

The Lake Winnipeg Basin Summit



iisd2010 **20th**
Better living for all—sustainably.


Water Innovation Centre

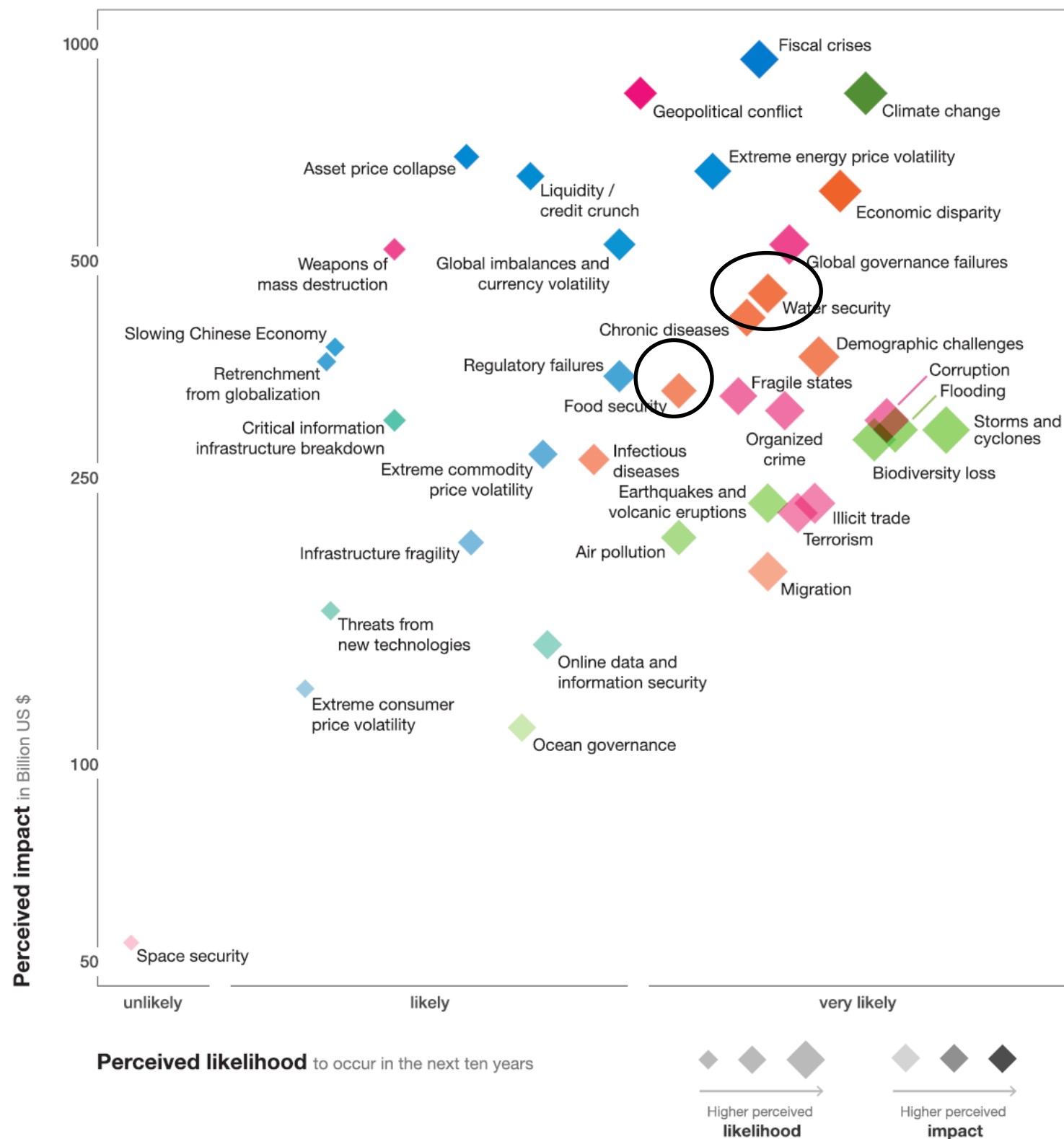
Global Risks 2011 Sixth Edition

An initiative of the Risk Response Network

World Economic Forum
in collaboration with:
Marsh & McLennan Companies
Swiss Reinsurance Company
Wharton Center for Risk Management,
University of Pennsylvania
Zurich Financial Services

World Economic Forum
January 2011

Figure 1 | Global Risks Landscape 2011:
Perception data from the World Economic Forum's Global Risks Survey



