

September 13, 2021

RE: *The Freedom of Information and Protection of Privacy Act (FIPPA)*
Our File FOI 2021-52

In reply to your access request with a deemed date of receipt of July 12, 2021:

Please provide any analysis or reports that examine what would need to happen with the province's electricity system if:

- consumers in the province switched to electric vehicles instead of diesel/gas-powered; and/or*
- if natural gas was phased out in the province as a fuel for heating and consumers used electric heat instead*

(Changes would include: new generation capacity required, transmission/distribution system upgrades, other requirements, the cost for the changes, etc.)

Manitoba Hydro has two (2) records responsive to your request including power point slide deck presentations to the Deputy Minister of Crown Services in December 2020 and to the Manitoba Hydro-Electric Board (MHEB) in January 2021. Access to these records is hereby granted in part. Information has been redacted pursuant to paragraphs 18(1)(b)(c)(i) and (iii); 23(1)(a)(b) and (d); as well as 27(1)(a) of *FIPPA* for the reasons set out below.

A copy of the relevant *FIPPA* provisions are enclosed for your information.

Section 18 (Disclosure Harmful to a Third Party's Business Interest)

Pursuant to section 18 of *FIPPA*, Manitoba Hydro must refuse access where disclosure of information may reasonably be expected to harm a third party's economic or financial interests. The purpose of the exception is to protect confidential information which would not normally be known outside of the third party.

Some information in the presentation was prepared by Deloitte and disclosure would reveal commercial and technical information supplied to Manitoba Hydro explicitly or implicitly in confidence and is information consistently treated as confidential by Deloitte. Disclosure of this information would reasonably be expected to harm Deloitte's competitive position as it would make such information available to its competitors and could result in significant financial loss or gain to Deloitte. Accordingly, access to this information is refused pursuant to paragraphs 18(1)(b)(c)(i) and (iii) of *FIPPA*.

Section 23 (Advice to a Public Body)

Subsection 23(1) of *FIPPA* provides that a public body may refuse access to information relied on in the deliberative and decision-making process. The purpose of this exception is to preserve the confidential relationship between a public body and its advisors and to facilitate quality decision-making within a public body. It is essential that officers and employees of Manitoba Hydro be able to engage in open and frank discussion, but disclosure of such information would naturally inhibit the quality and candour of advice and opinions provided by employees and other advisors.

The responsive records contain advice, proposals, recommendations, and analyses developed by or for Manitoba Hydro; consultations or deliberations involving officers or employees of Manitoba Hydro; and plans relating to the management of personnel or the administration of Manitoba Hydro that have not yet been implemented and accordingly, access to this information is refused pursuant to paragraphs 23(1)(a)(b) and (d) of *FIPPA*.

Section 27 (Solicitor-Client Privilege)

Paragraph 27(1)(a) of *FIPPA* provides that a public body may refuse access to information that is subject to solicitor-client privilege.

The responsive record contains information that, if disclosed, would reveal the substance of legal advice provided to Manitoba Hydro. Access to this information is refused pursuant to paragraph 27(1)(a) of *FIPPA*.

Subsection 59(1) of *FIPPA* provides that you may make a complaint to the Manitoba Ombudsman about this decision, within 60 days from the receipt of this letter to:

Manitoba Ombudsman
750 – 500 Portage Avenue
Winnipeg MB R3C 3X1
204-982-9130
1-800-665-0531

Kristen Schulz – FOI 2021-52

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If you have any questions or concerns, please contact Manitoba Hydro's Access & Privacy Coordinator, Amelia Au at 204-360-3855 or aa@hydro.mb.ca.

Yours truly,

MANITOBA HYDRO LEGAL SERVICES

Per:

Sandra Phillips

Sandra D. Phillips

Access & Privacy Officer

Encl.

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FIPPA EXCERPTS

Freedom of Information and Protection of Privacy, C.C.S.M.
c. F175
Part 2: Access to Information

Accès à l'information et protection de la vie privée, c. F175
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BUSINESS INTERESTS OF THIRD PARTIES

Disclosure harmful to a third party's business interests

18(1) The head of a public body shall refuse to disclose to an applicant information that would reveal

- (a) a trade secret of a third party;
- (b) commercial, financial, labour relations, scientific or technical information supplied to the public body by a third party, explicitly or implicitly, on a confidential basis and treated consistently as confidential information by the third party; or
- (c) commercial, financial, labour relations, scientific or technical information the disclosure of which could reasonably be expected to
 - (i) harm the competitive position of a third party,
 - (ii) interfere with contractual or other negotiations of a third party,
 - (iii) result in significant financial loss or gain to a third party,
 - (iv) result in similar information no longer being supplied to the public body when it is in the public interest that similar information continue to be supplied, or
 - (v) reveal information supplied to, or the report of, an arbitrator, mediator, labour relations officer or other person or body appointed to resolve or inquire into a labour relations dispute.

Tax return information

18(2) The head of a public body shall refuse to disclose to an applicant information about a third party that was collected on a tax return or for the purpose of determining tax liability or collecting a tax.

INTÉRÊTS COMMERCIAUX DE TIERS

Intérêts commerciaux de tiers

18(1) Le responsable d'un organisme public refuse de communiquer à l'auteur d'une demande des renseignements qui révéleraient :

- a) des secrets industriels de tiers;
- b) des renseignements d'ordre commercial, financier, professionnel, scientifique ou technique, lesquels renseignements ont été fournis à l'organisme public par un tiers, explicitement ou implicitement, à titre confidentiel et sont traités à ce titre de façon constante par le tiers;
- c) des renseignements d'ordre commercial, financier, professionnel, scientifique ou technique, dont la divulgation risquerait vraisemblablement :
 - (i) de nuire à la compétitivité d'un tiers,
 - (ii) d'entraver des négociations menées par un tiers en vue de contrats ou à d'autres fins,
 - (iii) d'entraîner des pertes ou profits financiers injustifiés pour un tiers,
 - (iv) d'interrompre la communication de renseignements semblables à l'organisme public, alors qu'il serait dans l'intérêt public que cette communication se poursuive,
 - (v) de révéler des renseignements fournis à une personne nommée pour régler un conflit de travail ou mener une enquête relativement à un tel conflit, notamment un arbitre, un médiateur ou un agent des relations du travail, ou de révéler le contenu du rapport de cette personne.

Renseignements relevés dans une déclaration d'impôt

18(2) Le responsable d'un organisme public refuse de communiquer à l'auteur d'une demande des renseignements concernant un tiers qui ont été relevés dans une déclaration d'impôt ou recueillis en vue de l'établissement de l'assujettissement à l'impôt ou de la perception d'un impôt.

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Exceptions

18(3) Subsections (1) and (2) do not apply if

- (a) the third party consents to the disclosure;
- (b) the information is publicly available;
- (c) an enactment of Manitoba or Canada expressly authorizes or requires the disclosure; or
- (d) the information discloses the final results of a product or environmental test conducted by or for the public body, unless the test was done for a fee paid by the third party.

Disclosure in the public interest

18(4) Subject to section 33 and the other exceptions in this Act, a head of a public body may disclose a record that contains information described in subsection (1) or (2) if, in the opinion of the head, the private interest of the third party in non-disclosure is clearly outweighed by the public interest in disclosure for the purposes of

- (a) public health or safety or protection of the environment;
- (b) improved competition; or
- (c) government regulation of undesirable trade practices.

CABINET CONFIDENCES

Cabinet confidences

19(1) The head of a public body shall refuse to disclose to an applicant information that would reveal the substance of deliberations of Cabinet, including

- (a) an agenda, minute or other record of the deliberations or decisions of Cabinet;

Exceptions

18(3) Les paragraphes (1) et (2) ne s'appliquent pas dans les cas suivants :

- a) le tiers consent à la communication;
- b) les renseignements sont mis à la disposition du public;
- c) un texte provincial ou fédéral permet ou exige expressément la communication des renseignements;
- d) les renseignements donnent le résultat définitif d'un essai de produits ou d'environnement effectué par ou pour l'organisme public, sauf si le tiers a payé une somme pour l'essai.

Communication dans l'intérêt public

18(4) Sous réserve de l'article 33 et des autres exceptions prévues par la présente loi, le responsable d'un organisme public peut communiquer un document contenant les renseignements que vise le paragraphe (1) ou (2) si, à son avis, des raisons d'intérêt public justifient nettement les conséquences éventuelles de la communication pour le tiers, lesquelles raisons d'intérêt public concernent :

- a) la santé ou la sécurité publique ou la protection de l'environnement;
- b) l'accroissement de la concurrence;
- c) la réglementation du gouvernement relative aux pratiques commerciales non souhaitables.

DOCUMENTS CONFIDENTIELS DU CABINET

Documents confidentiels du Cabinet

19(1) Le responsable d'un organisme public refuse de communiquer à l'auteur d'une demande des renseignements qui révéleraient le contenu des délibérations du Cabinet, y compris :

- a) les ordres du jour du Cabinet, ses procès-verbaux ou les autres documents concernant ses délibérations ou ses décisions;

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Exceptions

22(2) Subsection (1) does not apply if

- (a) the draft of the resolution, by-law or other legal instrument or the subject matter of the deliberations has been considered in a meeting open to the public; or
- (b) the information referred to in subsection (1) is in a record that is more than 20 years old.

S.M. 2008, c. 40, s. 9.

ADVICE TO A PUBLIC BODY

Advice to a public body

23(1) The head of a public body may refuse to disclose information to an applicant if disclosure could reasonably be expected to reveal

- (a) advice, opinions, proposals, recommendations, analyses or policy options developed by or for the public body or a minister;
- (b) consultations or deliberations involving officers or employees of the public body or a minister;
- (c) positions, plans, procedures, criteria or instructions developed for the purpose of contractual or other negotiations by or on behalf of the Government of Manitoba or the public body, or considerations that relate to those negotiations;
- (d) plans relating to the management of personnel or the administration of the public body that have not yet been implemented;
- (e) the content of draft legislation, regulations, and orders of ministers or the Lieutenant Governor in Council; or

Exceptions

22(2) Le paragraphe (1) ne s'applique pas si :

- a) le projet d'instrument juridique ou la question qui a fait l'objet des délibérations a été étudié au cours d'une réunion ouverte au public;
- b) les renseignements que vise le paragraphe (1) se trouvent dans un document datant de plus de 20 ans.

