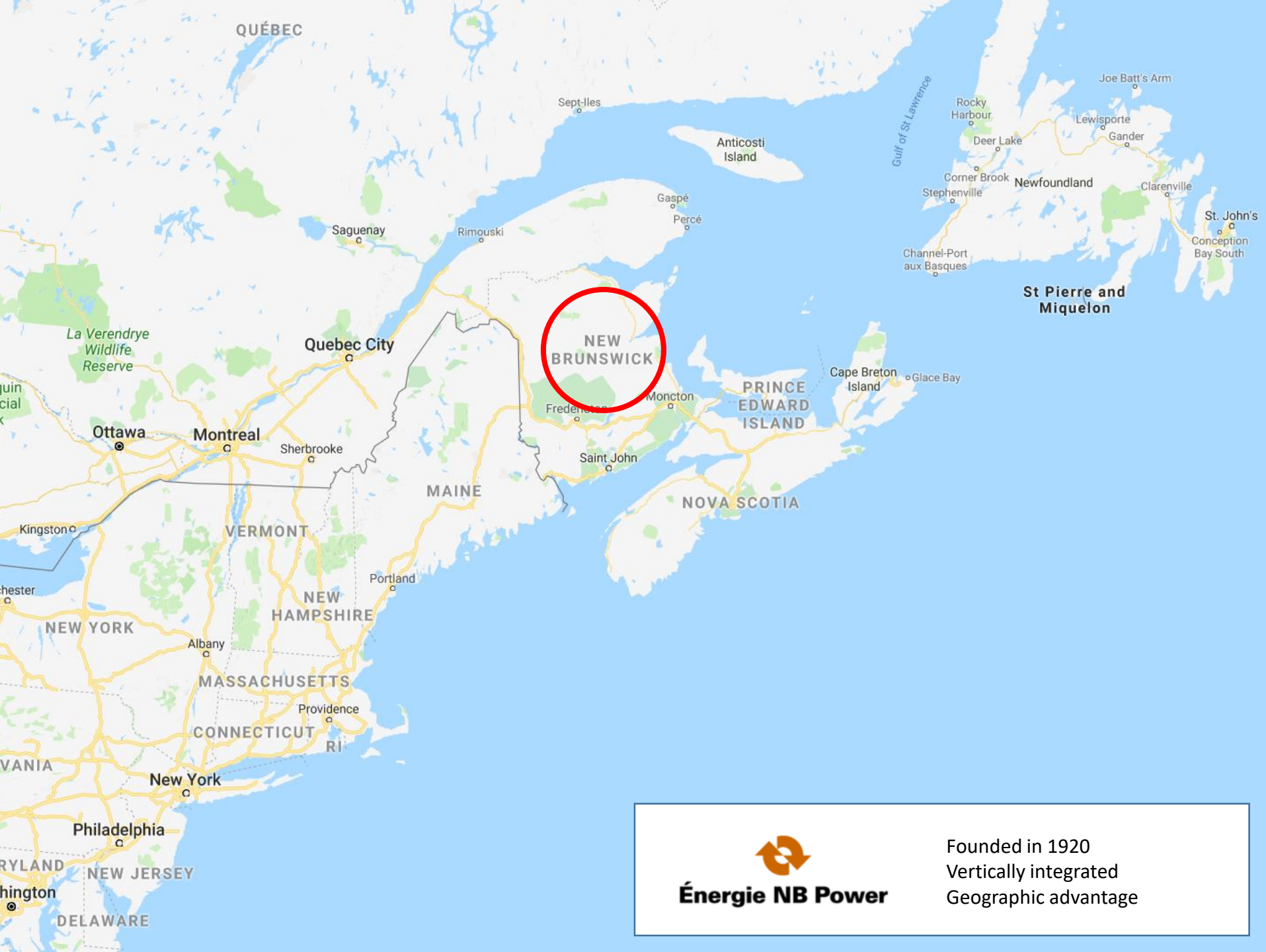


CIM as a Primary Key for a Corporate Digital Transformation



Brad Wasson, Chief Digital Innovation Officer





Énergie NB Power

Founded in 1920
Vertically integrated
Geographic advantage

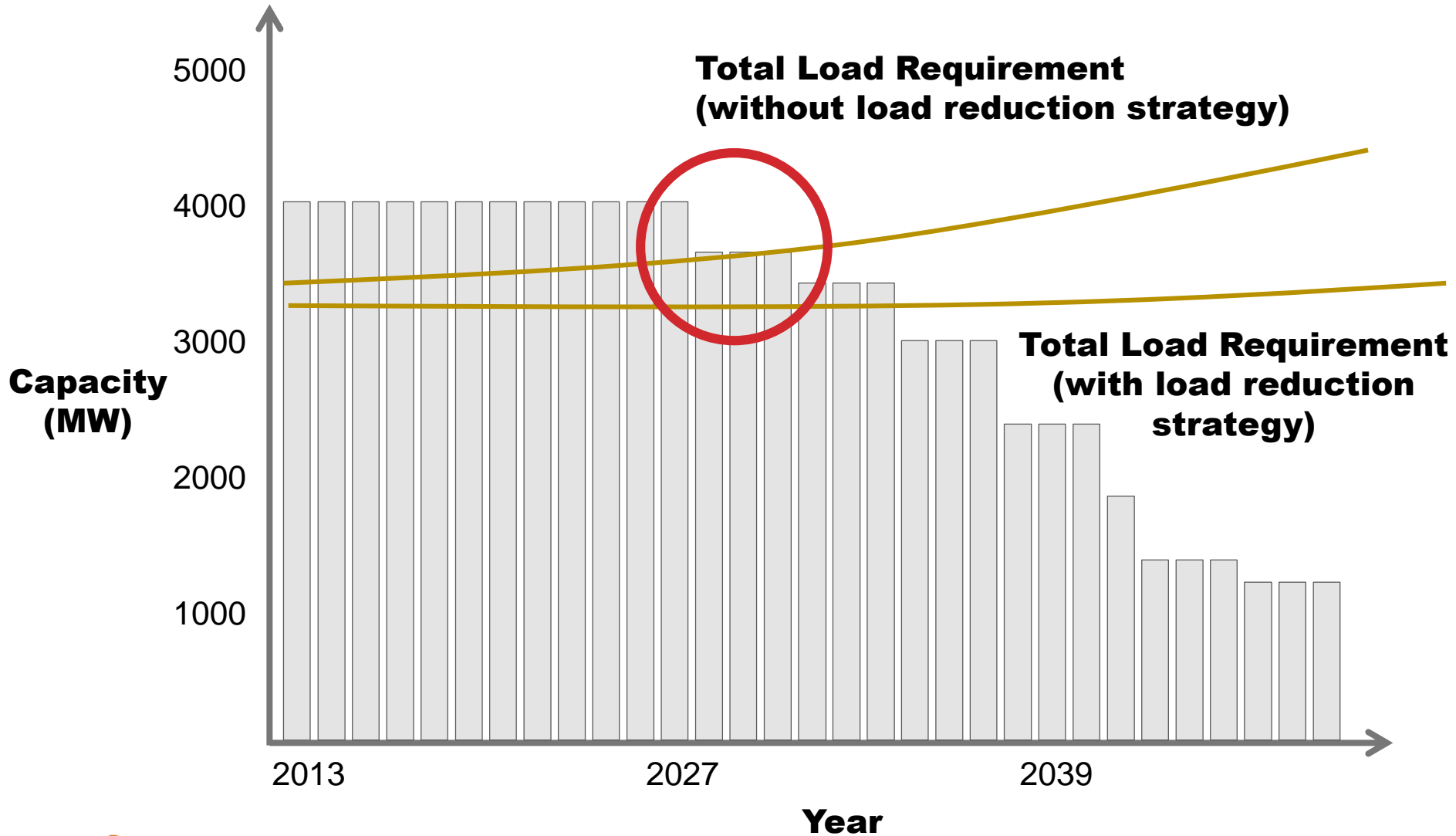
Today – the grid is the largest, most critical machine in the province