Figure

Slowing Chinese

Extreme consum
price volati

Extrem

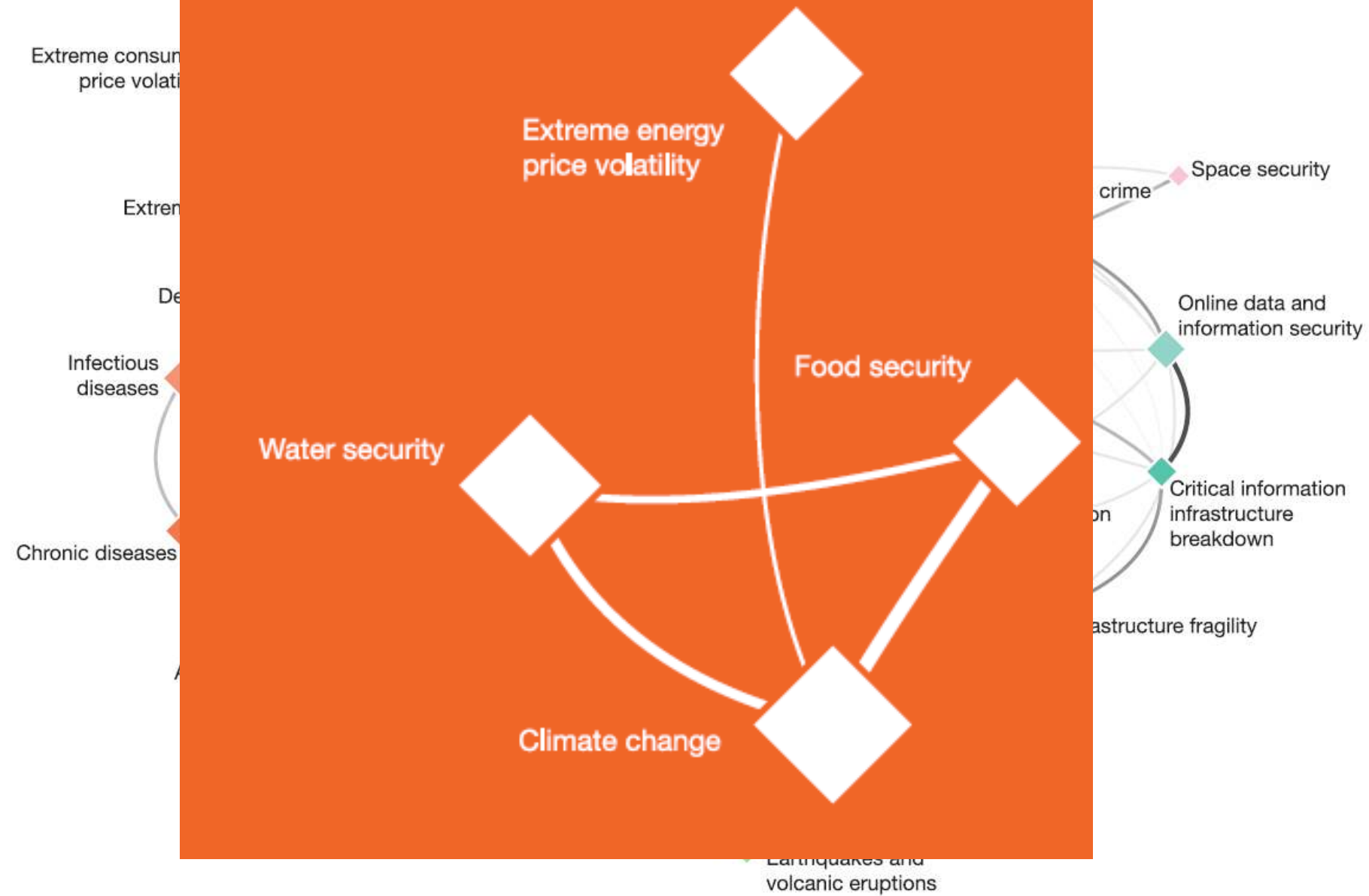
De

Infectious
diseases

Chronic diseases

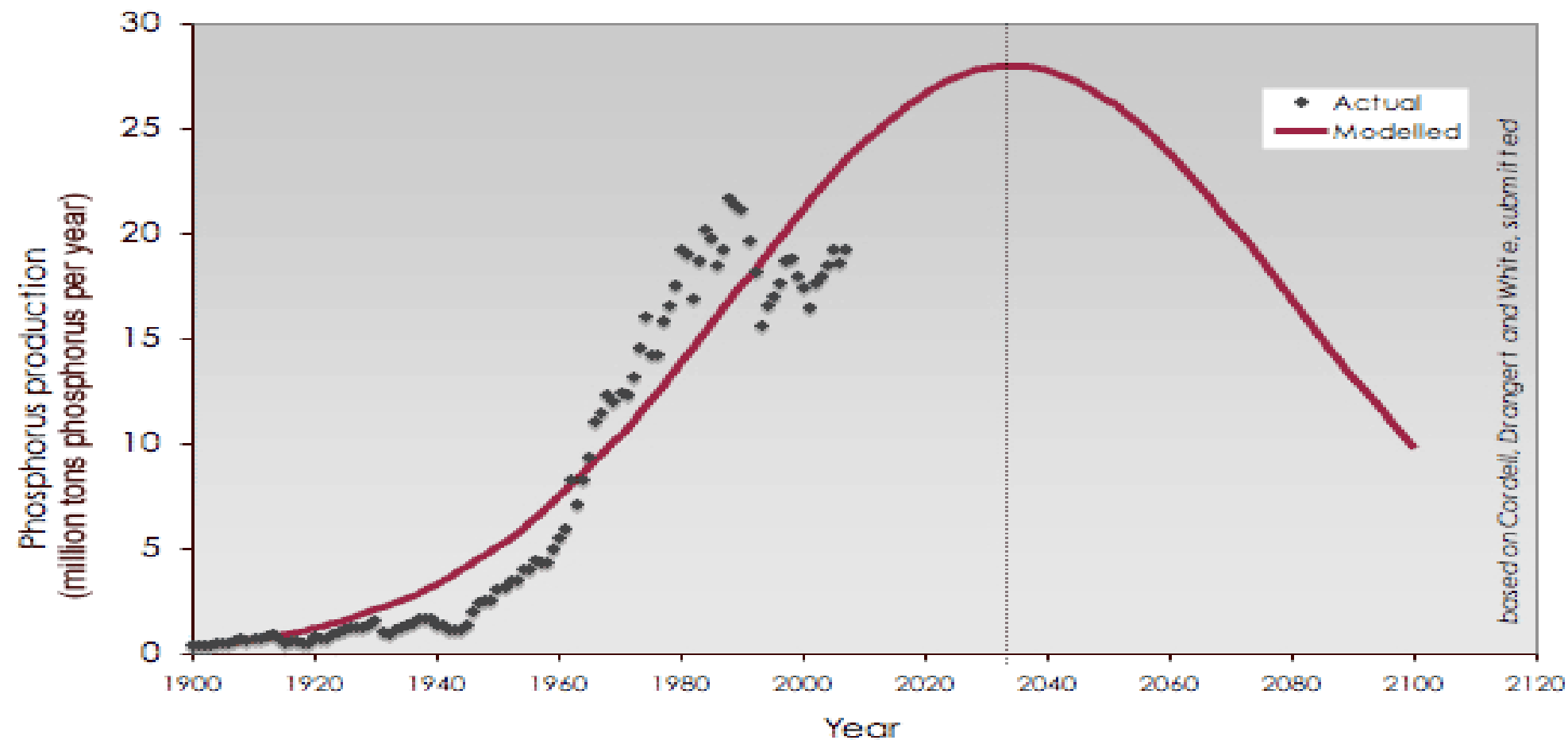
Risks in focus 3

The water-food-energy nexus



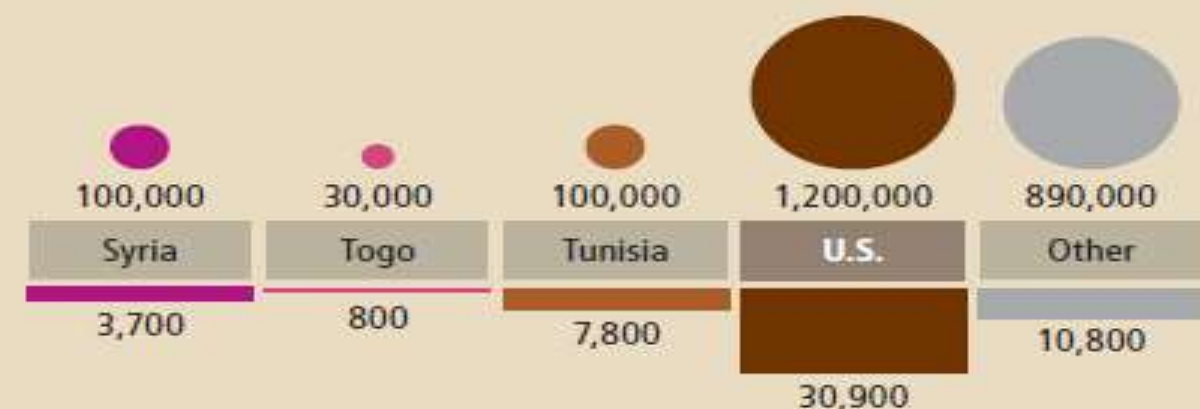
Peak Phosphorus and Food Security

Phosphorus production: When will it peak?



U.S. PRODUCTION IN DECLINE AS PRICE SOARS

Phosphate Rock Production (millions of metric tons)