L.M. 2008, c. 40, art. 9.

AVIS DESTINÉS AUX ORGANISMES PUBLICS

Avis destinés aux organismes publics

23(1) Le responsable d'un organisme public peut refuser de communiquer à l'auteur d'une demande des renseignements dont la communication risquerait vraisemblablement de révéler :

- a) des avis, des opinions, des propositions, des recommandations, des analyses ou des options politiques élaborés par ou pour l'organisme public ou un ministre;
- b) des consultations ou des délibérations mettant en cause des cadres ou des employés de l'organisme public ou un ministre;
- c) des positions, des projets, des lignes de conduite, des critères ou des instructions élaborés en vue de négociations contractuelles ou autres menées par ou pour le gouvernement du Manitoba ou l'organisme public, ou des considérations liées à ces négociations;
- d) des projets relatifs à la gestion du personnel ou à l'administration de l'organisme public et qui n'ont pas encore été mis en œuvre;
- e) le contenu d'avant-projets de loi ainsi que de projets de règlement, de décret et d'arrêté émanant de ministres ou du lieutenant-gouverneur en conseil;

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(f) information, including the proposed plans, policies or projects of a public body, the disclosure of which could reasonably be expected to result in disclosure of a pending policy or budgetary decision.

f) des renseignements — y compris les projets, les politiques ou les entreprises proposés d'un organisme public — dont la communication risquerait vraisemblablement d'entraîner la divulgation d'une décision de principe ou budgétaire à l'état de projet.

Exceptions

23(2) Subsection (1) does not apply if the information

- (a) is in a record that is more than 20 years old;
- (b) is an instruction or guideline issued to officers or employees of the public body;
- (c) is a substantive rule or statement of policy that has been adopted by the public body for the purpose of interpreting an enactment or administering a service, program or activity of the public body;
- (d) is the result of a product or environmental test conducted by or for the public body;
- (e) is a statement of the reasons for a decision made in the exercise of a quasi-judicial function or a discretionary power that affects the applicant;
- (f) is the result of background research of a scientific or technical nature undertaken in connection with the formulation of a policy proposal;
- (f.1) is a public opinion poll;
- (g) is a statistical survey; or
- (h) is a final report or final audit on the performance or efficiency of the public body or of any of its programs or policies, except where the information is a report or appraisal of the performance of an individual who is or was an officer or employee of the public body.

Exceptions

23(2) Le paragraphe (1) ne s'applique pas aux renseignements :

- a) qui se trouvent dans un document datant de plus de 20 ans;
- b) qui constituent des directives destinées aux cadres ou aux employés de l'organisme public;
- c) qui constituent la règle de fond ou la position que l'organisme public a adoptée aux fins de l'interprétation d'un texte ou de la gestion d'un de ses services, programmes ou activités;
- d) qui constituent le résultat d'un essai de produits ou d'environnement effectué par ou pour l'organisme public;
- e) qui constituent l'exposé des motifs d'une décision rendue dans l'exercice d'une fonction quasi judiciaire ou prise dans l'exercice d'un pouvoir discrétionnaire touchant l'auteur de la demande;
- f) qui constituent le résultat d'une recherche de base à caractère scientifique ou technique entreprise dans le cadre de la formulation d'un énoncé de politique;
- f.1) qui constituent un sondage d'opinion;
- g) qui constituent un sondage statistique;
- h) qui constituent une vérification ou un rapport final quant au rendement ou à l'efficacité de l'organisme public ou quant à l'efficacité de ses programmes ou de ses politiques, à l'exclusion d'un rapport ou d'une évaluation portant sur le rendement d'un particulier qui est ou était un cadre ou un employé de l'organisme.

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Interpretation of "background research"

23(3) For the purpose of clause (2)(f), background research of a technical nature does not include economic or financial research undertaken in connection with the formulation of a tax policy or other economic policy of the public body.

S.M. 2008, c. 40, s. 10.

Sens de « recherche de base »

23(3) Pour l'application de l'alinéa (2)f), les recherches de base à caractère technique excluent les recherches à caractère économique ou financier entreprises dans le cadre de la formulation des politiques budgétaires de l'organisme public ou de ses autres politiques économiques.

L.M. 2008, c. 40, art. 10.

INDIVIDUAL OR PUBLIC SAFETY

Disclosure harmful to individual or public safety

24 The head of a public body may refuse to disclose to an applicant information, including personal information about the applicant, if disclosure could reasonably be expected to

- (a) threaten or harm the mental or physical health or the safety of another person;
- (b) result, in the opinion of a duly qualified physician, psychologist, or other appropriate expert, in serious harm to the applicant's mental or physical health or safety; or
- (c) threaten public safety.

SÉCURITÉ DU PARTICULIER OU DU PUBLIC

Communication nuisible à la sécurité du particulier ou du public

24 Le responsable d'un organisme public peut refuser de communiquer à l'auteur d'une demande des renseignements, y compris des renseignements personnels concernant celui-ci, dont communication risquerait vraisemblablement :

- a) de menacer la santé physique ou mentale ou la sécurité d'autrui ou d'y nuire;
- b) de causer, de l'avis d'un spécialiste, y compris un médecin qualifié ou un psychologue, un préjudice grave à la sécurité ou à l'état physique ou mental de l'auteur de la demande;
- c) de menacer la sécurité du public.

LAW ENFORCEMENT AND LEGAL PROCEEDINGS

Disclosure harmful to law enforcement or legal proceedings

25(1) The head of a public body may refuse to disclose information to an applicant if disclosure could reasonably be expected to

- (a) harm a law enforcement matter;

EXÉCUTION DE LA LOI ET INSTANCES JUDICIAIRES

Communication nuisible à l'exécution de la loi

25(1) Le responsable d'un organisme public peut refuser de communiquer à l'auteur d'une demande des renseignements dont la communication pourrait vraisemblablement :

- a) faire obstacle à une question qui concerne l'exécution de la loi;

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No disclosure if offence

25(2) The head of a public body shall refuse to disclose information to an applicant if the information is in a law enforcement record and the disclosure is prohibited under an enactment of Canada.

Exceptions

25(3) Subsection (1) does not apply to

(a) a report, including statistical analysis, on the degree of success achieved by a law enforcement program, unless disclosure of the report could reasonably be expected to cause any harm or interference referred to in subsection (1); or

(b) a record that provides a general outline of the structure or programs of a law enforcement agency.

Infraction à un texte fédéral

25(2) Le responsable d'un organisme public refuse de communiquer à l'auteur d'une demande des renseignements qui figurent dans un document lié à l'exécution de la loi et dont la communication est interdite par un texte fédéral.

Exceptions

25(3) Le paragraphe (1) ne s'applique pas :

a) aux rapports, y compris les analyses statistiques, qui ont trait au niveau de succès atteint dans le cadre d'un programme d'exécution de la loi, sauf si la communication des rapports risquerait vraisemblablement de nuire à la poursuite des objectifs visés à ce paragraphe;

b) aux documents qui donnent un aperçu général de la structure ou des programmes des organismes chargés de l'exécution de la loi.

SECURITY OF PROPERTY

Disclosure harmful to security of property

26 The head of a public body may refuse to disclose information to an applicant if disclosure could reasonably be expected to harm or threaten the security of any property or system, including a building, a vehicle, an electronic information system or a communications system.

SOLICITOR-CLIENT PRIVILEGE

Solicitor-client privilege

27(1) The head of a public body may refuse to disclose to an applicant

(a) information that is subject to solicitor-client privilege;

SÉCURITÉ DES BIENS

Communication nuisible à la sécurité des biens

26 Le responsable d'un organisme public peut refuser de communiquer à l'auteur d'une demande des renseignements dont la communication pourrait vraisemblablement soit nuire à la sécurité de biens, de réseaux ou de systèmes, y compris des bâtiments, des véhicules ou des réseaux ou systèmes d'information électroniques ou de communications, soit compromettre cette sécurité.

SECRET PROFESSIONNEL DE L'AVOCAT

Secret professionnel de l'avocat

27(1) Le responsable d'un organisme public peut refuser de communiquer à l'auteur d'une demande :

a) des renseignements protégés par le privilège des communications entre client et avocat;

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(b) information prepared by or for an agent or lawyer of the Minister of Justice and Attorney-General or the public body in relation to a matter involving the provision of legal advice or legal services or in relation to the investigation or prosecution of an offence; or

b) des renseignements préparés par ou pour un mandataire ou un avocat du ministre de la Justice et procureur général ou l'organisme public relativement à une question nécessitant la fourniture de conseils ou de services juridiques ou relativement à l'enquête ou à la poursuite concernant une infraction;

(c) information in correspondence between an agent or lawyer of the Minister of Justice and Attorney-General or the public body and any other person in relation to a matter involving the provision of legal advice or legal services or in relation to the investigation or prosecution of an offence.

c) des renseignements figurant dans de la correspondance entre un mandataire ou un avocat du ministre de la Justice et procureur général ou l'organisme public et une autre personne relativement à une question nécessitant la fourniture de conseils ou de services juridiques ou relativement à l'enquête ou à la poursuite concernant une infraction.

Third party's solicitor-client privilege

27(2) The head of a public body shall refuse to disclose to an applicant information that is subject to a solicitor-client privilege of a person other than the public body.

Secret professionnel de l'avocat concernant un tiers

27(2) Le responsable d'un organisme public refuse de communiquer à l'auteur d'une demande des renseignements qui sont protégés par le privilège des communications entre client et avocat, si le privilège concerne une autre personne que l'organisme public.

