



Investing in ideas

CCEMC – an Alberta-based, independent, not-for-profit organization focused on discovery, development and deployment of clean technology



Overview

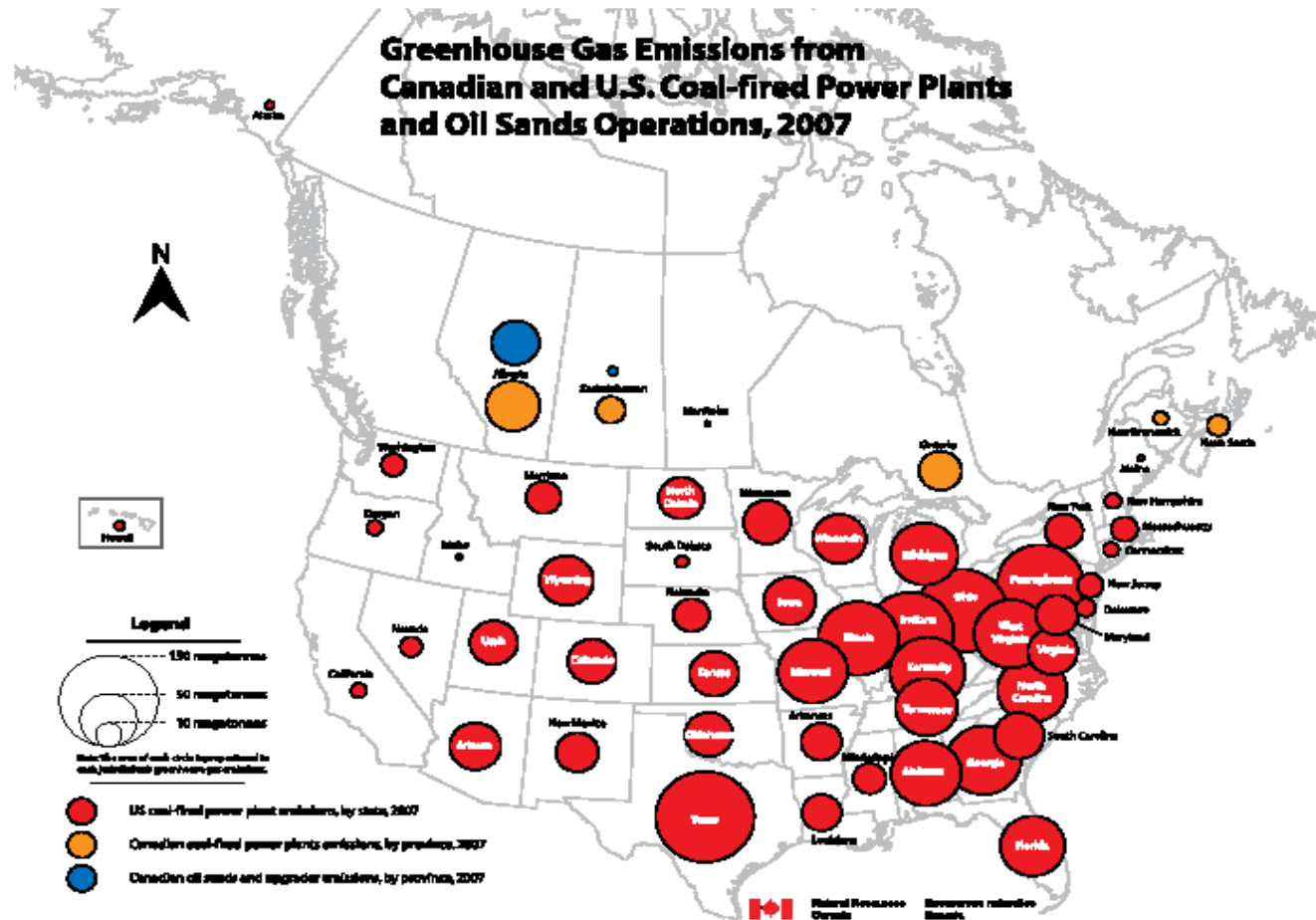
- NA Context
- Public policy foundation and alignment
- CCEMC – business model
- Value of technology funds
- Discussion