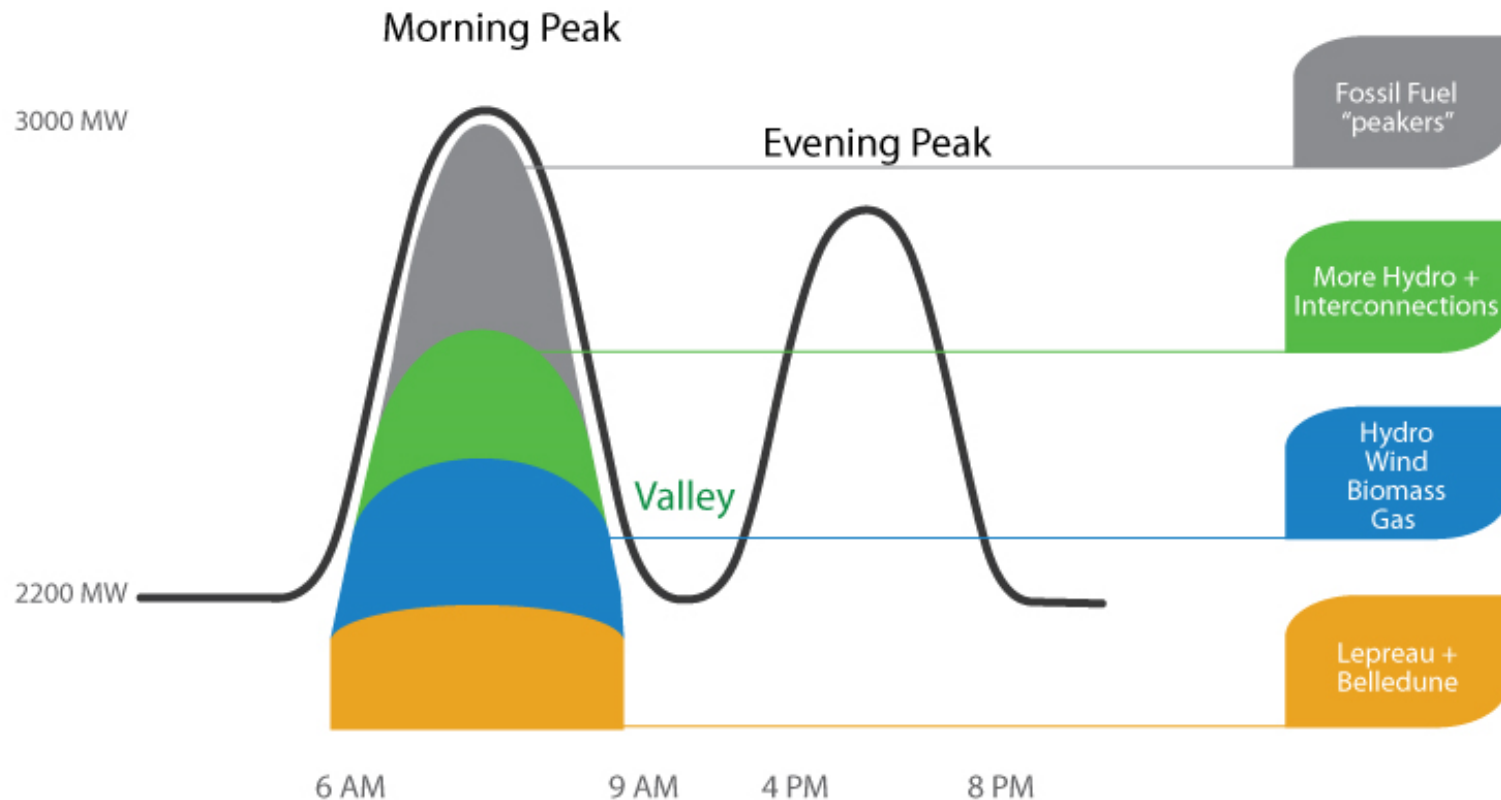
294 MW of Wind
889 MW of Hydro

20 MW Embedded Gen
80 MW LORESS

Supply and demand challenges



Peak load challenges





Customers are changing. Rapidly.

Customers have...

- More options for energy supply, advice, information
- Expanded range of options for on-site generation
- Improving ability to “manage” energy (tools, advice, information)

Customers desire...

- Cleaner, more resilient, more reliable electricity supply
- Energy use to have lower impact on the environment
- Better information, when and wherever they are