ECONOMIC AND OTHER INTERESTS OF A PUBLIC BODY

INTÉRÊTS ÉCONOMIQUES ET AUTRES D'ORGANISMES PUBLICS

Disclosure harmful to economic and other interests of a public body

28(1) The head of a public body may refuse to disclose information to an applicant if disclosure could reasonably be expected to harm the economic or financial interests or negotiating position of a public body or the Government of Manitoba, including the following information:

Intérêts économiques et autres d'organismes publics

28(1) Le responsable d'un organisme public peut refuser de communiquer à l'auteur d'une demande des renseignements dont la communication risquerait vraisemblablement de porter préjudice à l'intérêt économique ou financier d'un organisme public ou du gouvernement du Manitoba ou à sa position de négociateur, y compris les renseignements suivants :

(a) a trade secret of a public body or the Government of Manitoba;

a) les secrets industriels d'un organisme public ou du gouvernement du Manitoba;

(b) financial, commercial, scientific, technical or other information in which a public body or the Government of Manitoba has a proprietary interest or right of use;

b) les renseignements financiers, commerciaux, scientifiques, techniques ou autres relativement auxquels un organisme public ou le gouvernement du Manitoba a un droit de propriété ou d'usage;

(c) information the disclosure of which could reasonably be expected to

(i) result in financial loss to,



Special Board Meeting
Strategy 2040 Update
January 2020

Objectives for today

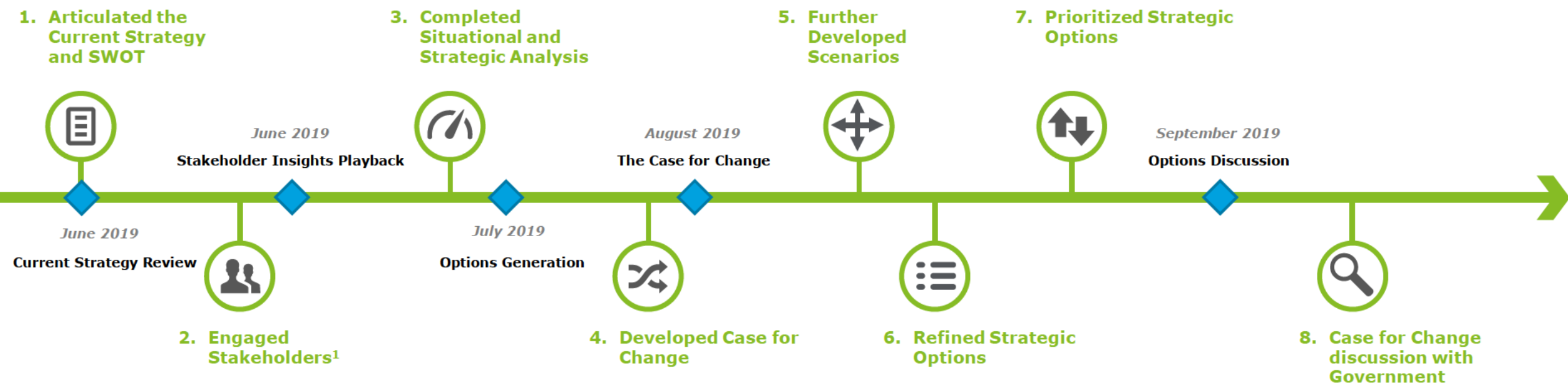
Briefly revisit several items shared with the board previously

- The engagement and strategy development process MB Hydro has undertaken
- The evolving energy landscape (which sets the context for Strategy 2040)
- The five pillars of Strategy 2040

Review and thoroughly discuss how management is executing Strategy 2040

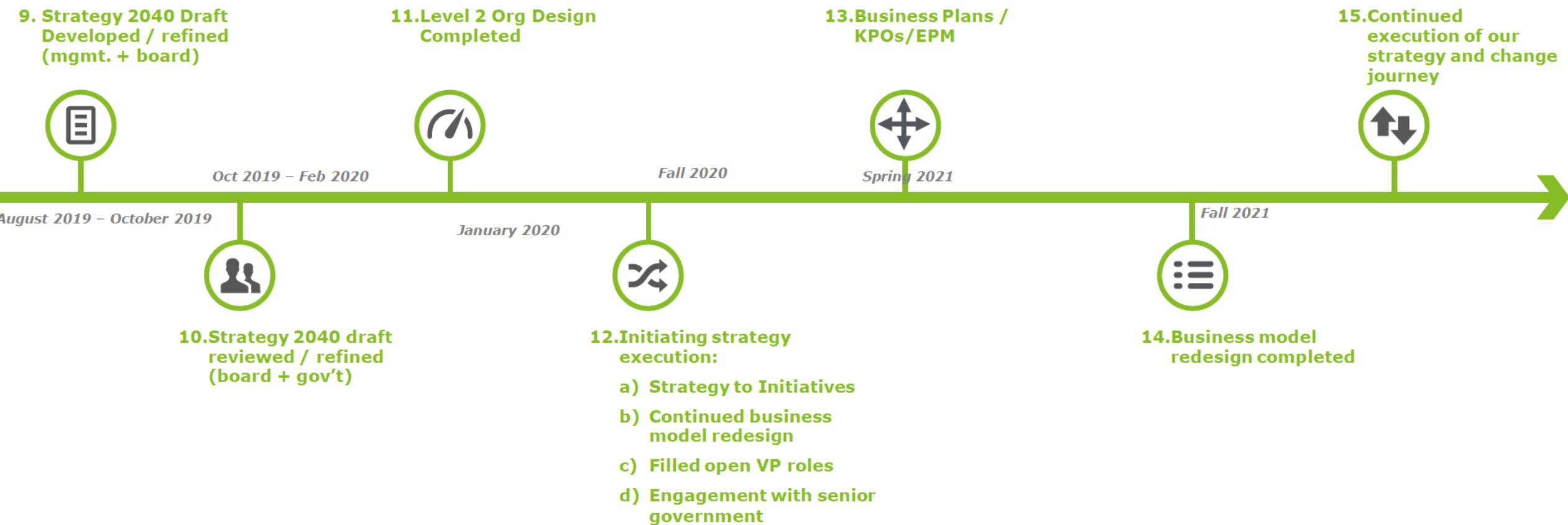
- Review and discuss the translation of Strategy 2040 to initiatives
- Discuss what is coming next, and how we plan to engage the board

How the LTSP was developed, through significant stakeholder engagement...

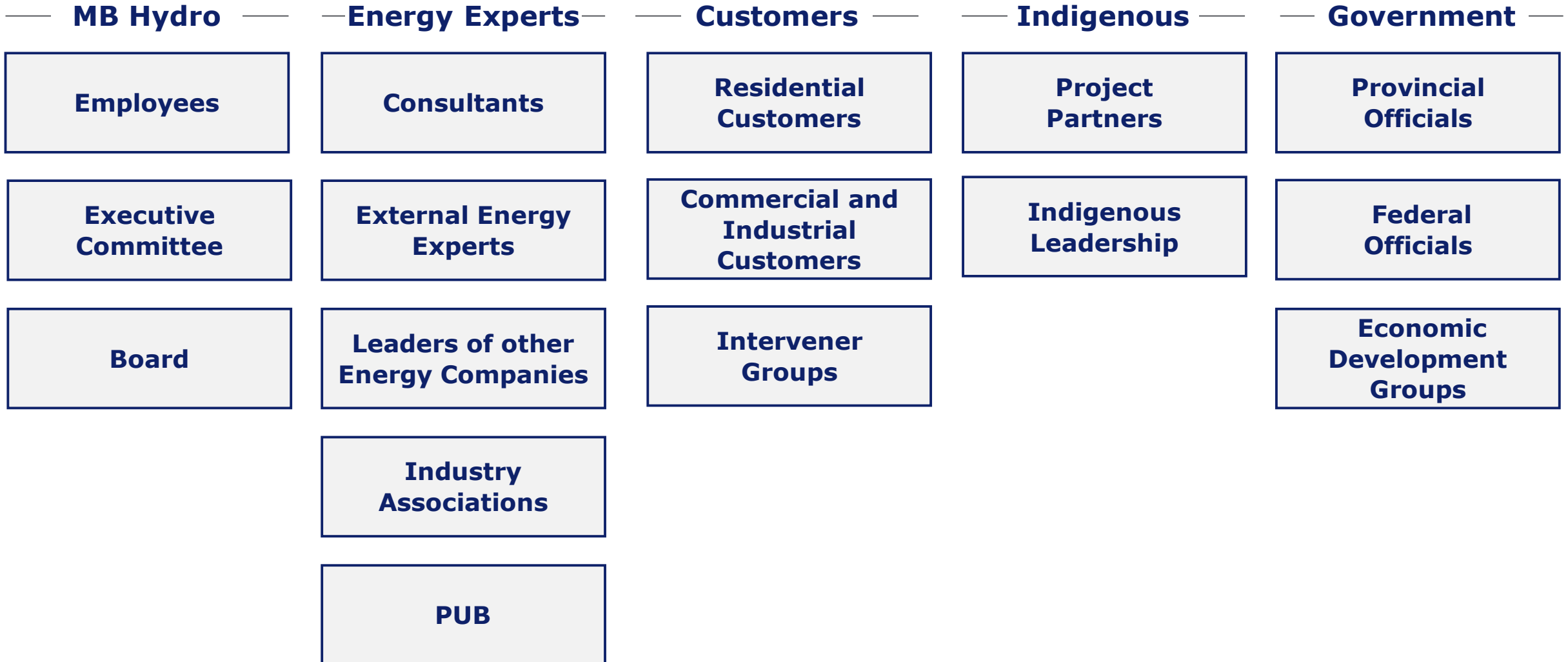


Notes: ¹ Refer to Appendix pg. 64 - 69 for Stakeholder Insights

... and what is happening now / upcoming



We have engaged extensively, connecting with well over 100 individuals



Energy Landscape → Strategy 2040 → Change Journey

Redacted as per s. 23(1)(a) (b) and (d)