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We share a common challenge





Convergence Points

A common interest

- Clean energy dialogue
 - Clean energy research and development
 - Clean energy deployment (CCS)
 - Electricity grid development
- Support the economy while addressing the climate change challenge. Position both countries as global leaders on clean energy and climate change
 - Greater innovation
 - More, not fewer jobs
 - Greater self sufficiency
- Integrated energy and climate strategies needed



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Policy Linkages/Alignment

Canadian Government policy direction

- Signatory to Copenhagen
- Responsible development of Canada's energy resources
- Intend to become a clean energy super power
- Intend to be a leader in green job creation
- Lead the world in clean electricity generation
- Continue to invest in clean energy technologies

Alberta Government policy direction

- Speech from the Throne
 - Alberta intends to be a leader in clean energy production and a global energy provider
 - Secure access to the growing clean energy market
 - Responsible resource developer
- Host of policy initiatives such as the Energy Strategy, Climate Change Strategy – to support this direction



A climate for change

Alberta Context

- Strong fossil fuel-based economy
- New manufacturing/industrial base
- Emissions intensity improving
- Absolute emissions growing
- A compelling need for transformative change

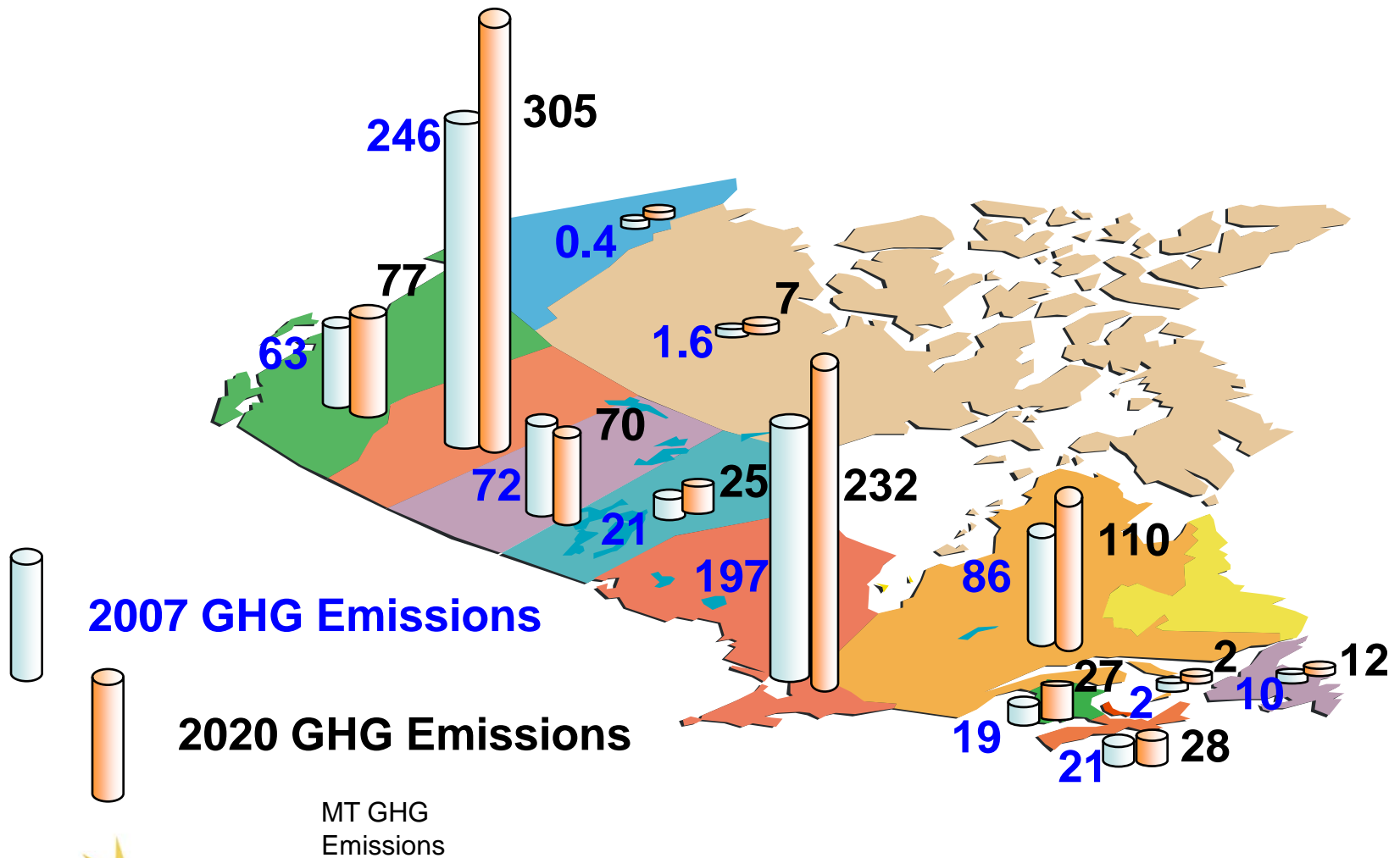
Alberta's Climate Change Strategy emerges



