their products. We could also provide access to simulation environments. If not, SGIN - UNB could play a role in providing those environments as a member.
- Blake: There is strength in diversity of thought - each founding partner comes at it from their own perspective because it can be selfish, collaboration can help us be better positioned in the marketplace.
- Brent: There is a sense of possibility - more orienting in the possibility. Likes the idea of a trade association, though it may have to do with where I'm sitting because he's in the utility. There are lots of opportunities in some of those other buckets - feels like it needs more discussion based on what the probabilities of success are and what assets we have.

Group 1 Notes (Vanessa, Shawni, Hart, Mike, Brent)

BREAKOUT 1 ACTIVITY: SCOPE

LOCAL: SGIN remains with a local lens with a focus on Atlantic Canadian asset mix. Focus on challenges and opportunities to create a Smart Grid ecosystem that drives economic development, as well as opportunities for local stakeholders to thrive and benefits Atlantic Canadians

What within this option resonates with you?

- Economic development
- The client would be government
- Allows research at the university to continue with economic development, UNB can be a powerhouse
- Remains easiest way to expand locally
- We would draw resources from local entities
- Access to a significant number of individuals with national and international experience
- Maybe we were never local because when we meet with Springboard (regional), and smart grid comes up, UNB is the only one with expertise

What questions does this raise?

- Existential - need to go national because we're going to run out of money
- What are we selling if it isn't local?

What is missing? What would stop you from engaging with this option?

- Is it clear what our value proposition is? That we're something worthwhile to be involved in, how do we sell our value nationally.
- Is it clear exactly what we have to offer?
- Don't know enough of the national ecosystem to know how to distinguish ourselves from competitors.
- Thought we had a partnership between 3 orgs - NB Power, Siemens, UNB - that was working moderately well, and share our success with each other and build ecosystem out from there
- Work is focused on smart grid, appetite to broaden to the full energy sector? - electrification of transportation will affect the electricity sector. How does the refined petroleum sector respond to this? Refinery is looking for ways to decarbonize their sector, ie producing hydrogen from electricity instead of natural gas

Who else would benefit?

- Irving? Decarbonization services
- Moderate success to date, helping startups find their way through some technical hurdles. UNB and Siemens are there to help NB Power, NB Power would be the beneficiary.
- Some solutions aren't translatable to different jurisdictions, aside from the problem solving approach
- We had lots of options to mine the local mandate - have we taken advantage of opportunities with Saint John Energy, Edmunston, Summerside? (Summerside being the most impressive transformation we've seen). Seems like we haven't taken full advantage of a local mandate yet, so maybe it makes sense to go national.

NATIONAL: SGIN expands to take on the role of National ecosystem builder for Smart Grid, connecting stakeholders across the country, convening dialogue around national opportunities, sharing expertise and becoming the go-to centre of excellence and subject matter expertise. I.e. Electrification Canada (analog of Efficiency Canada? <https://www.energycanada.org/who-is-efficiency-canada/>)

What within this option resonates with you?

- Like the notion of expanding, we've done what we did, now it's time for something else-time to prove ourselves. Need to determine our value proposition
- Excited by becoming a centre of excellence, and challenged by it. How are we recruiting new membership?
- Leveraging the to 3-way partnership to share with others, relying on UNB's experts in certain areas, Siemens global network and expertise, NB Power and SJ Energy local lessons learned - the local that we're then sharing.
- How are we a centre of excellence if the founding partners fade into the background? What's the expectation of the founding partners? What's in it for us? How do we use this to leverage for future opportunities?
- UNB maybe doesn't clearly see it's role in the new SGIN. Is there even capacity from each organization to move this forward?

What questions does this raise?

- Why isn't Emera part of this group? Apparently they weren't interested initially.

What is missing? What would stop you from engaging with this option?

- Efficiency Canada - based at Carleton, feels less on the ground than what we're doing

Who else would benefit?

- Vendors look for business models - where can I sell my products? We could introduce these business models concepts? Would it benefit NB Power to do this?

LOCAL WITH A NATIONAL LENS: SGIN focuses on innovation and experimentation in NB and with Atlantic partners, working closely with local partners on local opportunities that drive economic development, growth and understanding of Smart Grid possibilities. Share learnings, successful prototypes, knowledge and expertise on a national scale.