Manitoba Hydro's Transformation Journey

Strategy & Planning

Business Model Design

Capability Building

Culture

Technology Enablement

We have made significant progress, despite significant disruption

Significant Progress Towards Becoming a Utility of the Future

- Extensive stakeholder engagement
- Developed view of evolving energy landscape
- Developed Strategy 2040
- Translated Strategy 2040 to initiatives
- Significantly progressed business model transformation – Manitoba Hydro of the Future
- Initiated culture change efforts
- Brought new capacity and capability online
- Continued to operate safely and efficiently

Despite Significant Disruption

- November 2019 Storm (Storm of the Century)
- Provincial Election
- Bill 35/Regulatory Review
- COVID-19
- Blockade
- Government Mandated Pandemic Cost Reduction
- COVID-19 Outbreak at Keeyask

Redacted as per s. 23(1)(a)(b) and (d)

Evolving Energy Landscape and Case for Change

Redacted as per s. 23(1)(a)(b) and (d)

Redacted as per s. 23(1)(a)(b) and (d)

Redacted as per s. 23(1)(a)(b) and (d)

Redacted as per s. 18(1)(a)(b)(iii)(iv) and 23(1)(a)(b) and (d)

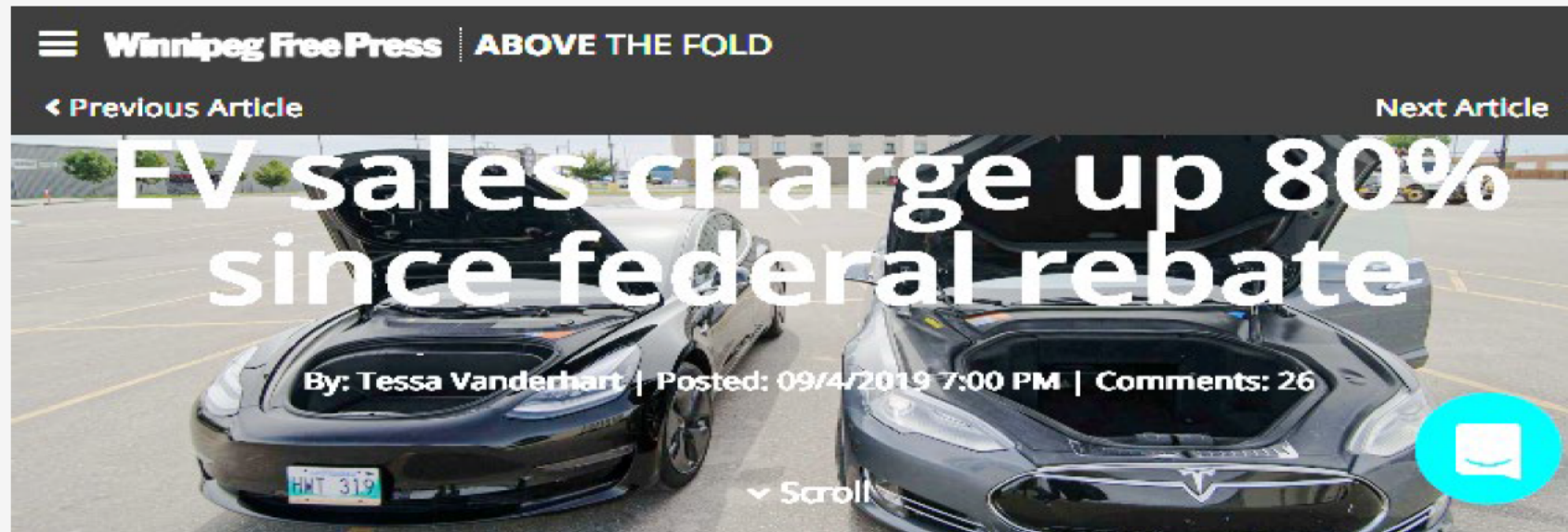
Decarbonization: Electrification of Transportation Implications for Manitoba

Significant incentive-driven growth in Manitoba

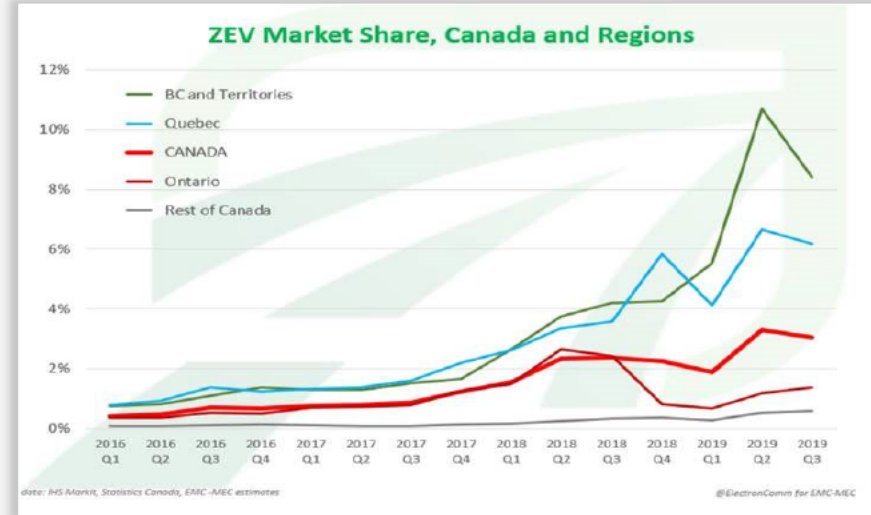
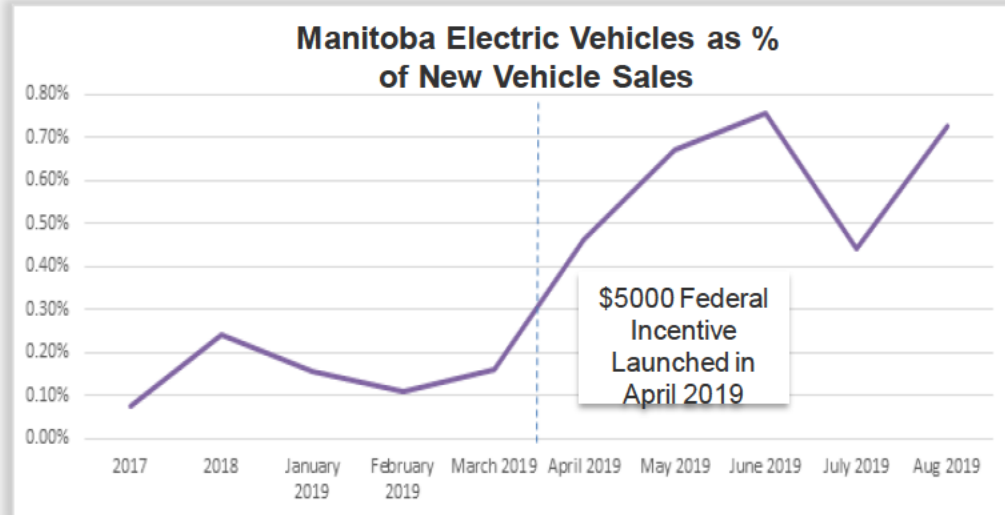
“ EV sales charge up 80% since federal rebate

Experts say that's because a federal rebate came into effect May 1, knocking \$5,000 off the price of any electric or plug-in hybrid vehicle.

—Winnipeg Free Press, Sept 2019



Manitoba ZEV sales tripled from 2018 to 2019; BC and Quebec are leading markets

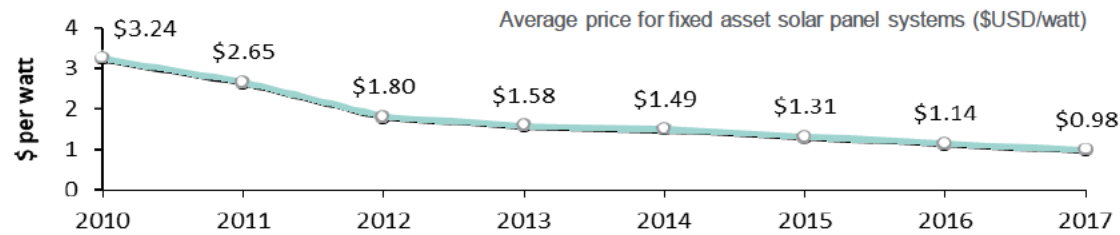


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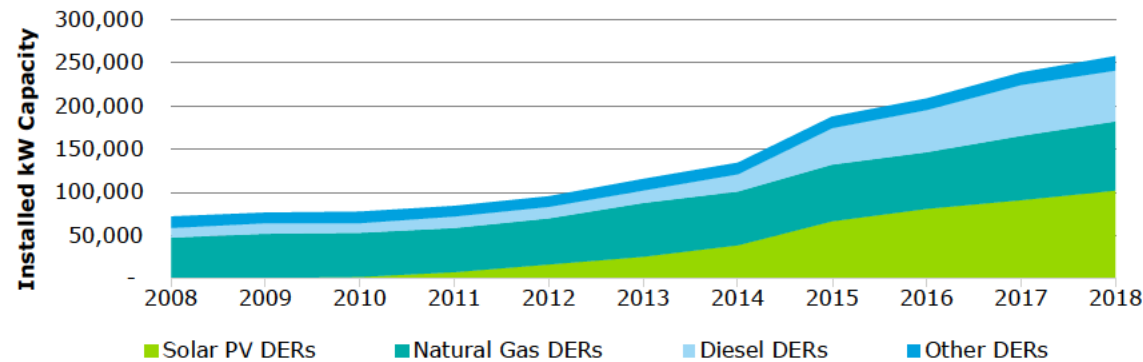
Redacted as per s. 23(1)(a)(b) and (d)

The price of solar and storage has been rapidly declining, Redacted as per s. 23(1)(a) and (b)



Redacted as per s. 23(1)(a) and (b)

Redacted as per s. 23(1)(a) and (b)