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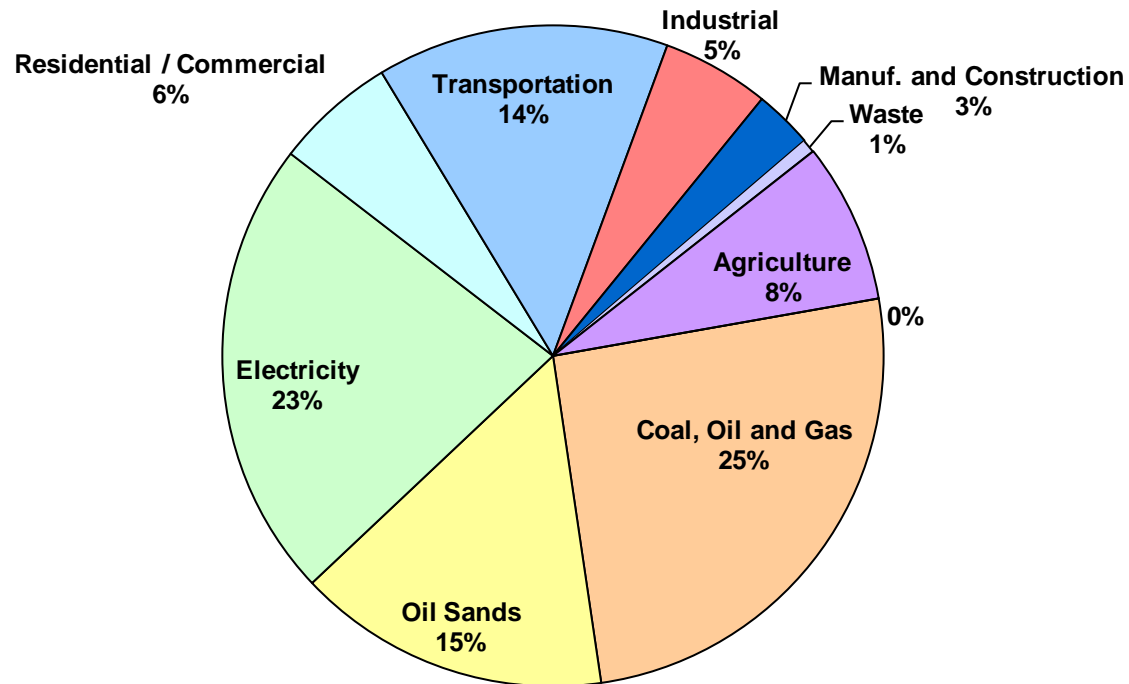
A climate for change