- More control over costs “keep rates low and stable”
- Better service

www.DesktopBackground.org

~\$5B Debt

Robust, But
Aging
Infrastructure

2019

Heightened
Dependency of
Society on
Electricity

Business Model
Has Reached End
of Life

The electricity system we know today...

...was conceived, engineered, built and deployed
at a time when priorities, opportunities, political issues,
environmental concerns, societal dependencies,
and economics

were all different than today.



Historic Strategic Lens: Supply and Demand Analysis

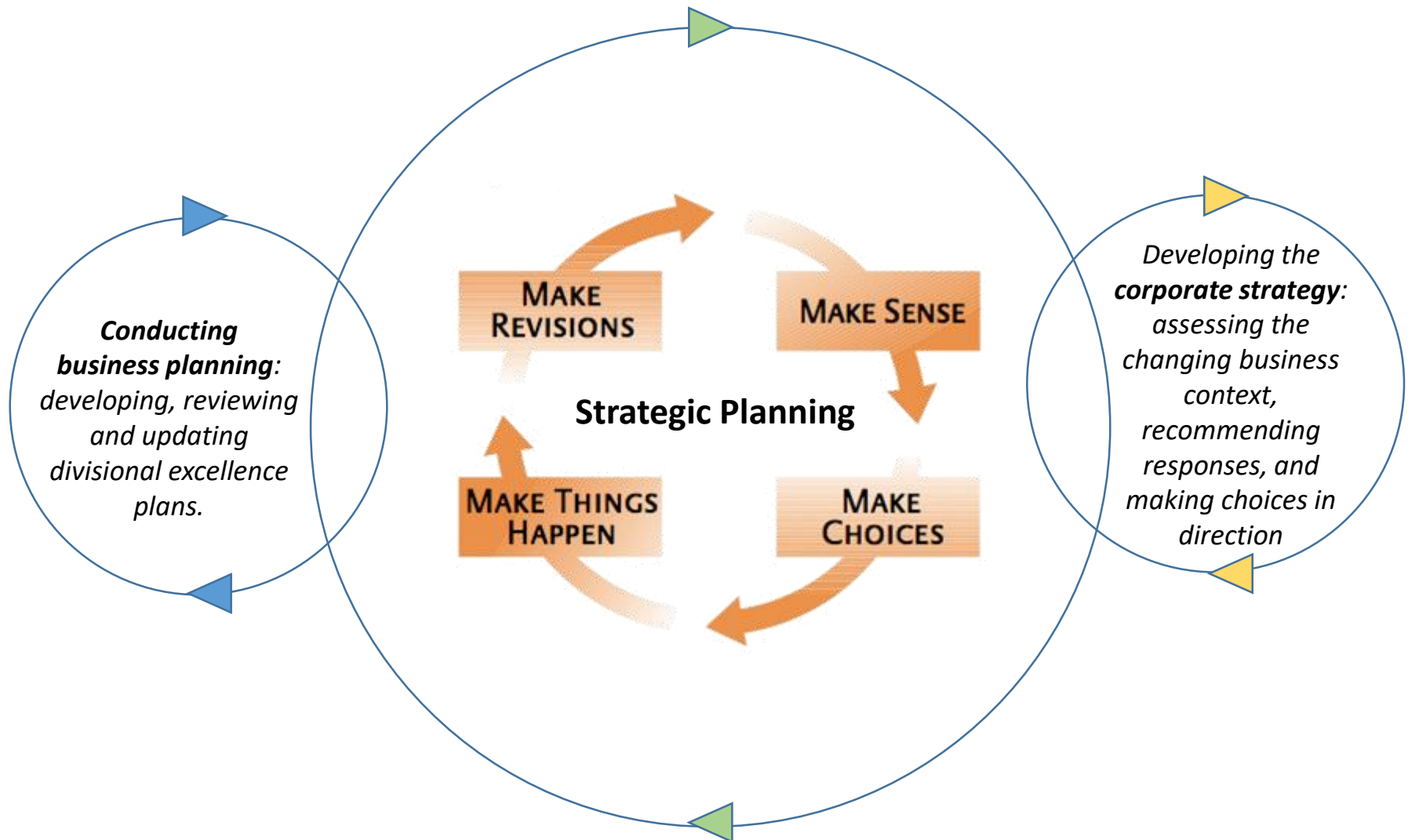


How is demand going to change?