What within this option resonates with you?

- Economic development
- Universal problem, not one solution
- Increases overall knowledge by bringing more people into the mix. Keeping databases, more partners and more knowledge

What questions does this raise?

- How do we build it?
- Added board members from across the country - has this ship sailed?

BREAKOUT 2 ACTIVITY: RATING & RANKING POSSIBLE ORGANIZATIONAL CONCEPTS

- **Member network:** SGIN can serve as a convenor of the smart grid ecosystem - this can include activities such as organizing trade missions, conferences, as well as helping members network with other members.
- **Trade association:** SGIN can serve as an industry association - addressing industry challenges- made of membership of various private enterprises, scientific research institutes, design organizations, utilities, and others. Unlike the above option, SGIN would focus on some of the following listed below, with a heavy focus on lobbying:
 - Regulatory issues
 - Supply chain management
 - Access to grid-level data / dashboard
 - Access to simulation environments
 - Grid of the Future/Utility of the Future/Understanding impact and plan for legacy assets and systems
- **Centre of Excellence:** SGIN would focus on education, where we host and convene partners to discuss, test and or prototype new ideas. Convene people who want to learn such as convening regulators or delivering education sessions. This could also include knowledge dissemination activities like in-house research, white paper generation, and education (including K-12).
- **Vendor support:** SGIN can focus on helping startups, or other companies, access the growing smart grid marketplace. This would be specifically focused on later-stage technology readiness (TRL8 and higher).
- **Consultancy:** Many opportunities exist for self-generating revenue by SGIN.
 - Administer/Distribute federal funding (municipalities mostly but also large industry)
 - International Exporting of Canada Best Practices (consultancy model)/ market expansion for Canadian companies
 - Community Electrification – consultancy/franchise

DISCUSSION:

Member 1:

- Member network seems reductive. It doesn't take advantage of what we have built up. Feels like we've built something beyond that and could hire someone to do and carve that off and still run a member network. It's embedded under the other stuff.
- Trade association doesn't excite me
- I like the Centre of Excellence idea (COE)
- Vendor support seems something like we've already done and could do along something else we do. Doesn't take too much time and effort.
 - There are not a lot of vendors in Atlantic Canada, might be a tough nut to crack.
- Consultancy: I don't know, depends on what we decide to consult on.

Member 2:

- COE, especially the education piece, is something the three entities could provide. K-12 is particularly interesting.
 - Energy systems modl would help communities build better energy models. This project would fall under COE and flows to type of work (build data repository, general equilibrium model to understand regional economic benefits on a macro level)
 - We could use a model for the entire country, but developed locally.
- Agree with the member network, we've already done that.
- Trade association, - I like it, would be good to get perspective in terms of member and founder knowledge.
 - Thoughts on lobbying: I like that idea, still need resources with SGIN to do it. Brings up a question I have: Where do the projects we are applying for fit in those boxes?
- Consultancy: need the resources to do that in SGIN unless you can get the founder entities to do it. Other option is that there would have to be a transfer of funds to SGIN (revenue sharing model)
- Which of these pillars do we lead from because it has the potential to enable other types of work?

Member 3:

- Hard to know. How do we find funding and pursue a vision?
- I moreso sit with the trade association because I sit in a regulated utility. It has the opportunity to play a role that connects other utilities and vendors in the space. I see utilities having the money to pursue problems. We're always looking for lessons learned on utilities, lobbies and pursuing things.
- There is also an opportunity within the consultancy side where people can turn to for expertise. We could be a unique provider in that sace. I don't think there is much of anything out there. How does that compare with Siemens? There is a sense that it was Siemens vision that SGIN becomes national or go away. Not sure if that is still the case now.

Force rank

- Trade association doesn't fit in with any activities within the university. Risk that SGIN be perceived as NB Power's puppet and be seen as working in their interest? With a trade association, the university may drop away as a member. University could still provide simulations.
- Hearing we're already a member network and will continue that, then centre of excellence and trade association.