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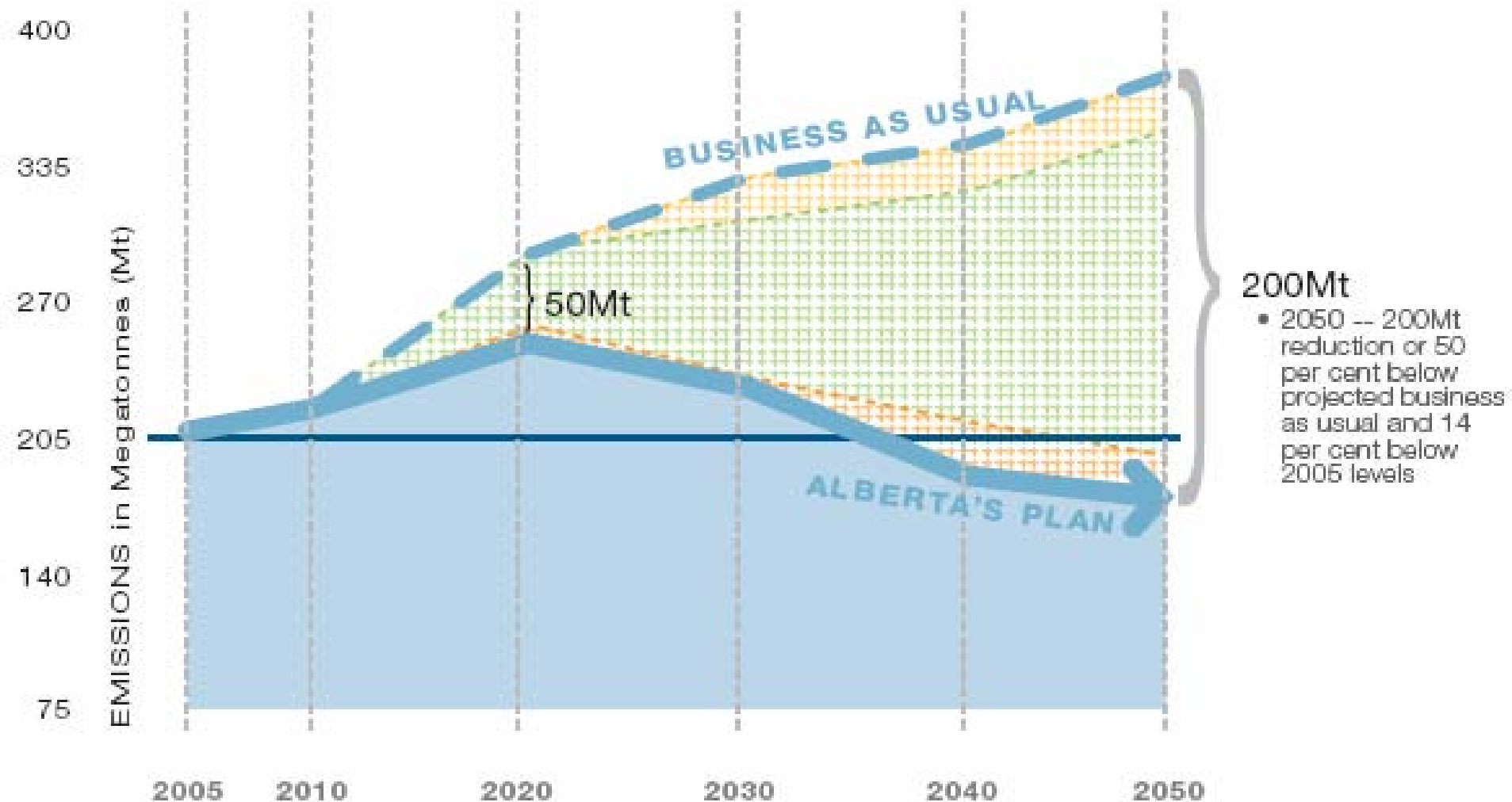
Alberta 2006 GHG Emissions



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ALBERTA'S REDUCTION COMMITMENTS



CONSERVATION & ENERGY EFFICIENCY	24Mt
CARBON CAPTURE & STORAGE	139Mt
GREENING ENERGY PRODUCTION	37Mt

TOTAL = 200Mt



Alberta's Approach

- Integrate energy security, environmental sustainability and economic growth.
 - Set stretch targets and adjust policies as we learn
- Provide policy certainty for industry
 - Large investments being made – too expensive to retrofit
- New technology will be a big part of the long-term solution.
- Market instruments are needed to bridge short term gaps
- Consumers must be part of the solution
- We need energy system shifts – requires strategic and focused investment in transformational change



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Complementary Measures

Comprehensive approach being implemented

- Regulatory – Act, regulations, policy
- CCS - \$2B, based on emissions profile and geology
- Renewable – Renewable fuel standard, bioenergy strategy (239M)
- Consumers - \$2B – public transit, incentives for energy efficiency, building codes, Climate Change Central
- Research/Think tanks – Canada School of Energy and Environment, Carbon Management Canada
- Technology fund – CCEMC



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CCEM Fund Policy Drivers

- Technology investment is key to support transformative change
- Keep compliance money where change is most needed
 - Electricity and oil sands need to start advancing CCS
 - Other sectors need to find their path to transformative technologies
- Provide a measure of price certainty
 - Allows companies to focus on reducing emissions
- Act as a regulatory safety valve
 - Avoids the distraction of worrying about being out of compliance.