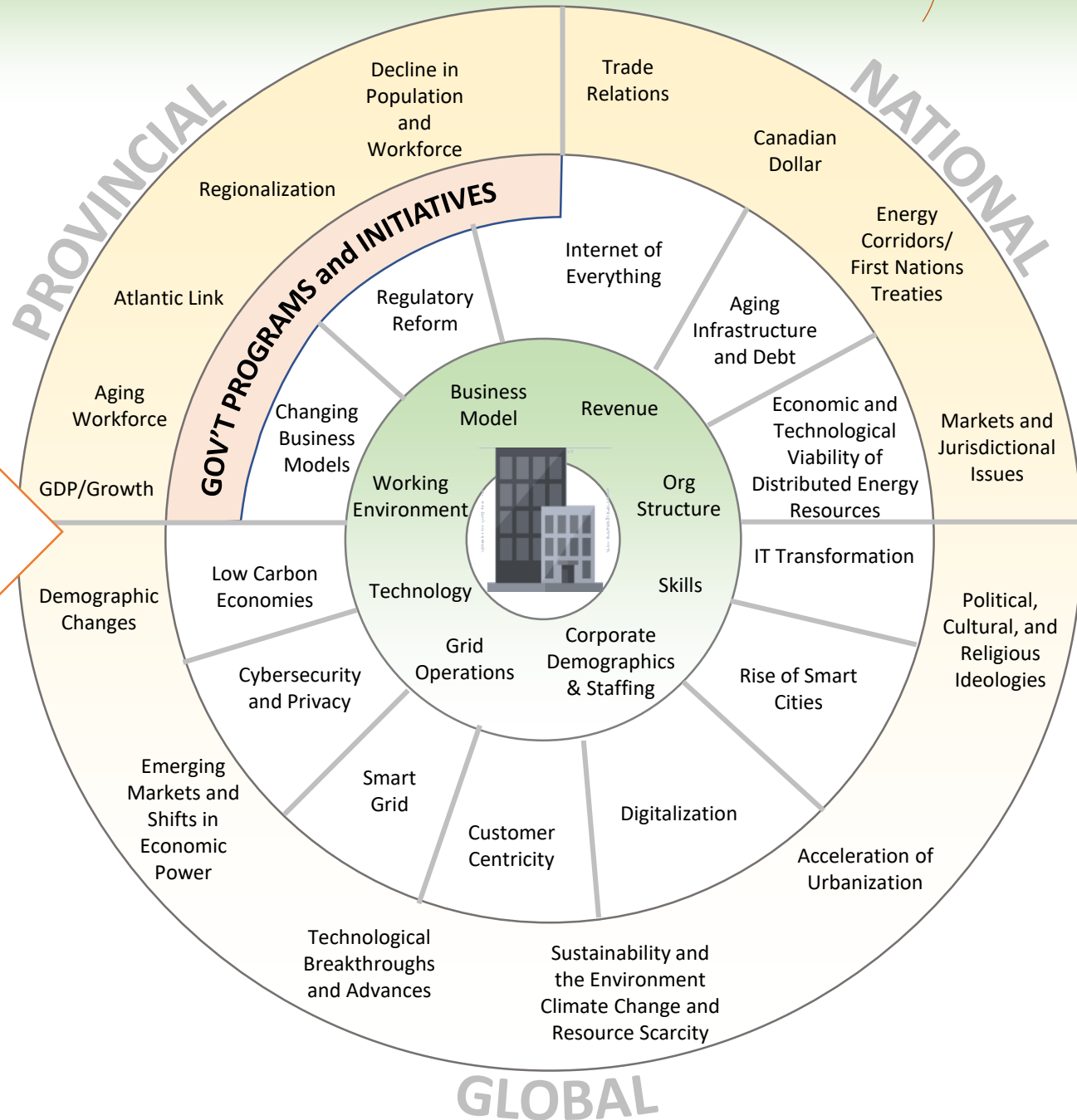
What are the options to meet that demand?

What are the supply options?

Where to start?



STRATEGIC BUSINESS CONTEXT



**STRATEGIC
CONTEXT
FOR CHANGE**

Key Drivers of Change

1

Systemic changes to the business: end of load growth (declining population, loss of industrial load)

2

Economic viability of small scale, localized, generation

3

Impact of the 4th Industrial Revolution - convergence

4

Changing customer interests – building code changes

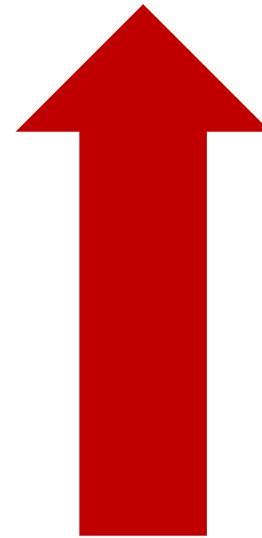
5

Social and political interests – climate change



Our Financial Perspective

Make
Money
\$



Spend
Money
\$



Our Financial Perspective

Make
Money
\$



Spend
Money
\$



Some fundamental challenges

1

Limited corporate experience with change programs

2

Limited formal experience with strategic planning

3

Limited experience with data collection/dissemination

4

Skill/talent issues the reality of an evolving business



The strategy gap

Vision

**Sustainable Electricity for Future Generations
Utility of the Future**

Strategy Gap

*Operational
focus*

**Smart Grid, digitization modernization, distributed
energy resources, organizational change,
distribution system operations, ...**



How to close the strategy gap?