\$40 B hostile takeover bid for Potash Corp – Agricultural Nutrients Strategic

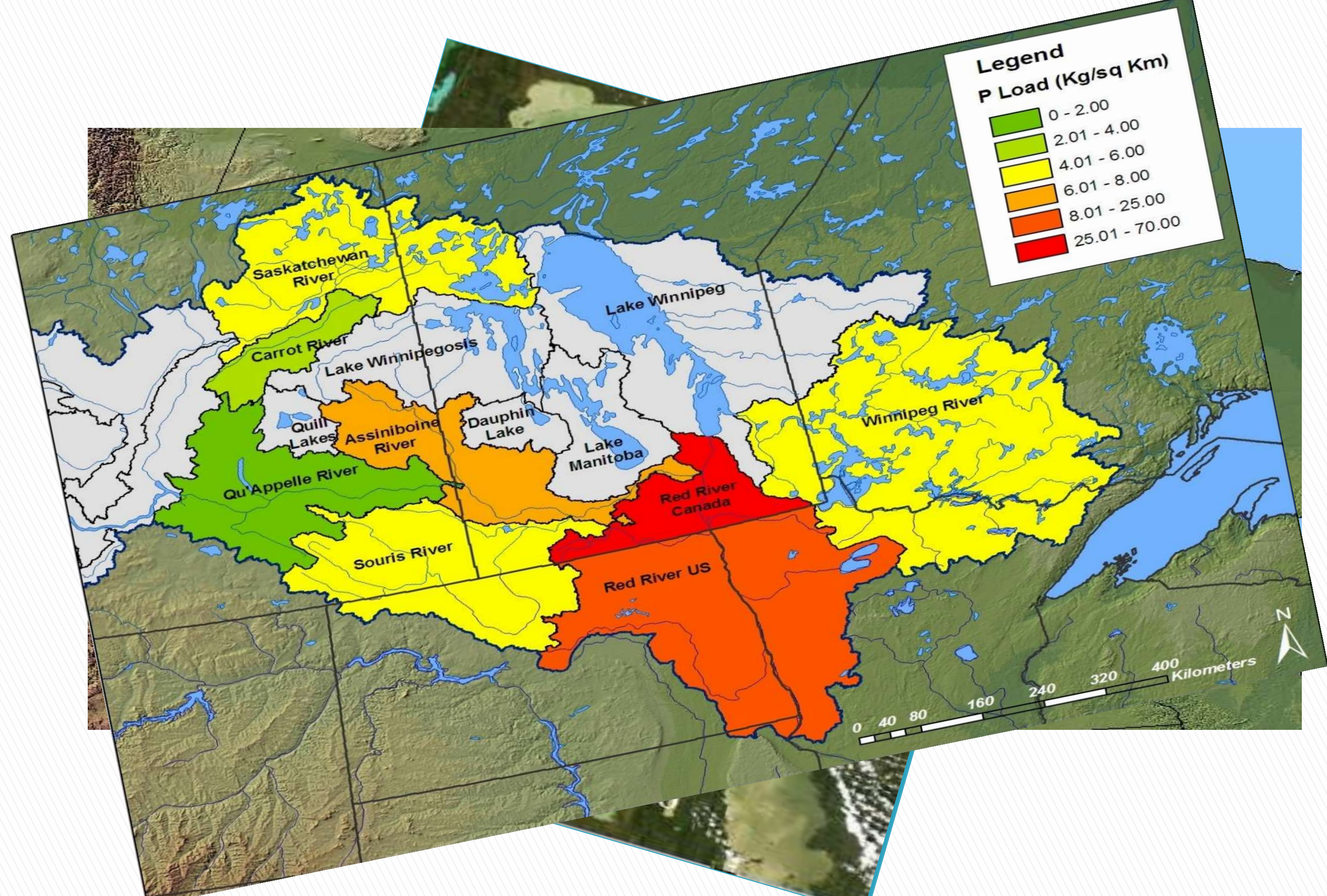


Our place in the industry – and in the world

PotashCorp is the world's largest fertilizer company by capacity, producing the three primary crop nutrients – potash (K), phosphate (P) and nitrogen (N). As the world's leading potash producer, we are responsible for nearly one quarter of global capacity.

With operations and business interests in seven countries, we are an international enterprise and a key player in meeting the growing challenge to feed the world.





STRATEGY – CHANGE THE NARRATIVE FROM CRISIS TO INNOVATION AND SUSTAINABLE DEVELOPMENT OPPORTUNITY

The Lake Winnipeg
Basin Summit

November 30 – December 1, 2010
Winnipeg, Manitoba



Our Lake, Our Solutions.



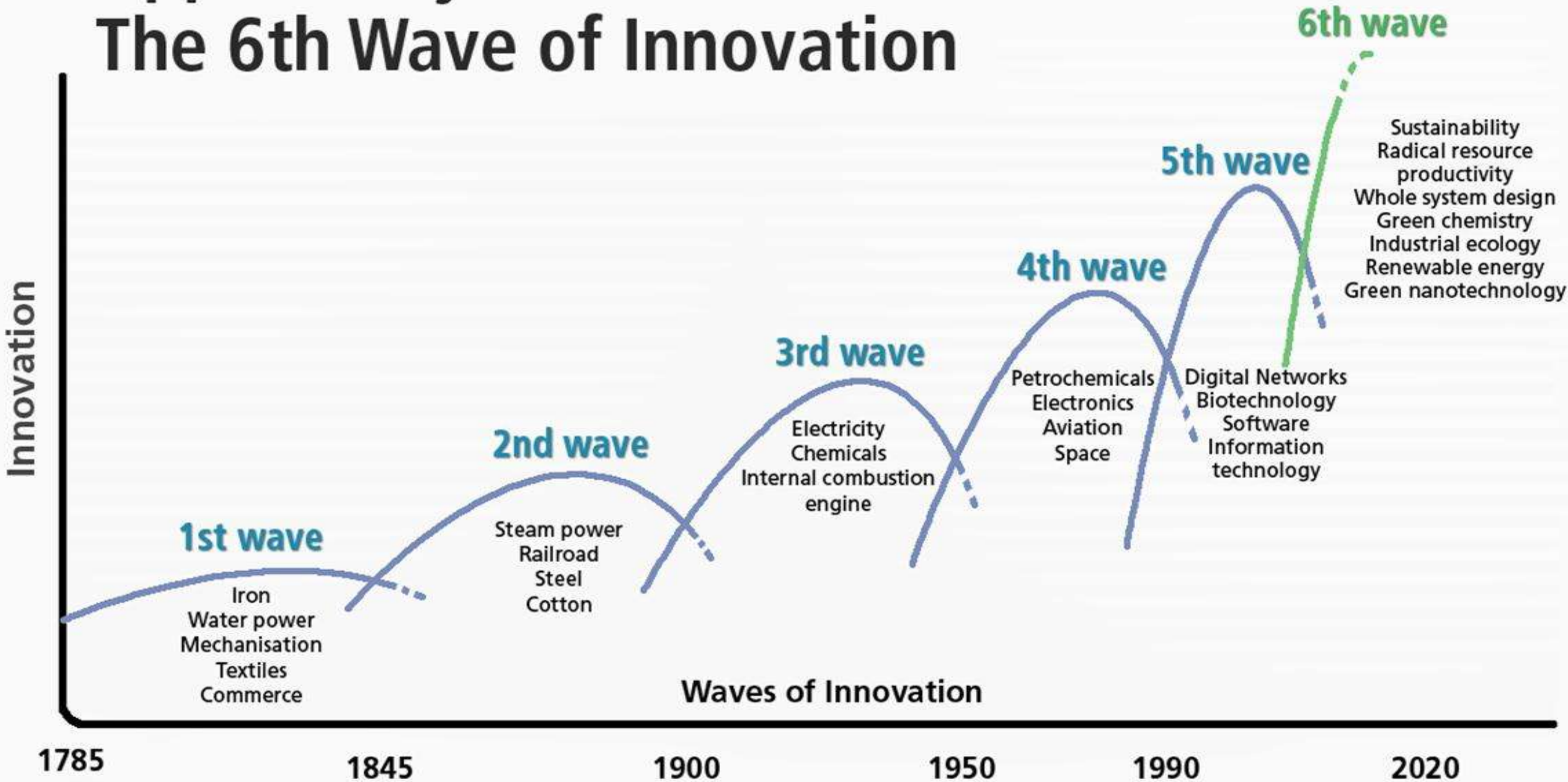
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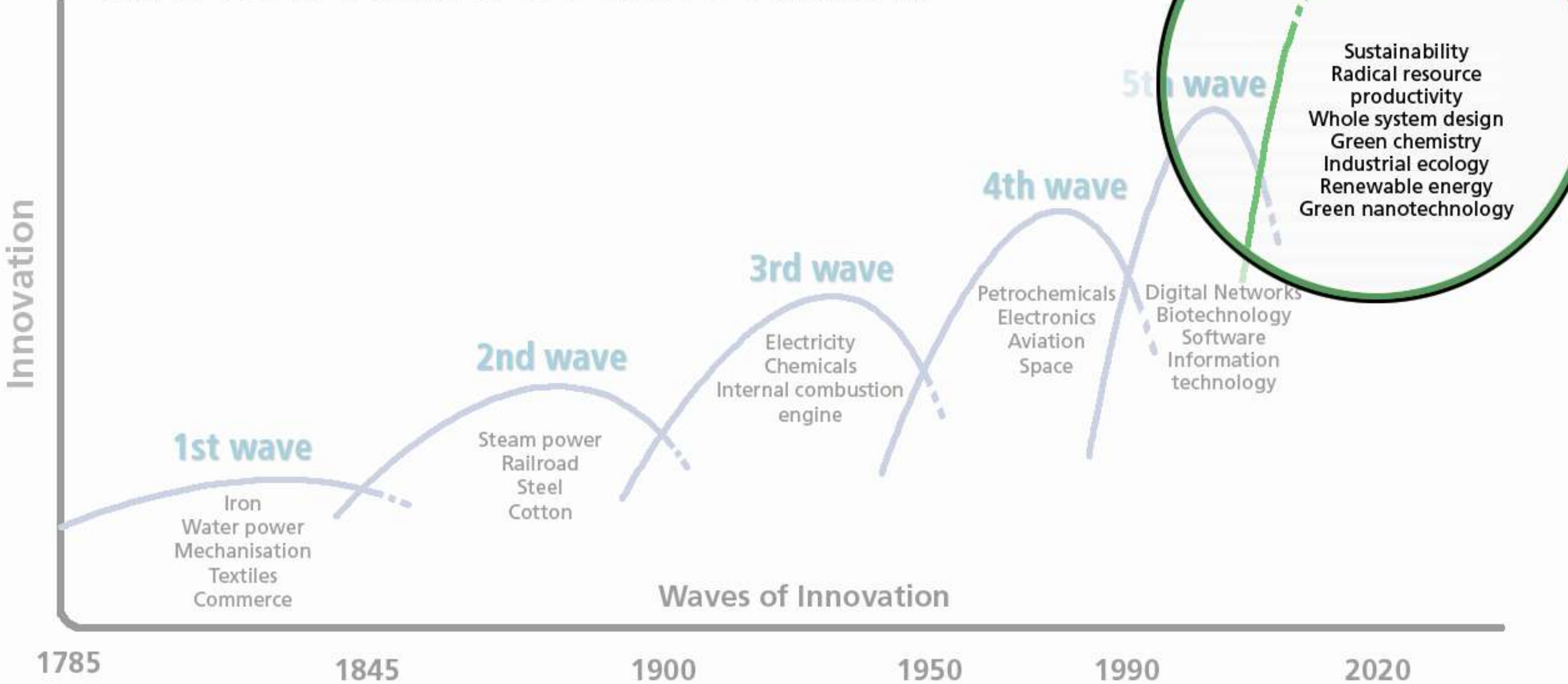
International
Institute for
Sustainable
Development