DER Technology ¹	2018 MW	# of Projects	10-Year CAGR (Installed MW)	5-Year CAGR (Installed MW)
Solar PV DERs ^a	102 MW	2,059	75%	32%
Natural Gas DERs ^b	86 MW	31	5%	5%
Diesel DERs	59 MW	20	18%	32%
Other DERs ^c	17 MW	24	3%	5%
Total DERs	274 MW	2,134	13%	17%

NB: Significant number of batteries also being added

Redacted as per s. 23(1)(a) (b) and (d)

Redacted as per s. 23(1)(a)(b) and (d)

Redacted as per s. 23(1)(a)(b) and (d)

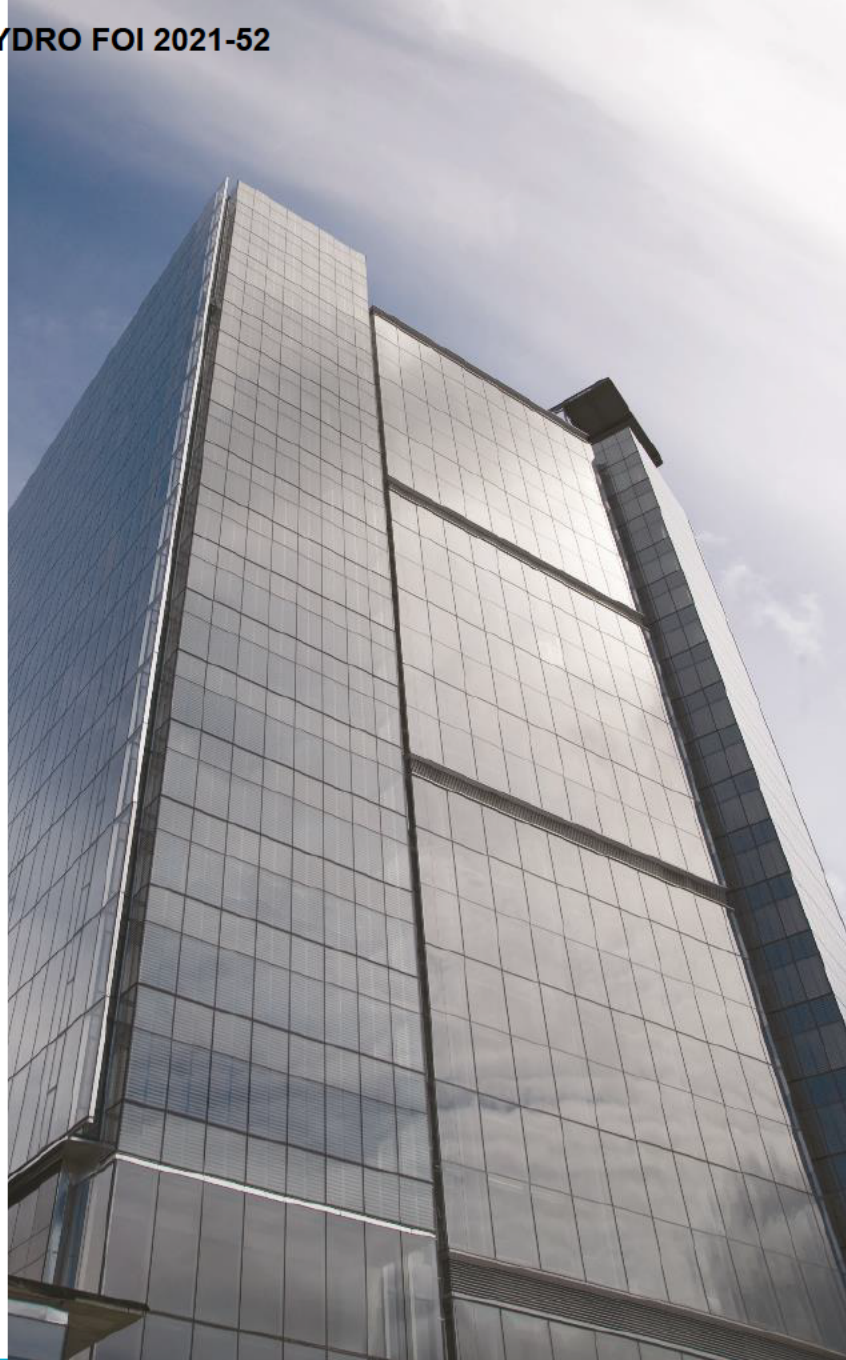
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Redacted as per s. 23(1)(a)(b) and (d)

Redacted as per s. 23(1)(a)(b) and (d)

Strategy 2040 and Strategic Initiatives

Redact per s 18(1)(a) (b)(iii) and (iv) and 23(1)(d)



Our Mission Statement

Help all Manitobans efficiently navigate the evolving energy landscape, leveraging their clean energy advantage, while ensuring safe, clean, reliable energy at the lowest possible cost

Redacted as per s. 23(1)(a)(b) and (d)

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Redacted as per s. 23(1)(a)(b) and (d)

Redacted as per s. 23(1)(a)(b) and (d)

Change Journey and Next Steps

Redacted as per s. 18(1)(a)(b)(iii)(iv) and 23(1)(a)

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Redacted as per s. 23(1)(a)(b) and (d)

- *Redacted as per s. 23(1)(a)(b) and (d)*

- *Redacted as per s. 23(1)(a)(b) and (d)*

Redacted as per s. 23(1)(a)(b) and (d)

Appendix: Strategy 2040 Initiative Descriptions

Redacted as per s. 23(1)(a)(b) and (d)

Redacted as per s. 23(1)(a)(b) and (d)

Redacted as per s. 23(1)(a)(b) and (d)

Redacted as per s. 23(1)(a)(b) and (d)



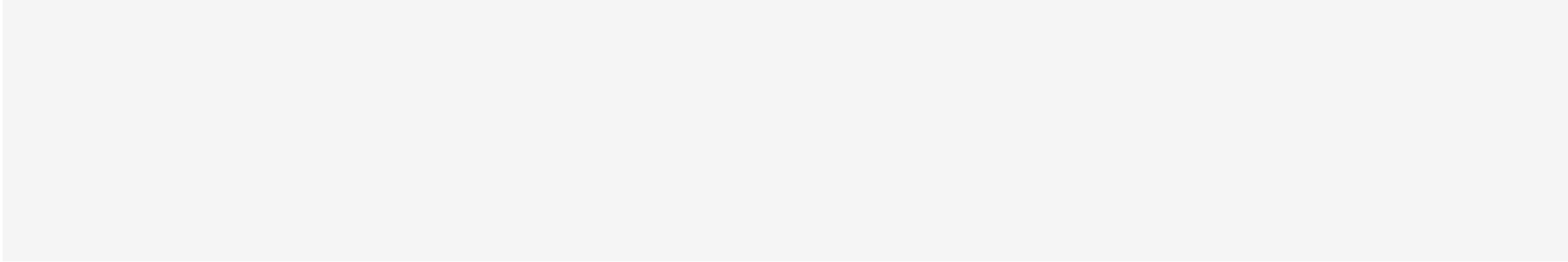
Deputy Minister Update

December 2020

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Redact as per s. 23(1)(a)

Redacted as per s. 23(1)(a)



Redacted as per s. 18(1)(a)(b)(iii)(iv) and 23(1)(a)

Decarbonization: Electrification of Transportation Implications for Manitoba

Significant incentive-driven growth in Manitoba

“ EV sales charge up 80% since federal rebate

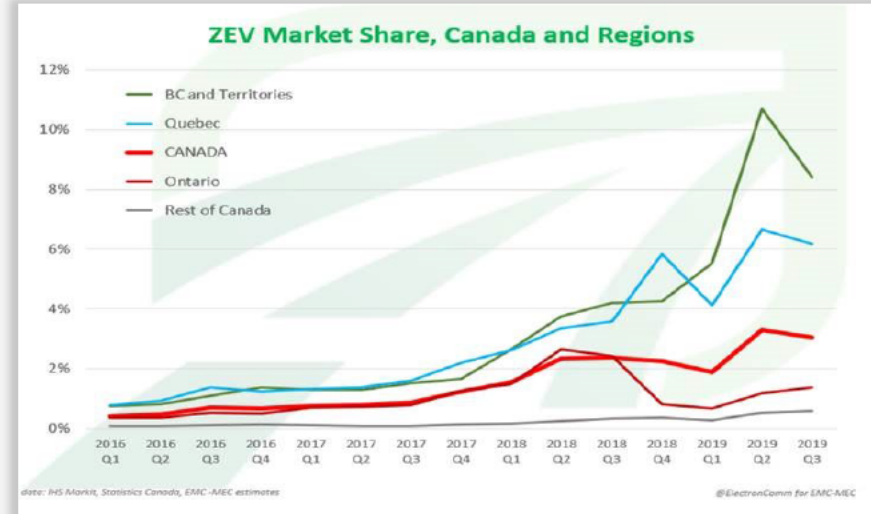
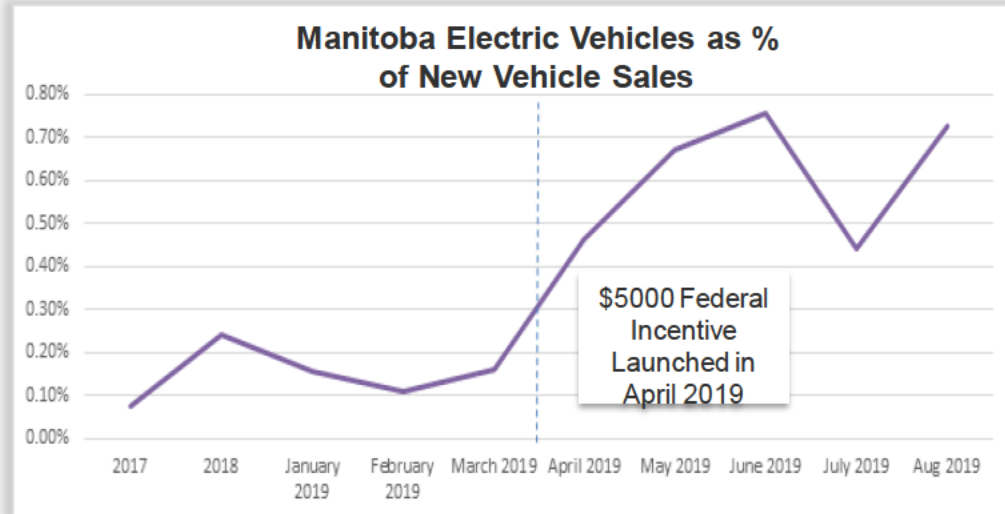
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Decarbonization: Electrification of transportation implications for Manitoba.

