



Global 'climate-friendly' trade: Canada's chance to clean up

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Climate-friendly technologies

- Focus narrower than all green technologies
- Technologies reduce GHG emissions
- Energy efficient appliances, solar, wind, and wave power, hybrid cars, thermostats, intelligent meters
- Broad agreement on technologies in principle
- Difficult to measure in practice
- World Bank-defined group, matches trade data



The technologies exist – or will soon

- Existing tools could stabilize emissions
- Trade one way to spread technologies
- Need to ramp up technology investments

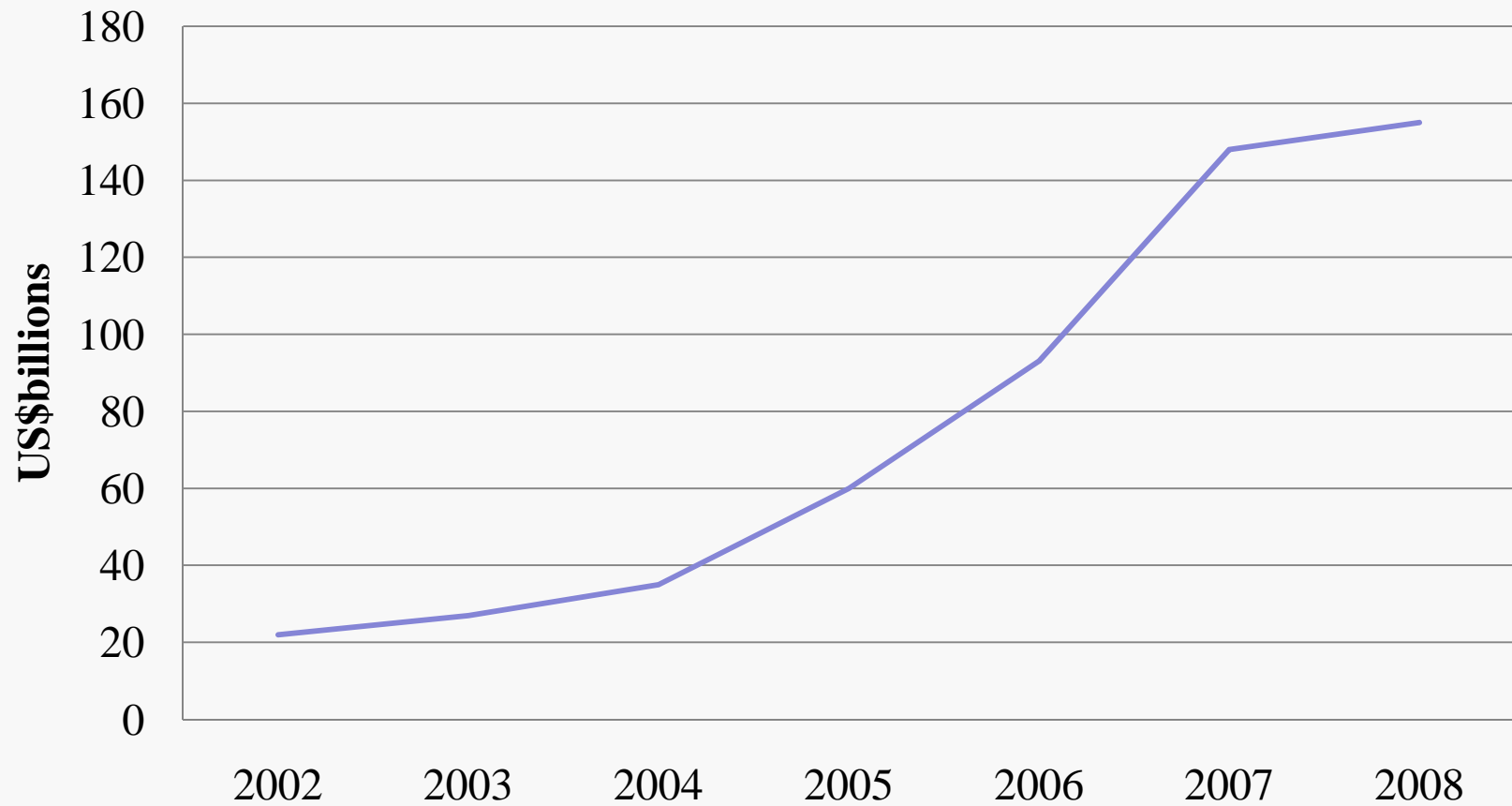


The stars are (mostly) aligned for 'climate-friendly' trade

- Policy shifts in most large economies
- Environmental problems in developing markets
- Increasing energy and water costs
- Global 'climate change industry' growing rapidly