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CCEMC - Policy and Mandate

CCEMC - a tool to advance clean technologies

Government of Alberta Policy Evolution

- Climate Change Strategy (02/08)
- Climate Change and Emissions Management Act (03)
- **Climate Change and Emissions Management Fund**
- Specified Gas Emitters Regulation (07)
- Climate Change Emissions Management Regulation (09)

CCEMC Mandate - to establish or participate in funding for initiatives and other measures related to actual and sustainable reductions in greenhouse gas emissions and improve the ability to adapt to climate change



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The Business Model

CCEMC – an Alberta-based, independent, not-for-profit organization focused on discovery, development and deployment of clean technology

- Aligned with public policy
- Sustainable
- Transparent and accountable
- Business and technical acumen
- Disciplined third party review process
- Best projects selected
- Focus on performance



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Funds

Government collects funds from regulated emitters

- Large regulated emitters must meet performance targets
 - Three options to comply – achieve target, offset or pay
- Funds pooled in a dedicated Climate Change and Emissions Management Fund
- Made available to CCEMC through an annual grant agreement



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Technology holds the promise

A broad focus on clean technology allows the CCEMC to accelerate commercial applications of new ideas

- Leverage additional \$\$ from industry and others
- Leverage applications - demonstration and commercialization
- Promote industry partnerships

- Accelerates achievement of targets
- Promotes economic growth
- Generates new jobs
- Enhances competitiveness



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Project Funding

Millions available for projects each year that lead to actual and sustainable reductions in emissions.

Areas of focus:

- Greening energy production (49% of funds)
- Conserving and using energy efficiently (19%)
- Carbon capture and storage (29%)
- Adaptation and knowledge (3%)