The world we live in

Research in this area was mostly focused on macro level trends impacting our world. These include the Fourth Industrial Revolution, climate change, and political developments impacting socio-economic factors.

The world of energy and those that use it

Research in this area has mostly focused on the changing world of energy production (small scale, localized) and the emergence of Distributed Energy Resources.

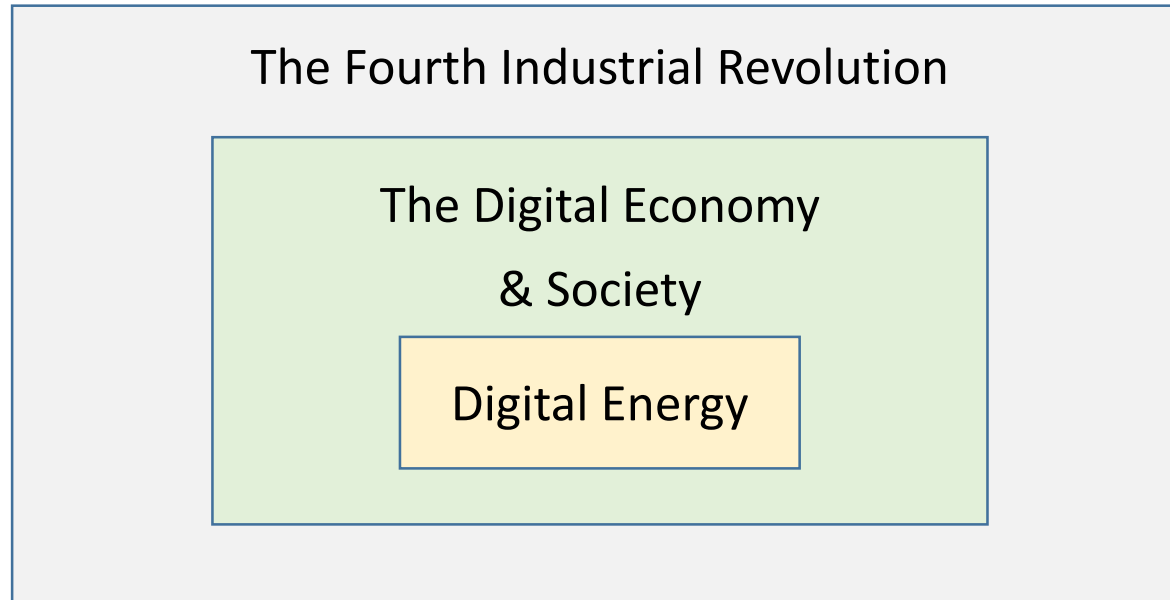
Research has also focused on the changing energy customer, their interests and desires and trends for how they are being served by utilities.

The role of the utility

Research in this area was mostly focused on evolving utility business models, ranging from Expanded Monopoly Services to Transformed Platform Operator, and Hybrid Models.



The Power of Digitization



Digital is a way of doing things, based on using **information and communications-based technologies** (ICT).