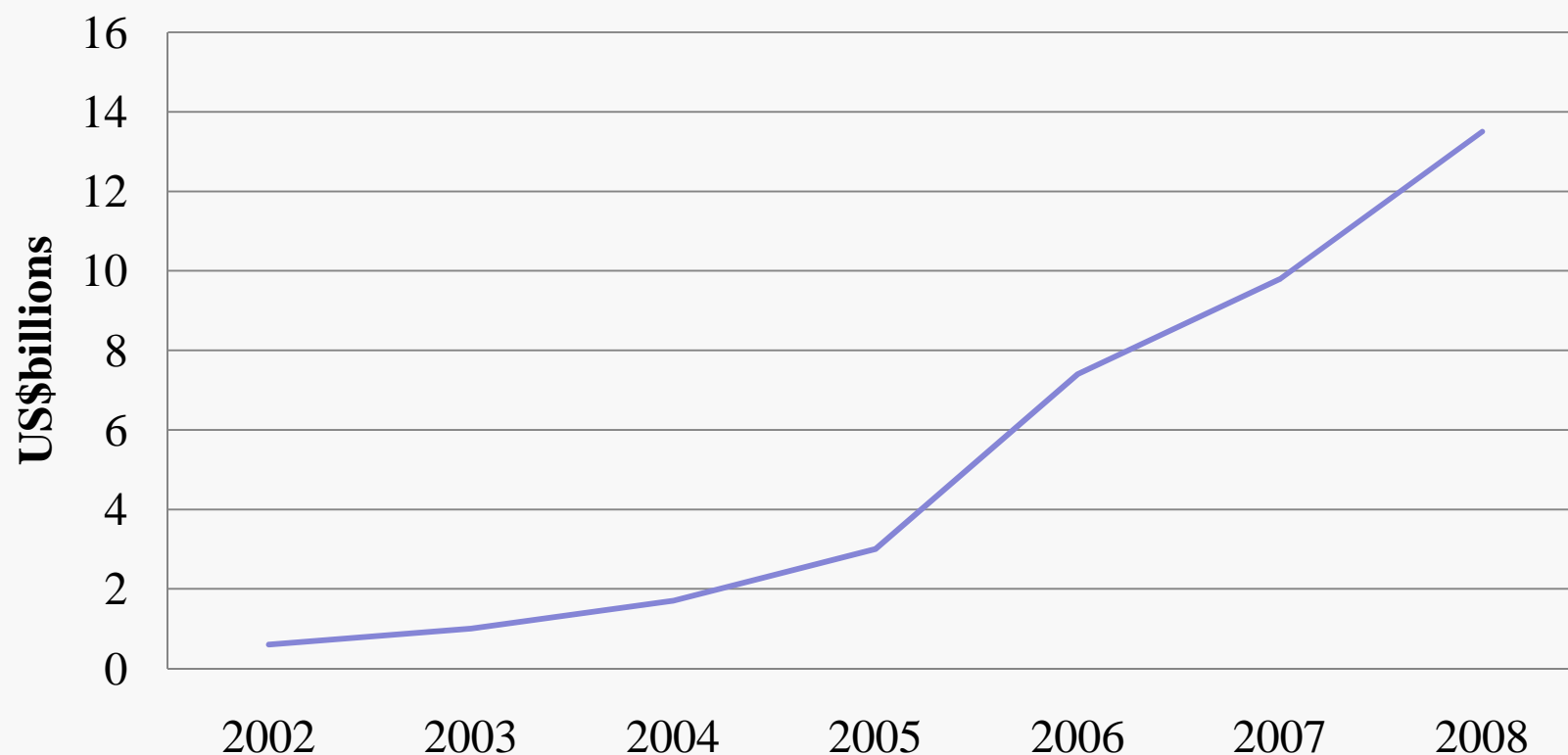
New global clean energy financing



Source: New Energy Finance



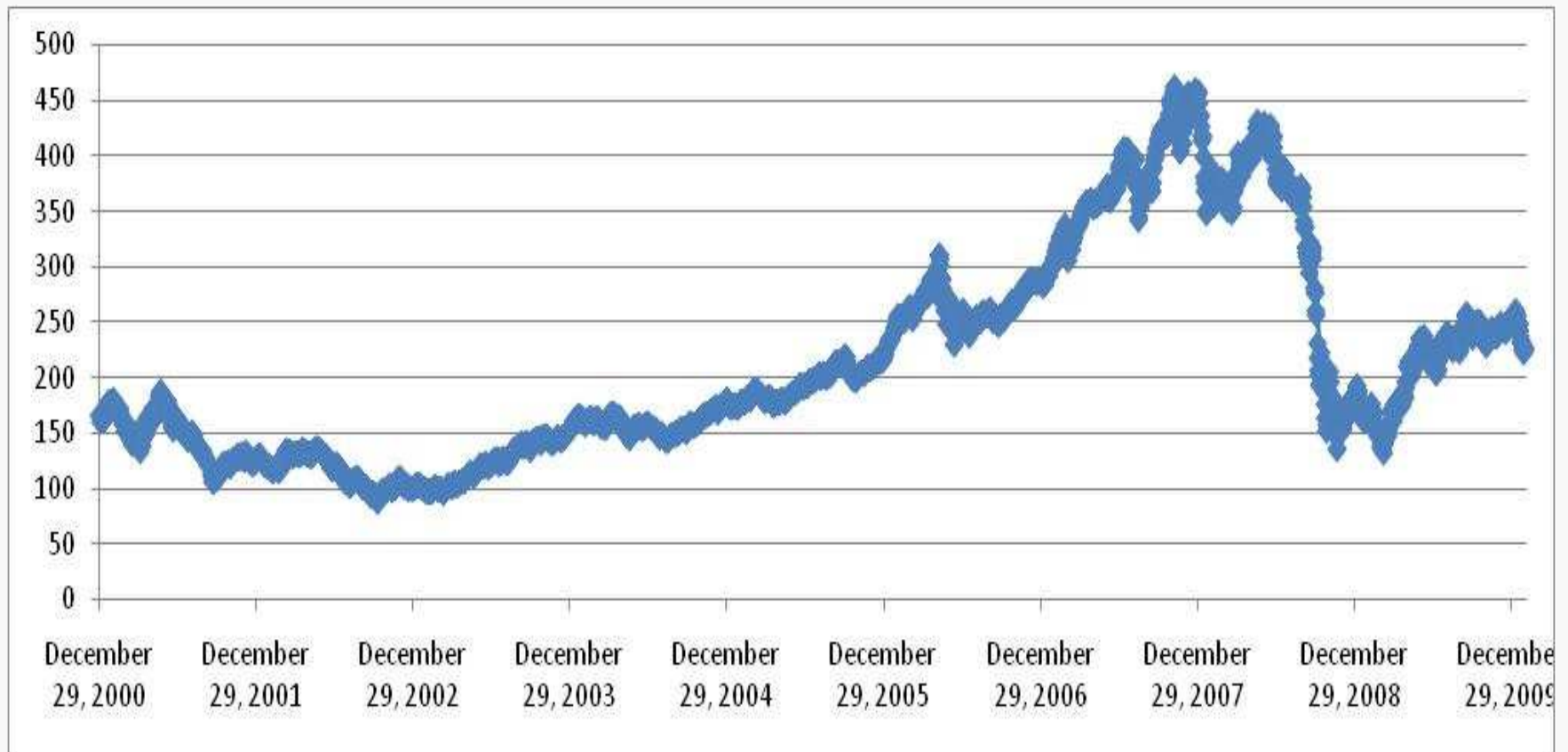
Global clean energy VC/PE



Source: New Energy Finance



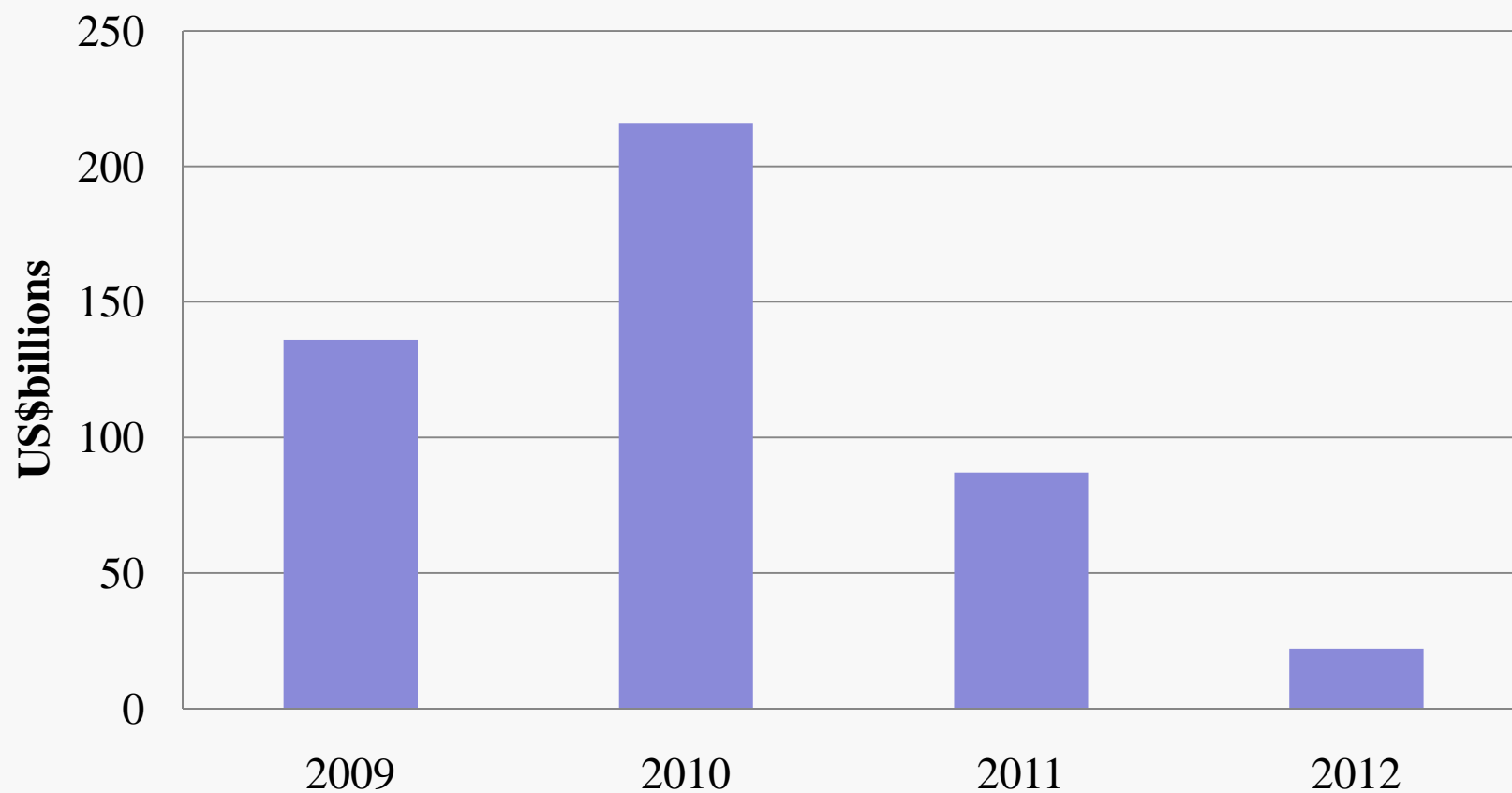
WilderHill New Energy Global Innovation Index