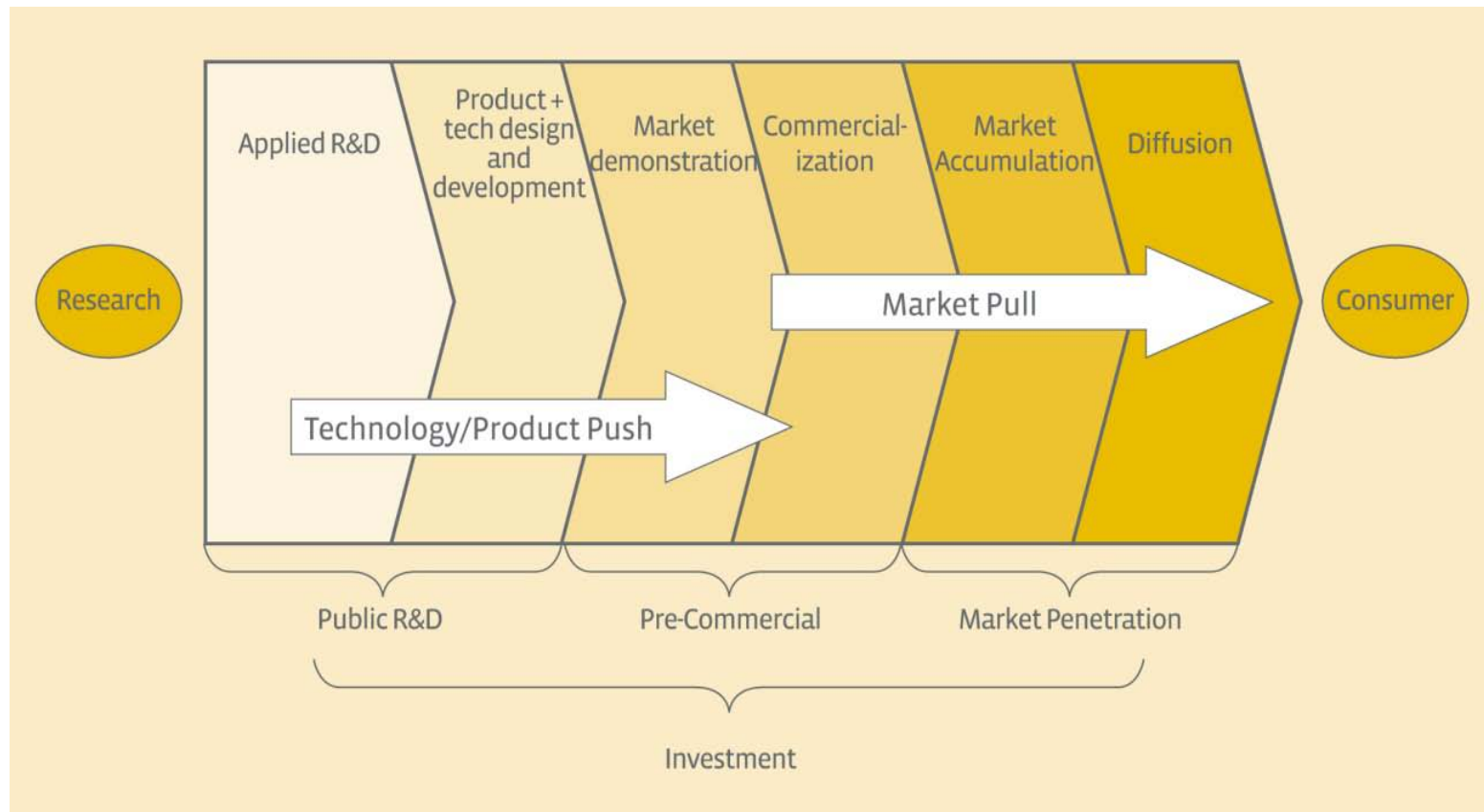
Manage as a portfolio



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Innovation Chain



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Governance

Guided by diverse, experienced leaders on the Board

- 15 Board members
- Broad cross section of leaders
- Strong technical and business oversight
- Management team – skilled set of service providers
- Virtual organization
- Objective third party adjudication



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A constant cycle of innovation

Current status

- First Expression of Interest closed Sept. 30, 2009
- 223 respondents - \$1.6B in ask
- 30 Short-listed and notified Nov. 15, 2009
- 26 Full proposals received Feb. 26, 2010
- Board decision expected May, 2010
- Next year – new funds made available
- Balance portfolio and issue new EOI



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Current status

Fund

- 1.5 years compliance - \$123 M
- Offsets, emissions credits and funding all active as compliance options
- Performance triggers – could affect revenue
 - Participation threshold
 - Performance target
 - Price



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CCEMC Value Proposition

What makes CCEMC different

- Regulatory – mandatory requirements
- Dedicated and sustainable resources - segregated
- Performance accountability – those that emit are accountable
- Jurisdictionally adaptable – can be applied elsewhere
- Certainty – compliance and cost
- Technology mobility
- Objective, expert review
- Performance measurement

Ultimately the CCEMC will be judged on the delivery of emissions reductions



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Value of Technology Funds

Conference Board of Canada

Commissioned to do an independent Pan-Canadian assessment

Generally, technology funds:

- play a critical role in reducing emissions
- provide economic benefits and produce jobs
- strengthen competitiveness
- most effective when combined with other instruments
- private sector investments most likely to succeed

CCEMC :

- has a strong and effective business model
- directly links emitters to responsibility
- supports and leads innovation
- is a leader in investing in climate change technologies



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Value of Technology Funds

Findings

- Economic impact of technology funds will be largest in Alberta
 - double all other provinces combined
- A total of \$6.86 Billion will be spent in Alberta in the next five years
 - boosting GDP by roughly \$4.8 Billion
 - creating 50,500+ person years of employment
- Positive GDP impacts are greater in Ontario signaling the benefits of an integrated economy.



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Action is everything

Conclusion

- There is a hunger for technical solutions
 - The CCEMC supports discovery, development and deployment of clean technology
 - \$\$ for good ideas – no matter where they come from
 - Transformative technology desired
 - Value – green economy, jobs and GHG reductions
 - Demonstrable progress is critical
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- Interested in collaborating with others as we share common challenges



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