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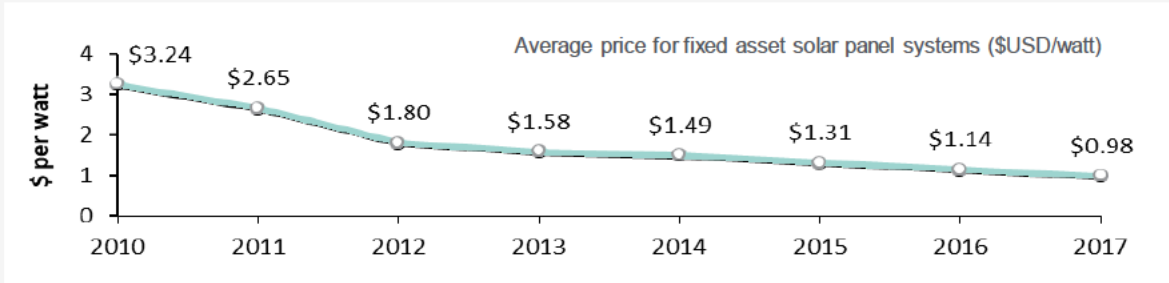
Implications for Manitoba

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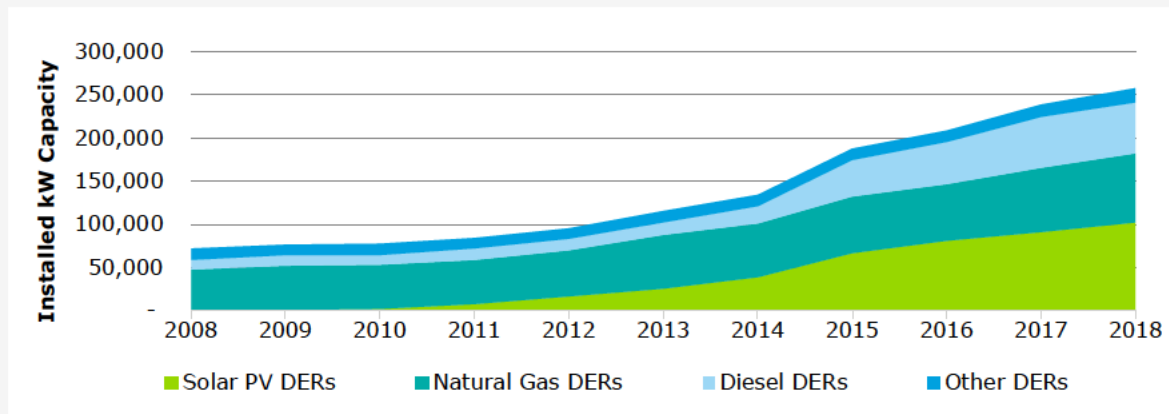
Redacted as per s. 23(1)(a)

The price of solar and storage has been rapidly declining, Redacted as per s. 23(1)(a)



Redacted as per s. 23(1)(a)

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NB: Significant number of batteries also being added

Redacted as per s. 23(1)(a)

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Redacted as per s. 23(1)(a)

Indigenous

Manitoba's new 'utility scale' solar farm aims to spark First Nations interest in green energy



First Nation's sun-powered project to generate electricity, revenue, expertise for the community



[Lenard Monkman](#) · CBC News · Posted: Jun 20, 2019 4:00 AM ET | Last Updated: June 20



Fisher River chief David Crate hopes to have most of the community using its own generated energy within 20 years. (Angela Johnston/CBC)

Redacted as per s. 23(1)(a)

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Redacted as per s. 23(1)(a)

The Case for Change

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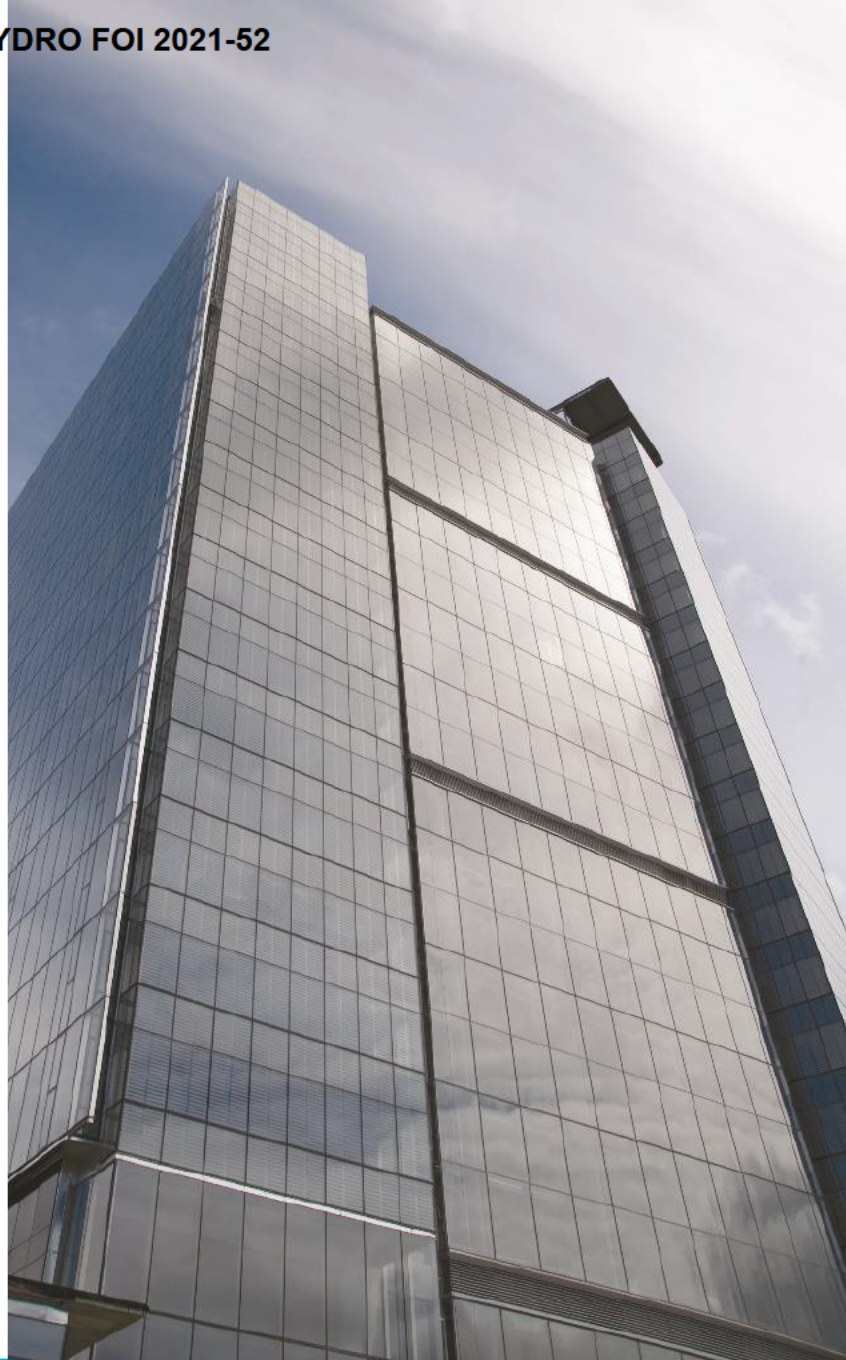
Redacted as per s. 23(1)(a)

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Redacted as per s. 23(1)(a)

Strategy 2040



Our Mission Statement

Help all Manitobans efficiently navigate the evolving energy landscape, leveraging their clean energy advantage, while ensuring safe, clean, reliable energy at the lowest possible cost

Redacted as per s. 23(1)(d)

Redacted as per s. 23(1)(d)

Redacted as per s. 23(1)(a) and (d)

Redacted as per s. 23(1)(a) and (d)

The contents of this presentation are strictly confidential, and include advice, opinions, proposals, recommendations, analyses and policy options developed for the Government of Manitoba

Interim Draft for Update
Not for Distribution

Appendices

Foundational Analysis of Key Drivers

Analysis & Definition of terms:

The underlying energy analysis in the appendices was done last year so while representative so me figures .