What I'm hearing

- Leading with COE and using other activities that have been happening to bolster that up. COE very rarely can be financially independent and UNB has to bolster them financially. So we need another way of driving money through the door.
- COE can be a driver for trade association. Need knowledge mobilization for that to happen. We need to do that foundational work anyway.
- NB Power would be interested in that work. Focusing on K-12 activities.

What's missing?

- What's missing is how to get there. What are the strategies and options involved in developing TRL?
- We don't see ourselves doing lobbying.

Group 2 Notes (Karina, Greg, Jenn, Blake, Andrew)

BREAKOUT 1 ACTIVITY: SCOPE

Local Option (Regional)

Benefits:

- Much simpler, less labour intensive - building relationships, member development
- Easier to demonstrate value to GNB - local economic development
- Already established credibility, success stories, case studies
- Defined space, clear
- "SGIN does not need to be the expert, but needs to find the expertise"
- Making connections for others
- Supporting local vendor community
- Wins: Smart Grid Atlantic (UNB/Siemens/NBP)

Missing:

- Staying local requires local government funding and there is not enough
- How can you truly be successful without being connected outside AC?

National Option

Benefits:

- Can facilitate connections outside the region
- Can create the benefit of clusters - lessons learned from best practices
- Can be a marketing play for NB - we house the head office, leadership role, etc.
- SMART GRID Canada no longer exists, now a gap in the ecosystem, could be a solution bringer in greenhouse gas reduction via electrification/electric power industry
- Compare to Efficiency Canada - rebuilding code standards.

Missing:

- Currently not operationally structured to support national mandate
- Need to appeal to different funders/champions
- National landscape is very diverse with many differing needs

Hybrid

Benefits:

- Can go both narrow and deep
- Opportunity to connect to the federal government policy priorities, find opportunities that match SGIN asset mix and play a role
- Can include existing trusted partners in solutions and SGIN plays lead role, facilitates, convenes
- Can direct a disproportionate amount of federal dollars into NB.

Missing:

- Need to build the capacity to scout for federal opportunities, assemble partners and make pitches for federal funding.
- Could ACOA be pathfinder to federal funding?
- Need to do market research on what are outstanding opportunities
- Can the board be leveraged to open conversations with opportunity holders?

BREAKOUT 2 ACTIVITY: RATING & RANKING POSSIBLE ORGANIZATIONAL CONCEPTS

Foundational Priority - Member Network

- Compare to Marine renewable Canada
- Provide the expertise
- Trade missions, industry parties, boat trips, networking
- Keep network but not like a Chamber of Commerce
- Leverage the network as an asset

Addressing Industry Challenges

- Remove the work lobbying from the description
- Data repository available to association membership
- Access to simulation environments

Centre of Excellence

- Gather market intelligence
- Inform vendors of best practices, trends, regulatory environment, etc.
- Access and share information
- Host boutique events such as “Finding Common Ground” event (SGIN sweet spot)
- Linking of Smart Grid to Climate Change
- You can also **address industry challenges** with a **centre of excellence** - merge these models?

Vendor Support

- Of benefit to ONB in demonstrating economic value
- Small NB companies can be incubated
- There are barriers to start-ups that can be removed easily by a connected network
- Provision of business coaching
- Start-ups don't know what they don't know
- Need to change the model of support from Incubation/Acceleration to some type of customized support.

Consultancy

- Requires a well defined base of expertise currently not in SGIN
- Difficult with small staff and limited capacity
- At the bottom of priority for all

APPENDIX 4: Converging workshop meeting harvest

SESSION THEME: Converging
July 14th, 2021

IN ATTENDANCE:

- Greg Robart - SGIN
- Jenn Bowes - SGIN
- Blake Hunter - NB Power
- Sonya Hull - Siemens
- Andrew Blair - ONB
- Martin Lockett - ONB
- Michael Bourque - Emera & NB Power Research Centre for Smart Grid at UNB
- Facilitators: Karina LeBlanc, Shawni Beaulieu, Vanessa Paesani (PDC)

[SLIDES FROM SESSION](#)

Framing from SGIN's perspective:

The goal coming out of these sessions is a new roadmap. We are also [surveying](#) associate members (160+) for their perspectives on what we've been discussing in these sessions, and will use these in shaping the final roadmap.