Institut
International du
développement
durable

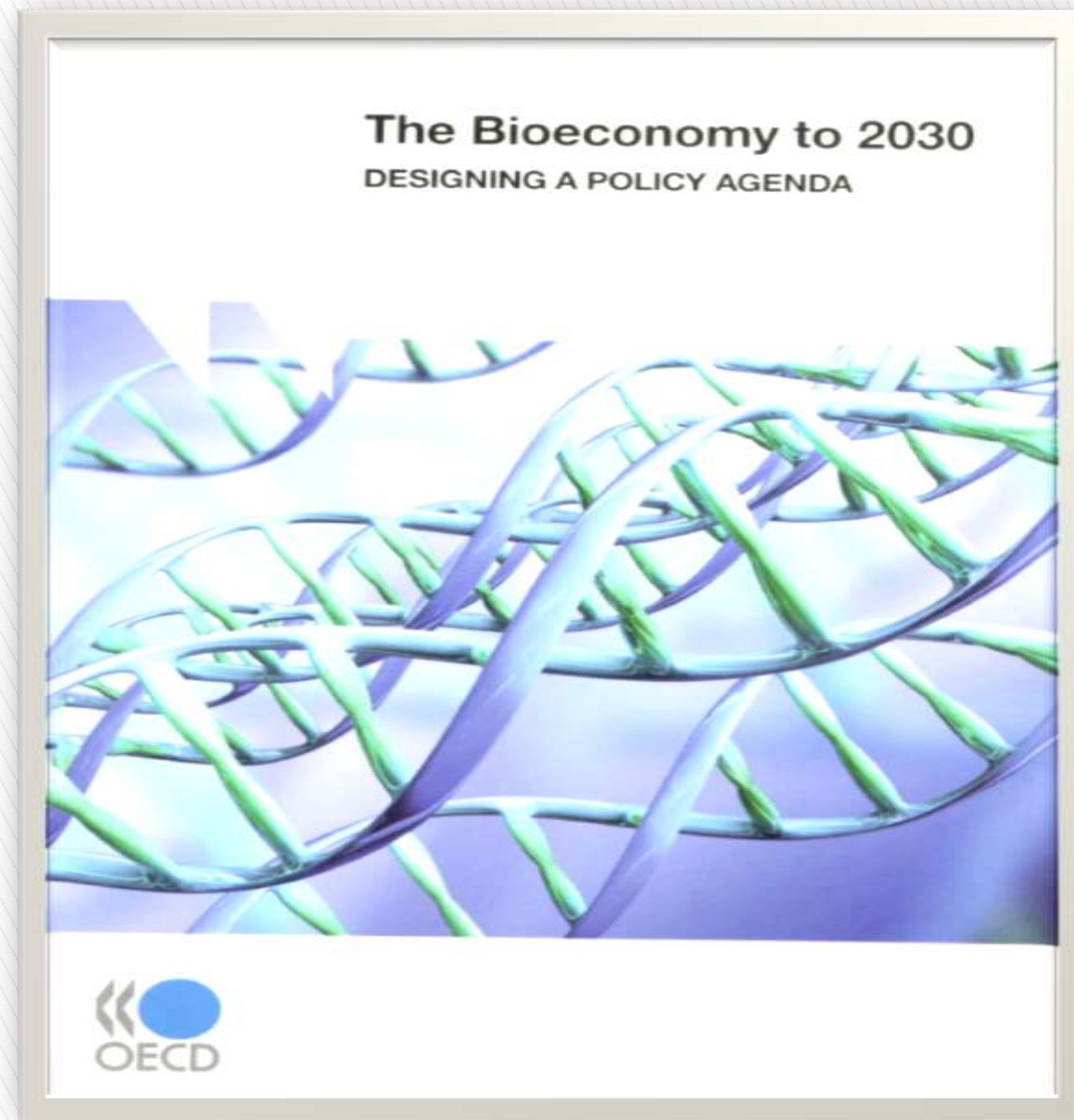
Opportunity: The 6th Wave of Innovation



Opportunity: The 6th Wave of Innovation



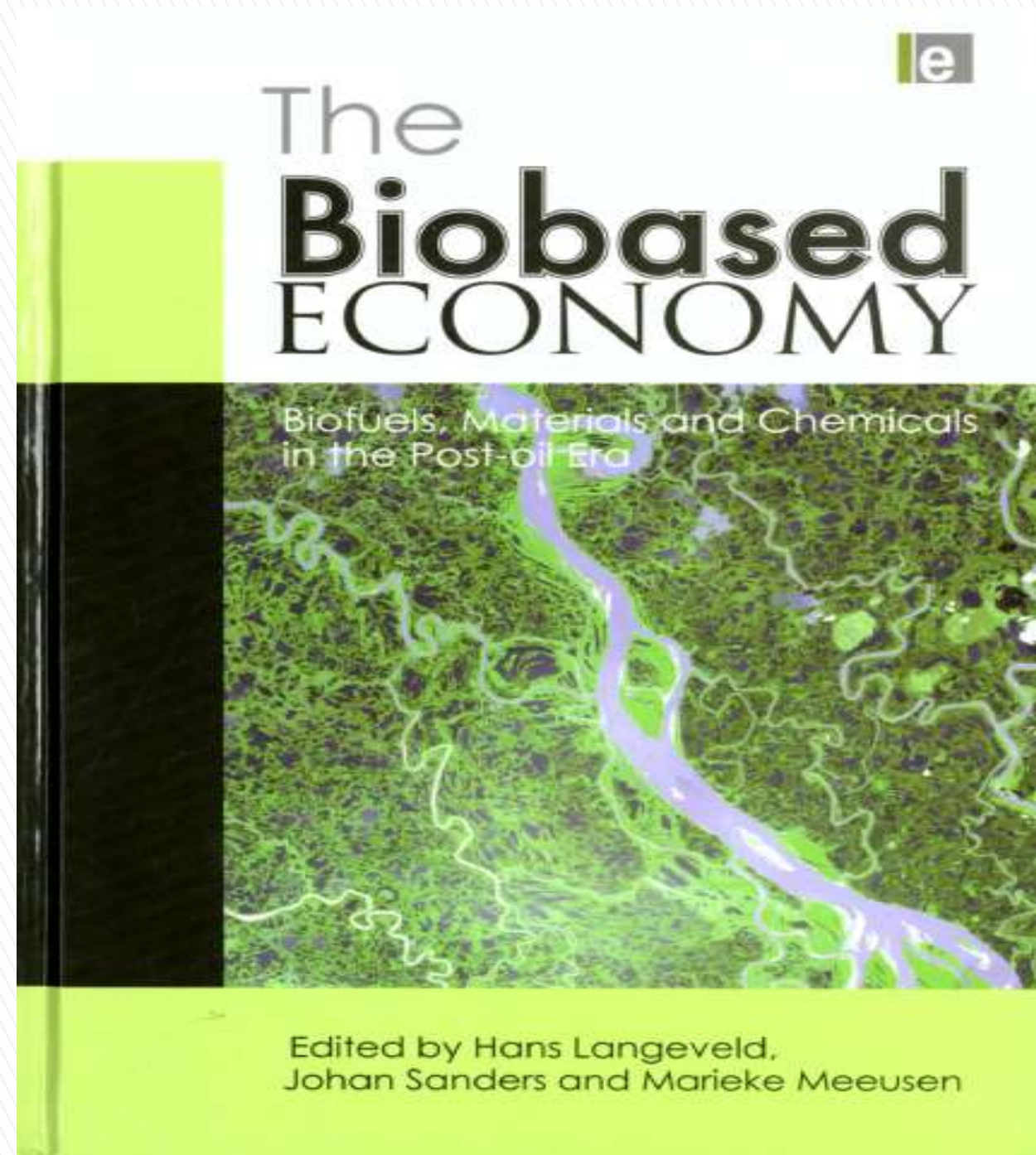
Bioeconomy: Strategy Needed



“... attentive and active support from governments and the public at large.