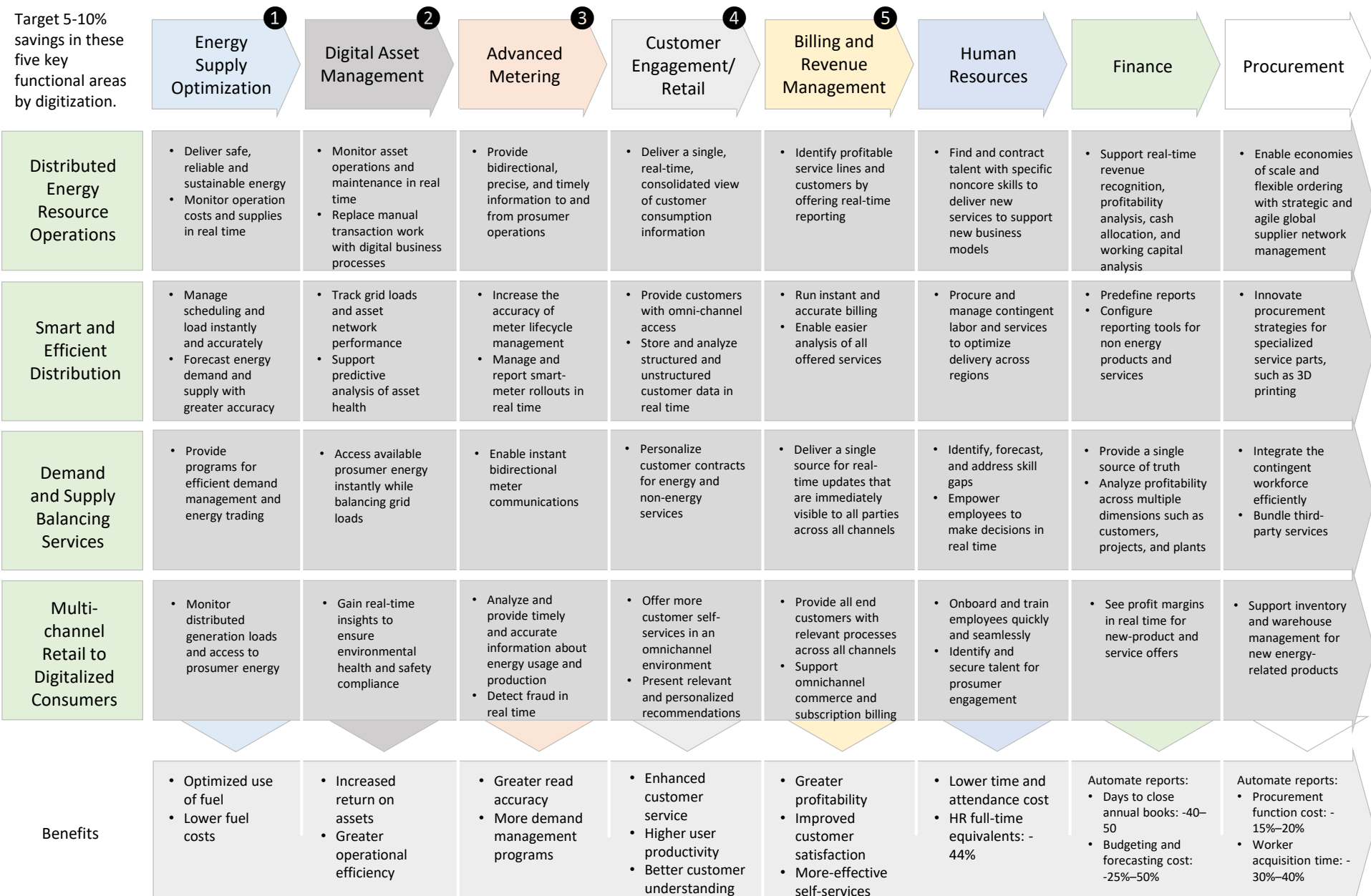
Digitization is the **act of applying ICT** tools to create connected computing systems and data (that we leverage for other things, like improving business processes).

Why bother with a digital strategy?

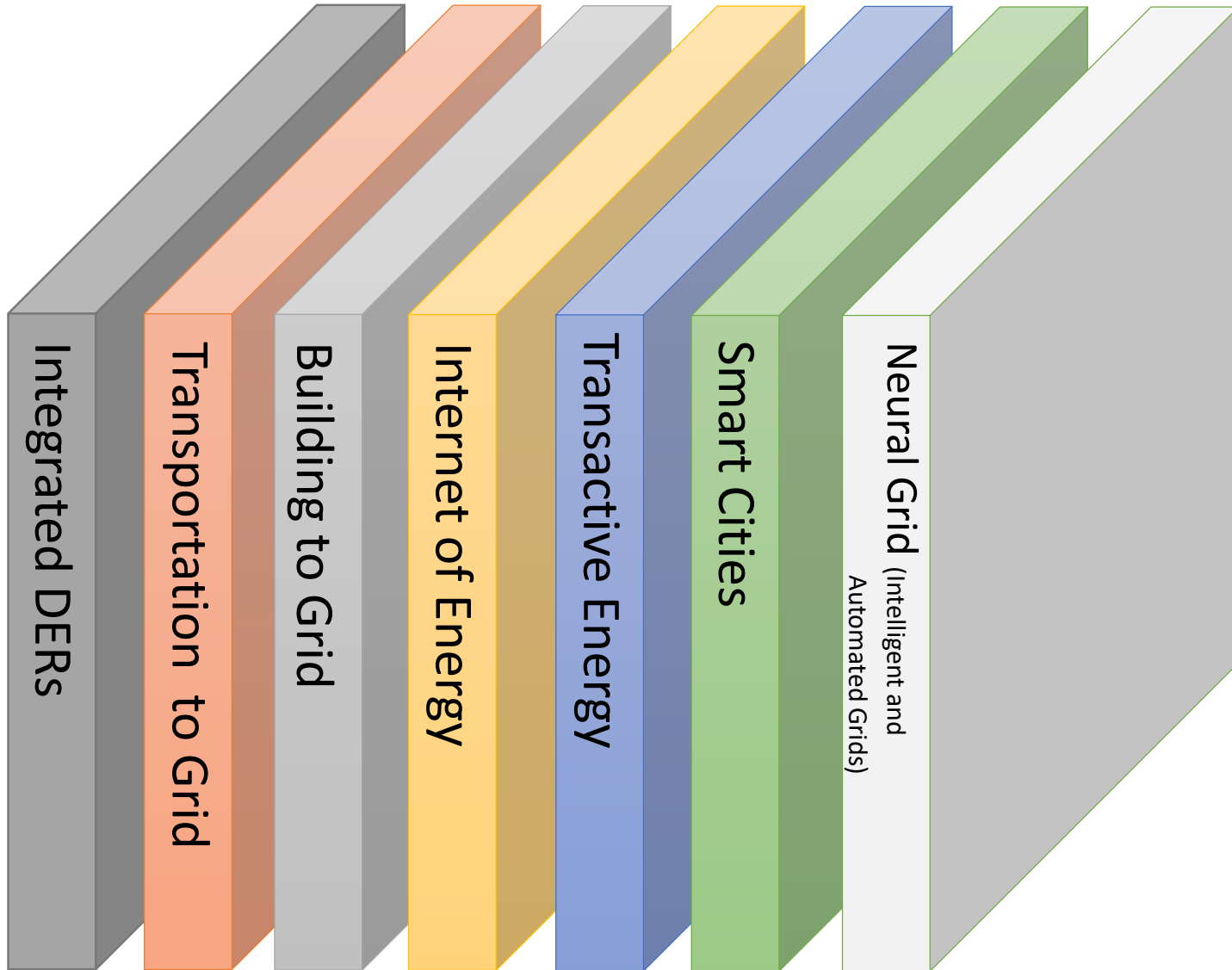


NB POWER – ROADMAP OF WHERE TO FOCUS DIGITIZATION EFFORTS

(Business Function by Business Process)