Redacted as per s. 23(1)(a)

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Redacted as per s. 23(1)(a)

Redacted as per s. 23(1)(a)

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Redacted as per s. 23(1)(a)

Type	No. of Vehicles - Manitoba 2019*
Light Duty (passenger veh. & light trucks)	785,558 (Incl. 702 EVs: 553 pass & 149 lt. truck)
Heavy Trucks	138,046
Buses	4,681 (Including 1 electric bus)
Total	928,285

*Based on Manitoba Public Insurance records and Statistics Canada allocations for fall of 2019

The contents of this presentation are strictly confidential, and include advice, opinions, proposals, recommendations, analyses and policy options developed for the Government of Manitoba

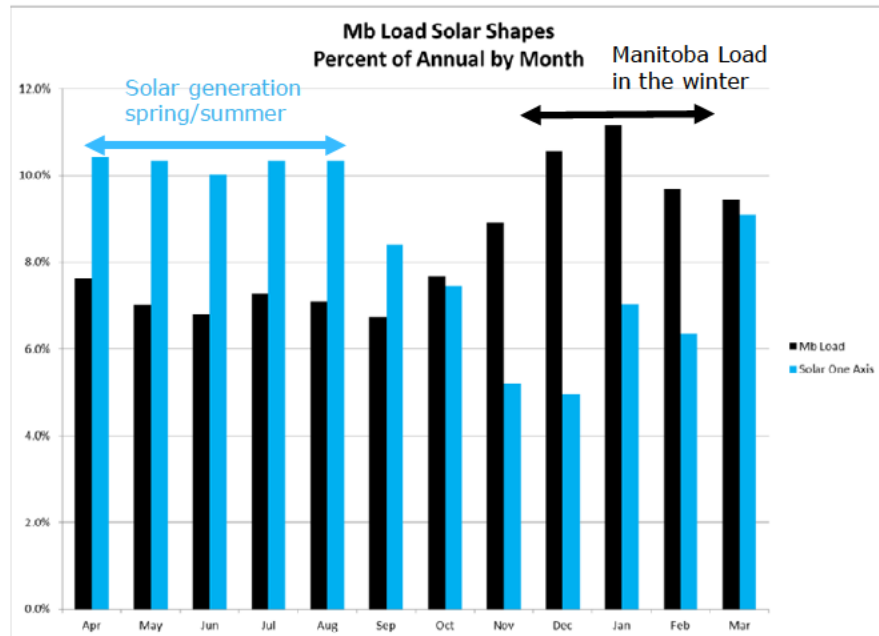
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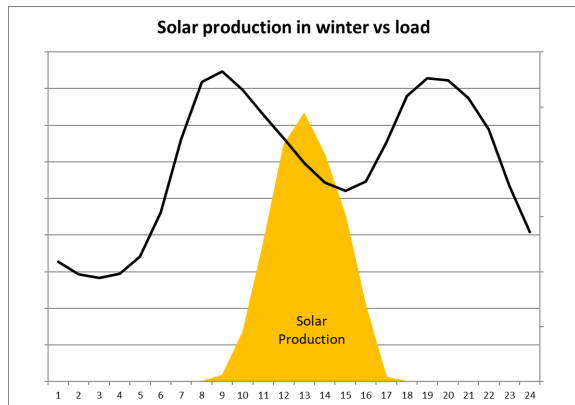
Redacted as per s. 23(1)(a)

Solar generation is highest from April to August



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Redacted as per s. 23(1)(a)



What energy monitoring and metering technologies are required by residential customers interested in distributed energy resources?

A. There is a growing range of technology solutions available to Customers that support distributed energy resource and Home Energy Management. The three current categories of functionality are shown below.

Customer Desired Functionality	Technology	Current Situation
Sell self-generated energy onto the grid	A bi-directional meter is required to measure two-way flow of energy for billing purposes. Manual meter-reading is required.	Under Manitoba Hydro Non-Utility Generation Policy, the Customer pays for the meter supplied by Manitoba Hydro (~\$60).
Home Energy Management Systems to reduce consumption	Commercially available home energy management kits consist of hardware and software which are connected to monitor and control energy consumption in the home.	Technology companies are developing equipment and applications to interface with customers and their homes. These are relatively inexpensive (\$100 and up) but do not meet the codes and standards required for billing purposes.
Home Energy Management Systems to optimize consumption and selling with time-of-use rates	Advanced Metering Infrastructure (AMI) is required to implement time-of-use rates . AMI includes digital "smart" meters that monitor real-time energy flows and support remote meter reading and control. Customers may access consumption information with their Home Energy Management Systems to optimize usage and minimize energy bills.	Manitoba customers do not currently have the opportunity to actively manage their energy bills through time-of-use rates. <i>Redacted as per s. 23(1)(a)</i>

Redacted as per s. 23(1)(a)

What drives MH's position for connecting customers on a "first come – first serve" basis?

A: Manitoba Hydro typically has the capacity to address Customer connection requests as they arrive. In the rare circumstance of request congestion, they are processed on a first come first served basis in the interest of fairness and limitations below.

Redacted as per s. 27(1)(a)

Redacted as per s. 23(1)(a)

Service Governance



Manitoba Hydro Act

- Duty to **serve all customers** who meet the terms and conditions of service.
- **No provision for prioritization.**

Crown Corporations Governance & Accountability Act

- The Minister may **issue directives** to Manitoba Hydro concerning matters of policy.

Redacted as per s. 23(1)(a)

What is the process for getting electric service for a Public EV Charger?

A. Businesses seeking electric service from MH for public access EV chargers follow the same process as for any other customer request for electric service (i.e. requests are processed as they arrive). The addition of a charging station to an existing service requires only an electrical permit.

Current Electric Service Policy:

- **Customers bear the connection costs** for extending service to them, but **not larger system upgrade costs**.
- Customers installations must **comply with electrical codes** and pass inspection
- Manitoba Hydro provides a **firm price quotation for connection** based on the service requested and proceeds to design and constructs the works once authorized by the Customer.
- The **time to connect varies** according to the construction required and can be lengthy where system upgrades are required.
- Manitoba Hydro is mandated to serve and **responds to Customer connection requests as they are received**. Unplanned load additions carry **reliability and cost risks**.
- The location, timing and size of **connection request is at the Customer's discretion**.
- **No special policy** or process exists for connecting **EV charging stations**. Special consideration may need to be given to Megacharging siting.

EV Charging

- About **70 public charging stations** and an unknown number of private chargers have been installed in Manitoba to date.
- Public charging station customers do not currently **pay for charging** on a per kWh basis as the resale of electricity is not permitted. Charging is either provided free of charge or, similar to serviced parking lots, is charged a space rental fee based on time.
- Existing **gasoline stations are expected to add EV charging** to their service offering, leading to increased demand for electricity along primary transportation routes both urban and rural.

Are there policies for customers connecting Non-Utility Generation (NUG) to Manitoba Hydro's system?

A. Manitoba Hydro's interconnection policies define the technical requirements and costs allocations for Customers and generators seeking to connect to the MH system, as well as the basis for pricing NUG energy. The policies ensure safety and reliability and are designed to be cost neutral to Manitoba Hydro by reflecting the market value of energy in NUG energy purchase pricing.

NUG Energy Pricing:

Under Corporate Policy P810:

*Manitoba Hydro **at its sole discretion** may purchase Independent Power made available to it by a NUG Owner.*

For Small Installations (≤ 200 kW) – Typical Residential

- Electricity is priced at the value of the energy on the **export spot market** (MISO). Price as of April 1, 2019 is **\$0.03949/kWh** and is refreshed annually.

For Larger Installations (>200 kW)

- The customer/generator must enter into a **negotiated Independent Power Purchase Agreement** for any generation supplied to the Manitoba Hydro system. Pricing is informed by the **export market value** of the energy.

To Sell Electricity onto the Grid:

- Currently **Manitoba Hydro allows NUG connections ≤ 200 kW** as long as they meet MH technical requirements and pay for any local service upgrades. (e.g. upgrade to larger transformer, taller pole, etc.)
- **Customers pay** for a bi-directional meter and bear the cost of system upgrades required to interconnect.
- Approximately 1000 customers with solar are currently connected bi-directionally.
- Customers installations must **comply with electrical codes and Manitoba Hydro's detailed technical requirements for interconnection.**
- Larger or complex systems require an **Engineering Study performed at the Customer's cost.**
- The **time and cost to interconnect varies** according to the depth and study and construction required.

Natural Gas

Redacted as per s. 23(1)(a)

Redacted as per s. 23(1)(a)



The federal carbon tax is expected to be \$50 per tonne CO₂e by 2022

As of January 2020 a natural gas heated home costs approximately 1/3 the cost of heating a home with electricity.

- Heating a “typical home” with an **electric** furnace cost of **\$1,451 per year**.
- The same “typical home” with a high efficiency natural **gas** furnace would cost **\$514 and produce 3.4 tonnes of CO₂e**.
- *Redacted as per s. 23(1)(a)*
- *Redacted as per s. 23(1)(a)*