....need strategic thinking by governments and citizen support.”

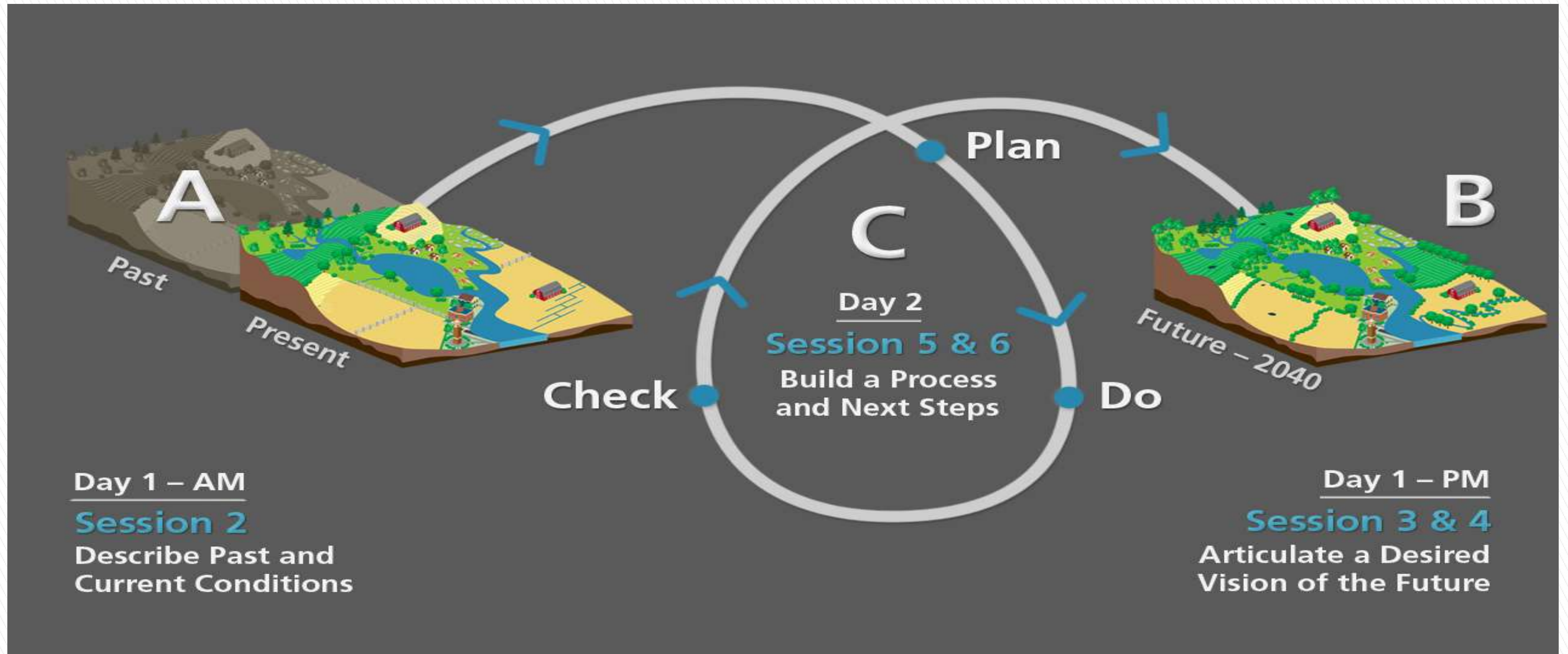
Bioeconomy: Strategy Needed



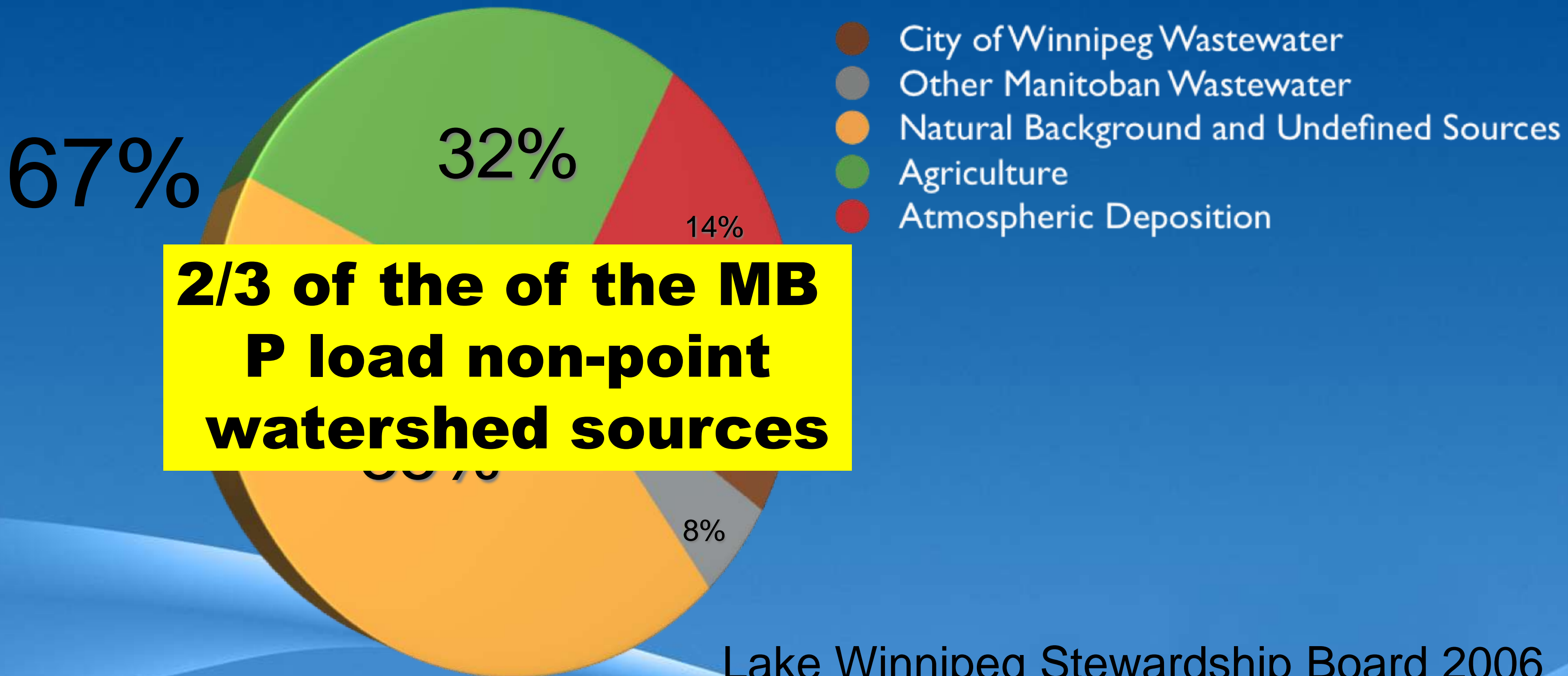
“... multiple problems interrelated in complex way requires a systematic approach....

....will require prospective scenario tools like backcasting.”

“How do we create and take advantage of opportunities for Manitoba’s economy while reducing nutrient loading within the Lake Winnipeg Basin?”