Unlock new value streams



Transformation imperatives

We must:

1. Address systemic changes to the corporation's financial situation based on lower cost of operations and increasing revenue.
2. Take advantage of the opportunity to deepen and expand our relationship with our customers for mutual benefit.
3. Increase our ability to respond to and leverage technological innovations, **including unlocking data held in silos**
4. Address the impact of new market players that are intermediating the utility.
5. The impact of Distributed Energy Resources (DERs) on NB Power's business model and on the operation of the grid.

The five corporate themes of change: 2019-2022

C1

Establish Long-term Financial Health

C2

Establish a two-way energy and information grid

C3

Transition to a Lower Carbon Economy

C4

Engage Customers, Partners and Stakeholders

C5

Innovate to improve the business and generate new value



Strategic initiatives in the transformation plan

1

Digitize the business to enable cost savings of 5-10% EBIT (and greater beyond three years)

2

Build and operate a digital energy platform to drive revenue generation in new value streams

3

Position NB Power as a leader in the energy ecosystem

4

Re-model our workforce to accommodate the need to better support a digital business and society

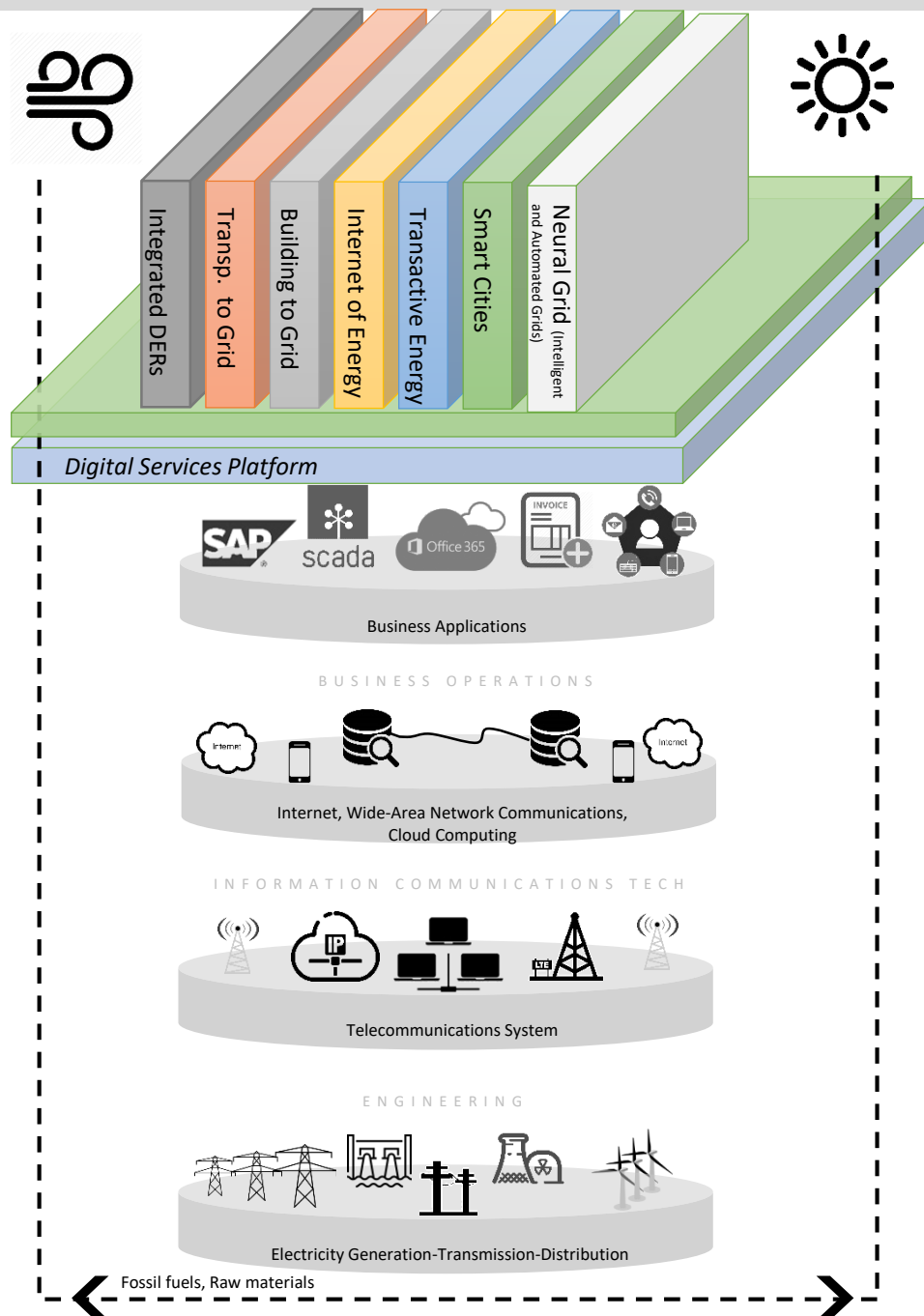


Digitize the business

- **Modernize the working environment.** Move to cloud/hybrid/on prem. Enable people to collaborate remotely, while mobile, with external stakeholders, ...
- **Build an innovation culture and capability through pilots**
 - Real time situational awareness
 - Augmented reality/virtual reality
 - Innovation challenge
 - Digital twins for plant operations
 - 3D printing/Blockchain/AR/VR
 - Community energy
- **Establish mindset: IT is a strategic asset, we are a digital company**
 - Integrate IT/OT across the business
 - Build understanding of the power of data
- **Expand core competencies in the areas of data and analytics**

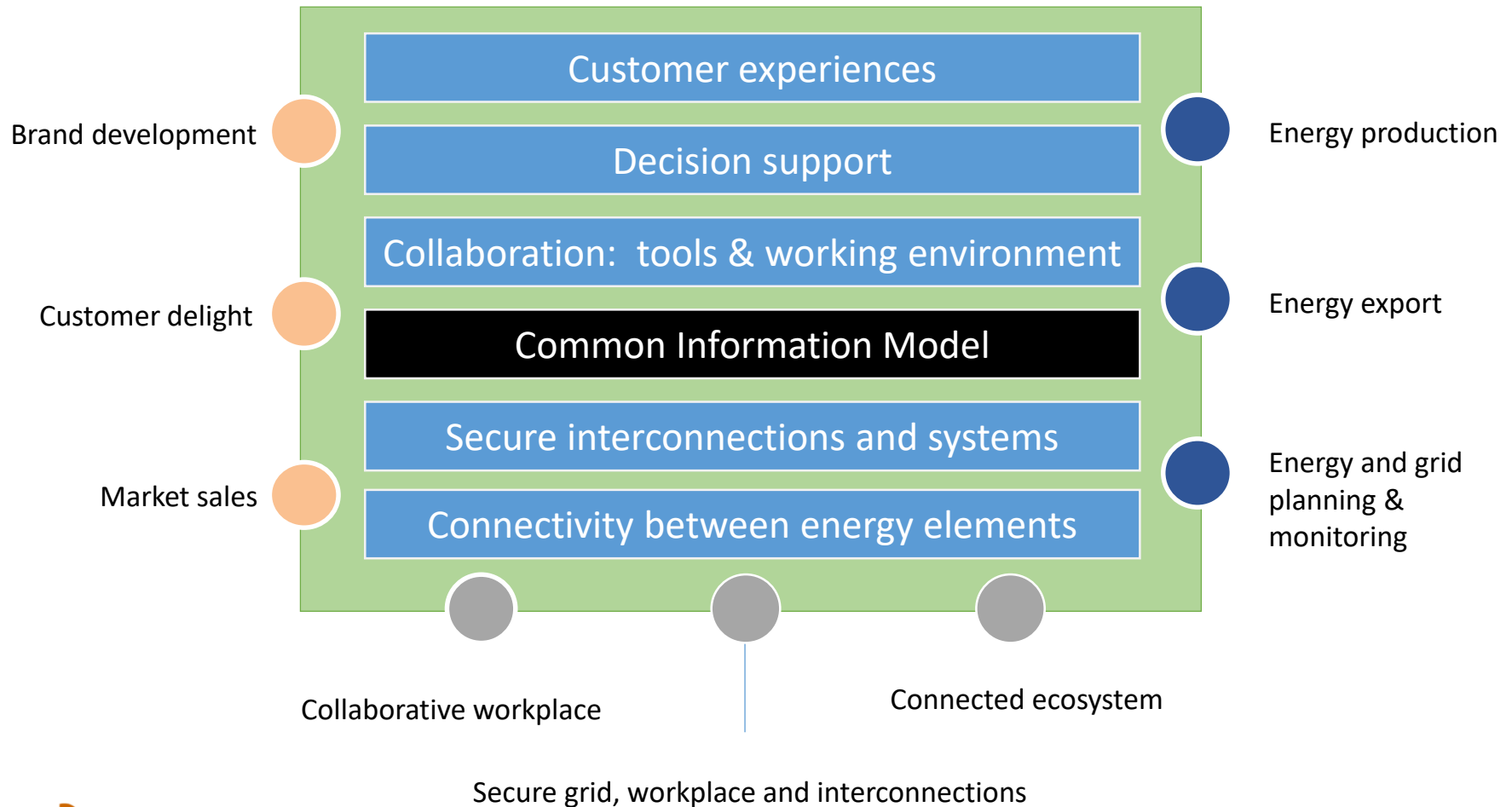


NB POWER'S DIGITAL ENERGY PLATFORM



Build and operate a digital energy platform

CONCEPTUAL VIEW – CORE DIGITAL ENERGY PLATFORM



A chance meeting...



CIM is a primary key for success

CIM is enabling us to...

1. Pursue a “digitize the business” strategy
2. Unlock the data currently in silos and integrate it
3. Better understand what our data means
4. Inform the enterprise plan for transformation
5. Achieve our bottom line “Save more money”, “Make more money”

**CIM and Xtensible are helping us to close the strategy gap
... and keep it that way**





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