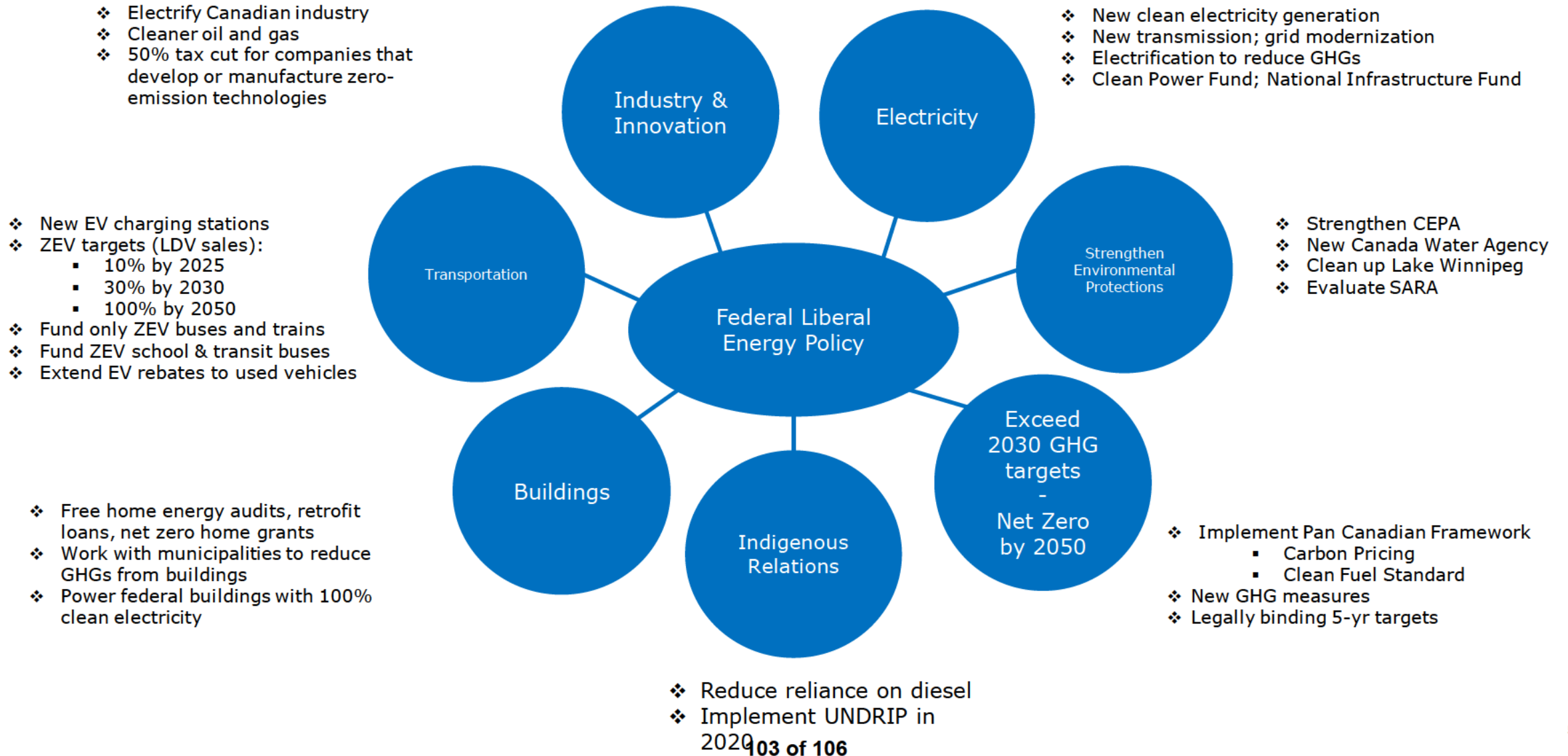
Manitoba Energy Policy

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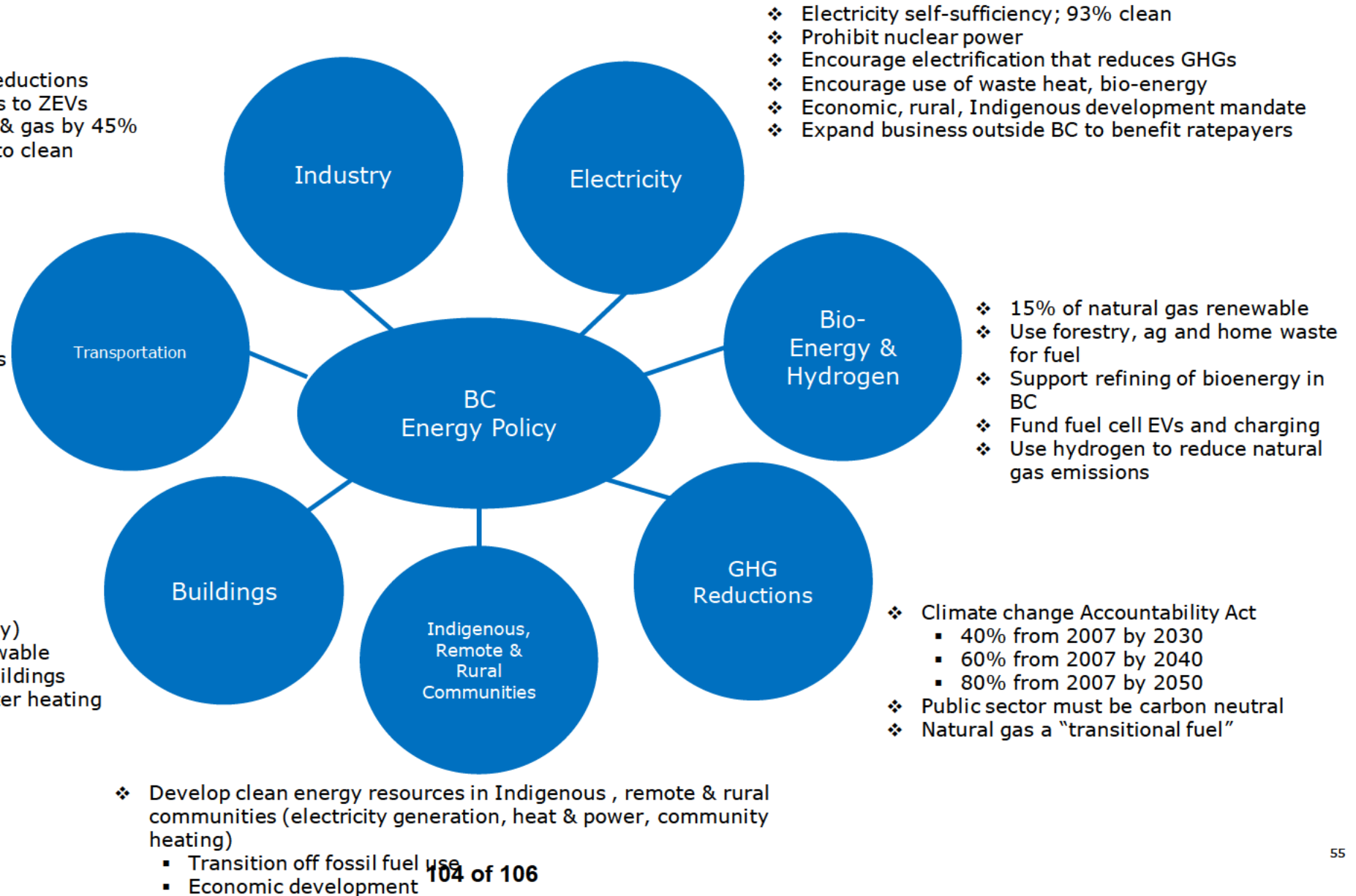
Energy policy in other jurisdictions

Federal Liberals



Energy policy in other jurisdictions

British Columbia



Energy policy in other jurisdictions

Quebec

Natural Gas in the transition:

- Renewable fuel content and RNG requirements coming in 2020/21
- Plan to convert natural gas and other fossil fuel heating systems coming
- LNG & CNG fueling for heavy-duty transport part of strategies

By 2030:

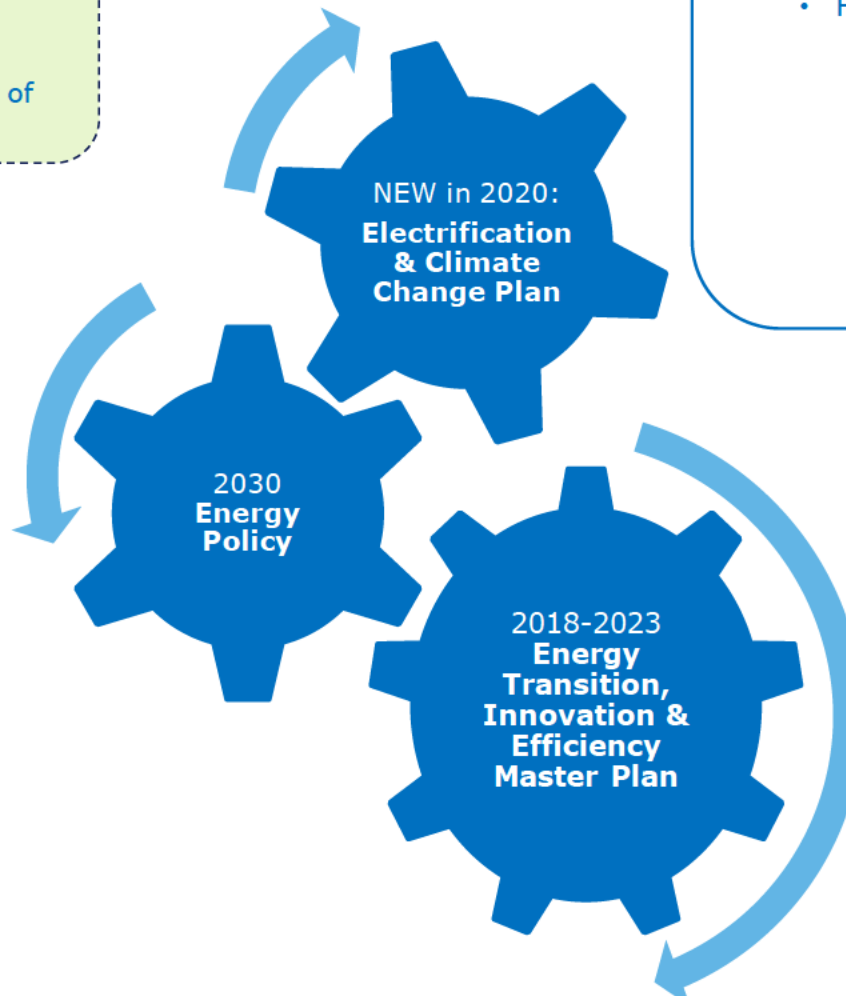
- ↑ Energy efficiency by 15%
- ↓ Petroleum use by 40%
- ↑ Renewable energy output by 2%
- ↑ bioenergy production by 50%

Hydro Quebec a "Focal Point of Quebec's Economic Development"

- Increase revenues outside of Quebec
- Attract new industry with special rates
- Support energy transition, innovation and energy efficiency

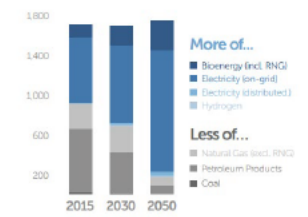
Transportation Electrification:

- ZEV Act mandates % of sales to be ZEVs
- Action Plan sets goal of 100,000 plug-in vehicles by 2020; includes \$ for ZEV purchases and charging stations



- Coming in early 2020
- Reduce GHGs by 37.5% below 1990 levels by 2030 through electrification, efficiency & entrepreneurship
- 5 Task Forces, including electrification
 - From Electrification Task Force Report (late 2019):

Final Energy Consumption (PJ)



- Led by dedicated organization
- Funded by all energy distributors
- Reviewed & updated every 4 – 5 yrs
- Mandated targets:
 - ↑ energy efficiency by 1% annually
 - ↓ petroleum use by 5% from 2013
- Roadmaps for:
 - Land Use
 - Transport
 - Residential, Commercial/Institutional & Industrial Sectors
 - Off-grid power systems
 - Energy Innovation
 - First Nations
 - And more...

Extra slides