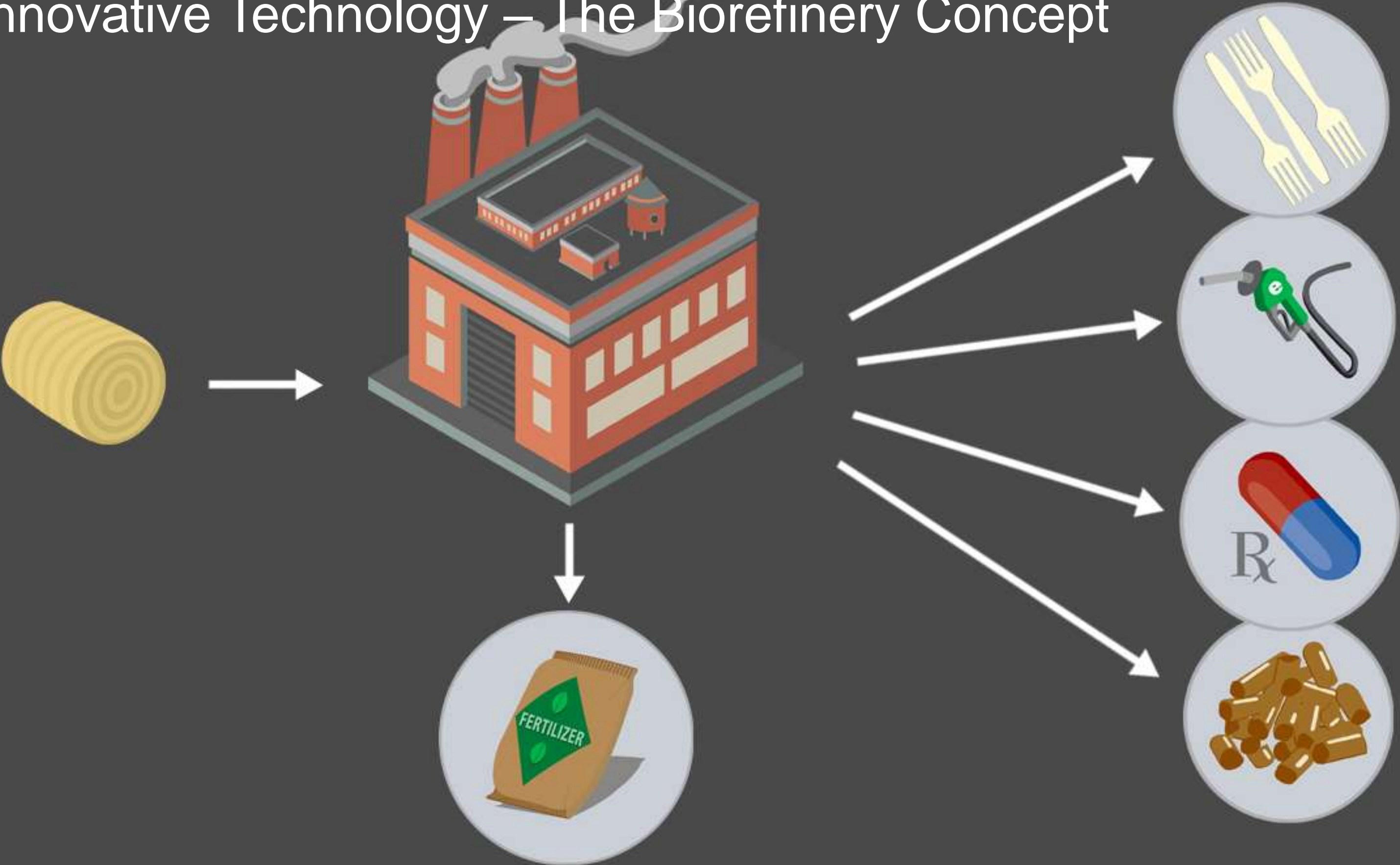
Phosphorous Sources from Manitoba

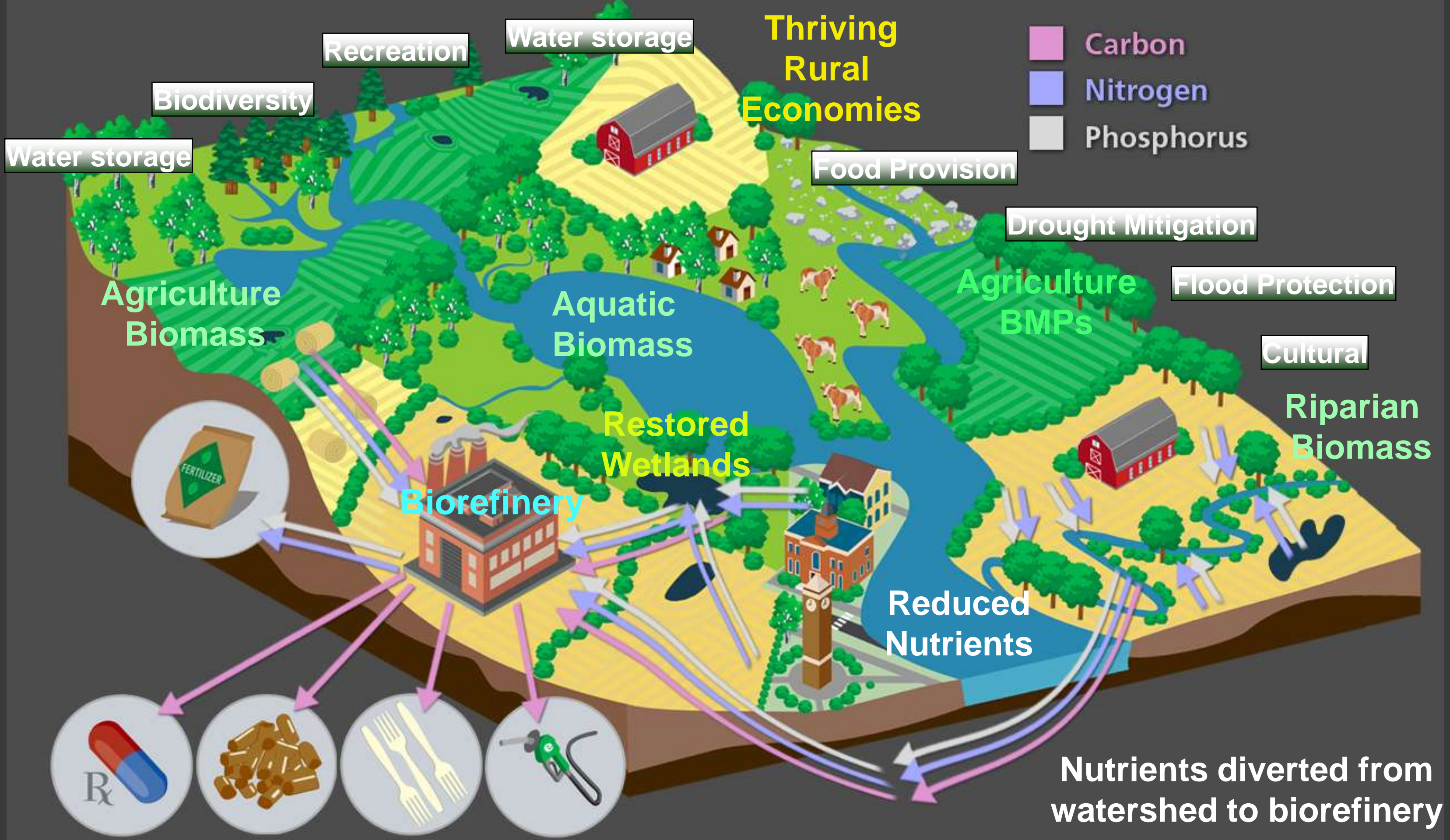


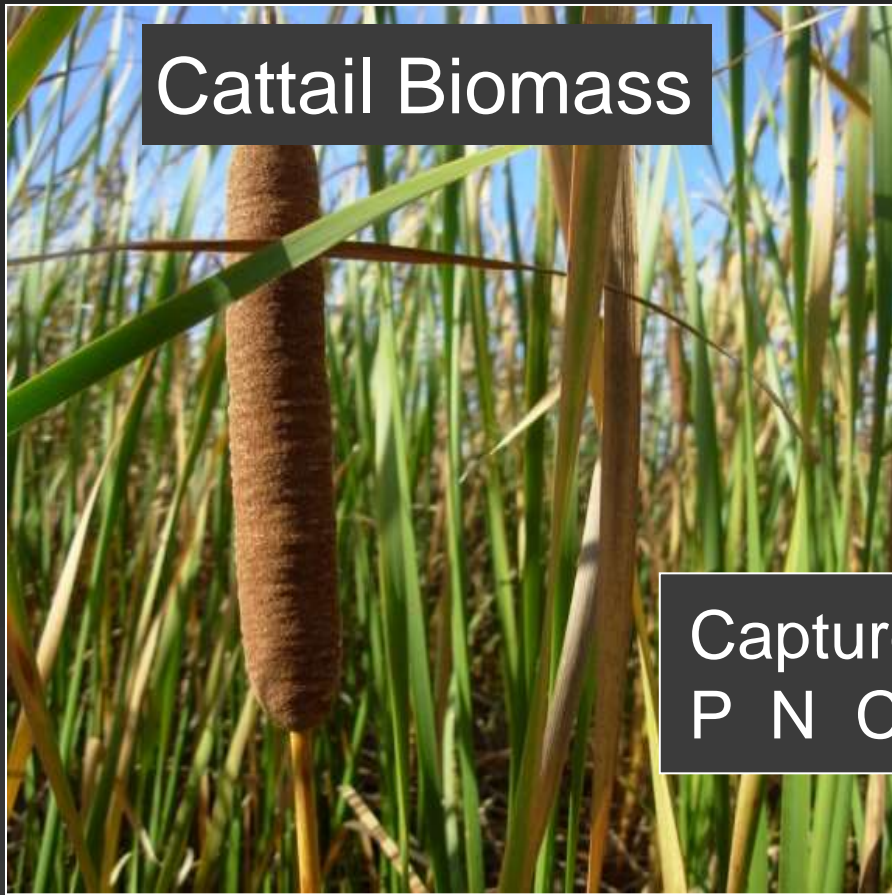
Watershed of the Future

- Systems approach
- Enabling Policies
- Strategic Investment
- Communications and Outreach
- Innovative Technology