STEERING COMMITTEE CHECK-INS:

By this time next year, what's one outcome you want SGIN to have achieved?

- Sonya: I'd like to see SGIN put ourselves in the public space, especially after COVID - there is a sense that there is a gap in that space that SGIN could fill. SGIN would help with connector types of events. I'd also like us to see if we're getting traction with the core, desired members of SGIN - have us understand that membership model has legs, which could be evidenced by a range of organizations joining (utilities, vendors, universities, etc) - if they're not joining, should be a heads up to us.
- Andrew: I'd like to see that the organization is stable (financially). I'd also like to see that SGIN has become the go-to organization for when the smart grid industry want to convene (central point of contact for stakeholders).
- Martin: I'd like to see a defined process for companies to innovate in the smart grid sector. If we could outline the steps for investment attraction in smart grid innovation, we can create even more of an ecosystem for the future of smart grid.
- Blake: I'd like to see alignment and agreement on what the mission, vision and purpose of the work really is. I'd also like to see a target on growing our membership base. I agree with the opportunity for public presence. I'd like to see the team growing and

perhaps some technical help, with David working more in other things. We need funding sources for the next 12 months

- Greg: I'd like to see SGIN get off of the slide and onto a train - our runway ends at the end of this year. Most importantly, I'd like SGIN to find a way to fund us long term. A great goal would be to have someone in the federal government or at a national level stand up and declare that SGIN is the industry partner in this sector.

Overview of check-in themes:

- Visibility & credibility are important in the next steps
- Membership is a core aspect of SGIN moving forward
- There is a need for pathways to attract private sector partners
- Developing a funding plan for the next 12 months is critically important

ALIGNING ON STRUCTURE OF SGIN INC.

Current mandate:

The Smart Grid Innovation Network supports Canada's clean energy transition by advocating for the smart energy sector.

Through education, vendor support, business model innovation and smart grid technology, we leverage our position in the Canadian energy sector to create impact. We are dedicated to building a clean energy future for the benefit of all Canadians.

Proposed:

SGIN is a national member network focused on solving key industry challenges within the smart grid sector. We do this by leveraging local strengths, understanding local asset mixes and providing opportunities to share knowledge and connections across the country.

Feedback:

- Vendor support is missing from the proposed statement
 - Vendors provide solutions to the problem of decarbonization
 - Vendor support is a service offering / industry challenge we're trying to support, vendors have a hard time getting connected to the grid. We can help the private sector pathfind to solve the problem
- Smart grid is the solution, not the problem - we've been discussing using the terms smart energy solution
- Change from local wording to regional
- Need to have a way for private sector to see themselves in here
- Switch leveraging and understanding (understand first)
- Need to have a link between smart grid and clean energy - integrating cleaner energy sources onto the grid

- Smart grid is an electric utility problem - the whole point is a smart energy problem, the purpose is clean energy
- Improving knowledge, instead of or in addition to sharing knowledge - bolster the knowledge side of it
- Focus on the outcome of clean energy and climate, decarbonization, beneficial electrification, net zero
- Tie it federally - what piece of the federal priorities does this tie in?
- Understanding local asset mixes - does it say anything? - understanding local differences. What is the uniqueness locally?
- Local strengths instead of local asset mixes

Revised, proposed mandate:

SGIN is a national member network focused on enabling the smart energy sector for the purpose of decarbonization. We do this by understanding and leveraging the diversity of regional strengths and providing opportunities to co-create and mobilize knowledge and connections across the country.

CONVERGING ON SGIN TARGETS & PRIORITIES

[Link to spreadsheet](#)

STEERING COMMITTEE CHECK-OUTs:

- Andrew: We've converged a lot, even if there is still more to do.
- Mike: I will inquire as to whether UNB will host SGIN permanently (similar to how Carleton hosts Efficiency Canada).
- Blake: I'm encouraged that we're getting narrower and deeper in our thinking - the list is still long, but it's shorter than what we started with.
- Greg: The future is not clear, so our list is not clear - we'll find a way to update our priorities on a regular basis.

APPENDIX 5: Results of survey to associate members



SGIN Associate Member Survey Result