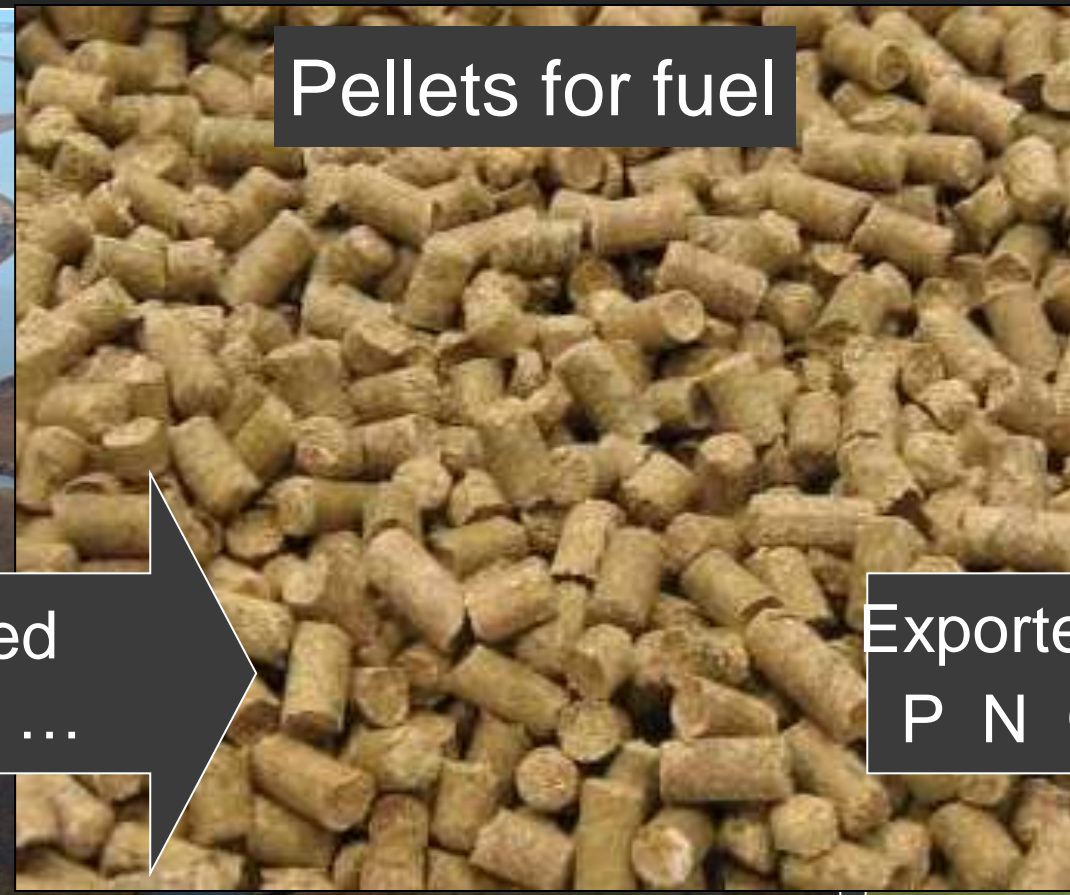
Innovative Technology – The Biorefinery Concept



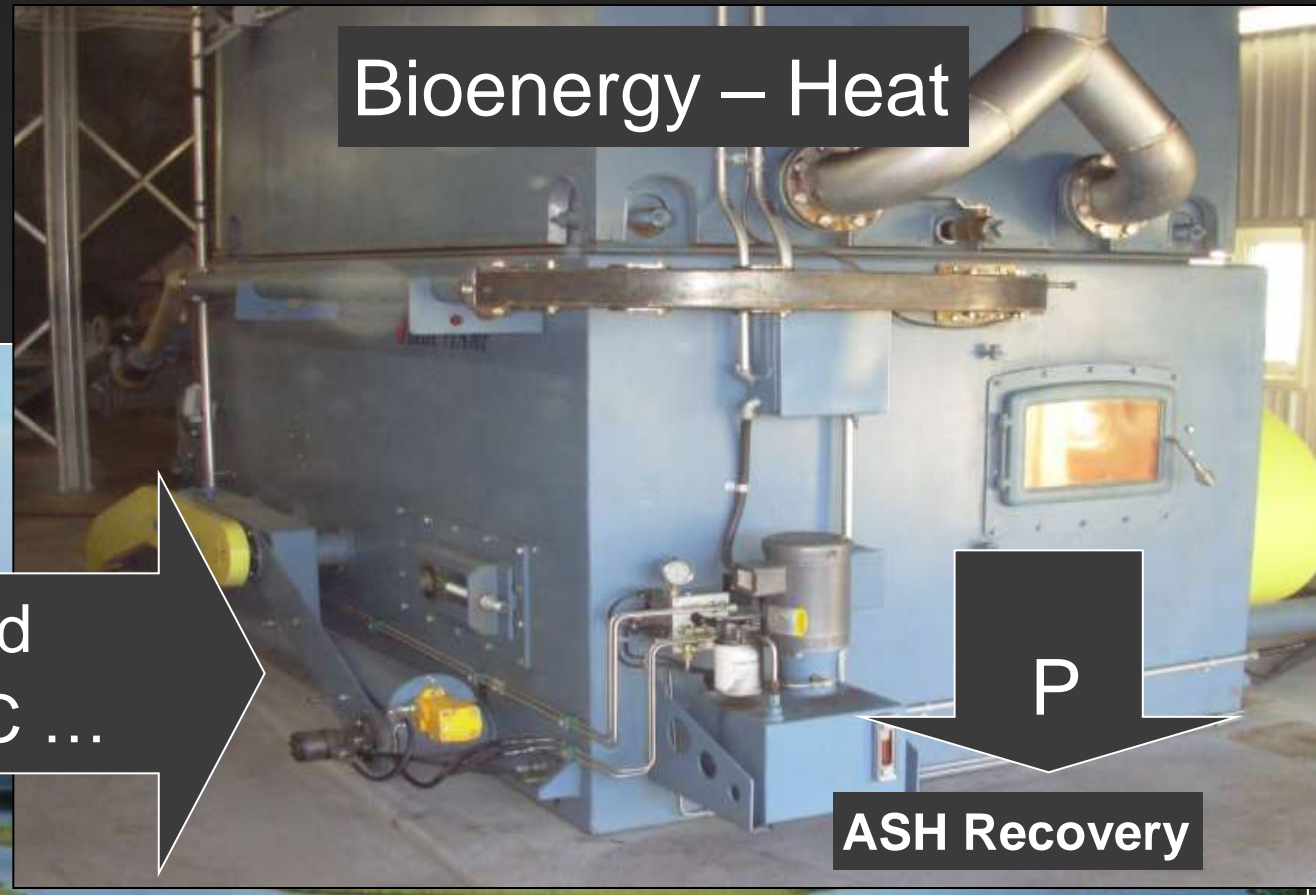




Cattail Biomass



Pellets for fuel



Bioenergy – Heat

Captured
P N C ...

Exported
P N C ...

P
ASH Recovery



Innovative Technology – Netley-Libau Nutrient-Bioenergy Project

Phosphorous Application and Removal

Tonnes

100,000

50,000

0

Added

Removed



Added



Crop Removal



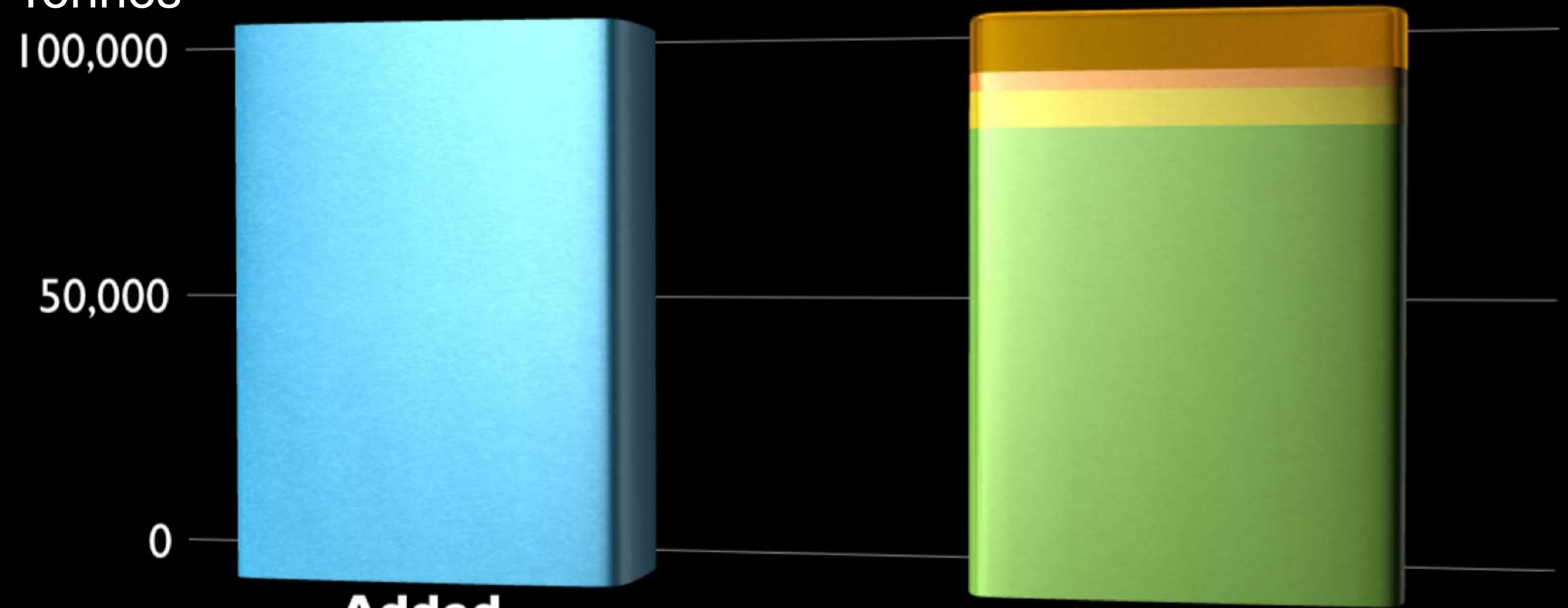
Residue Removal



BMP Removal



Wetland Removal



Bioeconomy Revenue

\$B

40

30

20

10

0

■ **Base Case**
■ **Best Case**

Low Value

Mid Value

High Value



Feedback: Vision Statements



The Lake Winnipeg Bioeconomy Project

Three Goals

- *Environmental - Lake Winnipeg; watershed-based EGS*
- *Economic - cleantech R&D cluster in Manitoba*
- *Social – rural economic development bioeconomy value chains*

Pillar 1 Strategy

- **Vision**
- **Geographic and Economic Analysis**
- **Planning Priorities**
- **Timelines**

Pillar 2 Innovation

- **Pilot Projects**
 - **Netley**
- **R&D priorities - biorefinery**
- **Investment**
- **Partnerships**
 - **Producer**
 - **Provincial**
 - **Federal**
 - **Municipal**
 - **University**

Pillar 3 Communication

- **Community**
- **Public**
- **Government**
- **Conventional Media**
- **Social Media**

Pillar 4 Policy Development

- **Planning**
- **Regulation**
- **Research and Development**
- **Innovation**
- **Investment**

Concluding Points

- “Monitoring Water Resources” highlights regulatory governance gaps.
- Canadian Water Summit and the Lake Winnipeg Bioeconomy Project reveal the massive technological and economic development opportunity.
- Bottom-up solutions and opportunity narrative reinforces the urgency of water governance

OUTCOMES AND PROGRESS

Watershed of the Future / EGS co-benefits / Bioeconomy /
Innovation / Sust
communicated a

Provincial announce
linking nutrient r
production

High satisfaction f
de facto leadership

Strategic Plan: “The Lake Winnipeg Bioeconomy Project” with
sustainable development mission under development

**Very Strong Overlap
with
MRAC mission:**

**“Positioning
Agriculture to
Provide Solutions”
“SEE”**

SD proposal
offset

prospects
agement

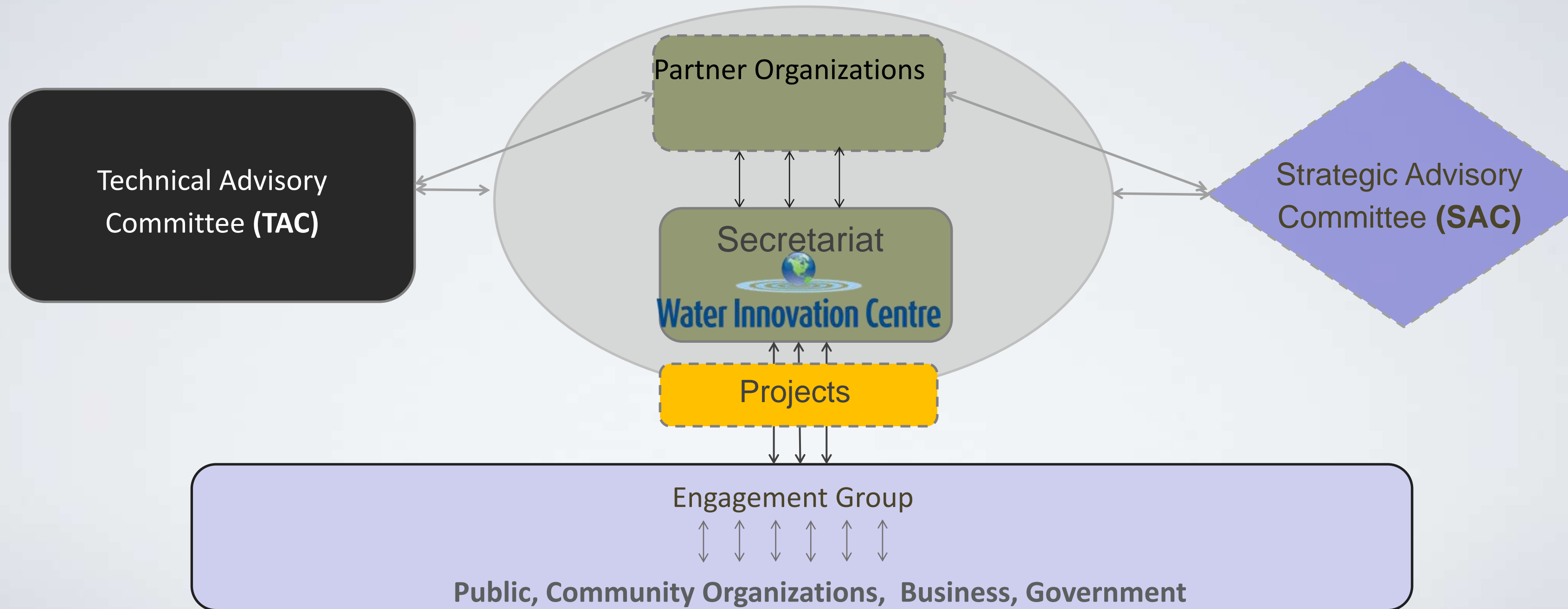
Key Initiative:

The Lake Winnipeg Bioeconomy Project: Three Measures of Success

- **Environmental** - Improving the health of Lake Winnipeg by reducing nutrient loading; watershed-based EGS
- **Economic** - Creating a cleantech R&D cluster in Manitoba focussed on water and agricultural biotechnology consistent with Lake Winnipeg nutrient management objectives,
- **Social** - increased community economic development in rural Manitoba as new agricultural and bioeconomy value chains are developed.



The Lake Winnipeg Sustainable Development Plan: Governance Model





Water Innovation Centre Partnerships



The Lake Winnipeg Basin Summit



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