Source: Yahoo! Finance



Global 'climate-friendly' stimulus



Source: HSBC



Is Canada missing out?

- Lack of focus on global opportunities
- Lack of policy clarity
- Large, energy-intensive country
- Natural strengths leverage geography, resources
- Global market expands opportunities, policy clarity
- Benefits from imports, exports, two-way investment
- Major long-term opportunity



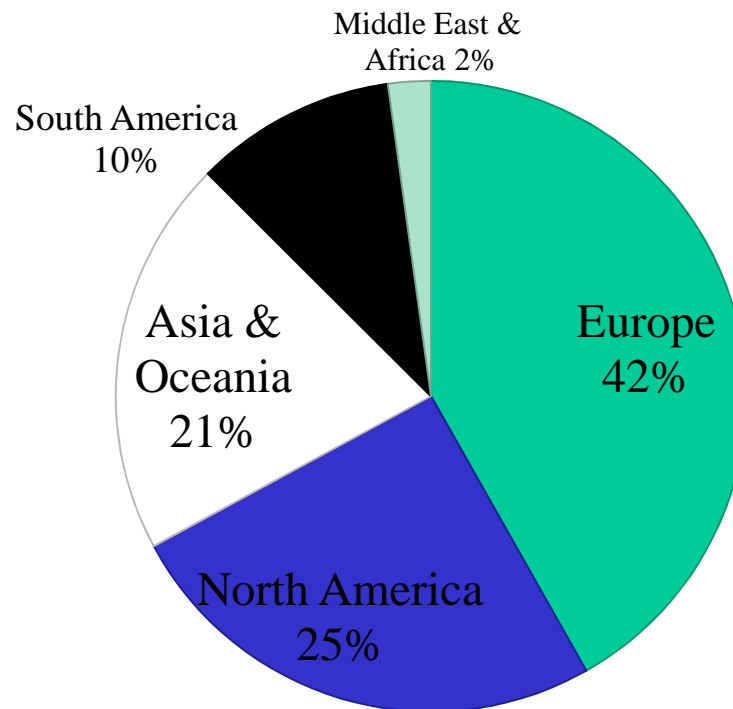
Reality Check

- Climate-friendly still not mainstream
- Policy uncertainty, lack of clarity
- New and existing trade barriers
- Despite this, global market at a turning point...



Global market

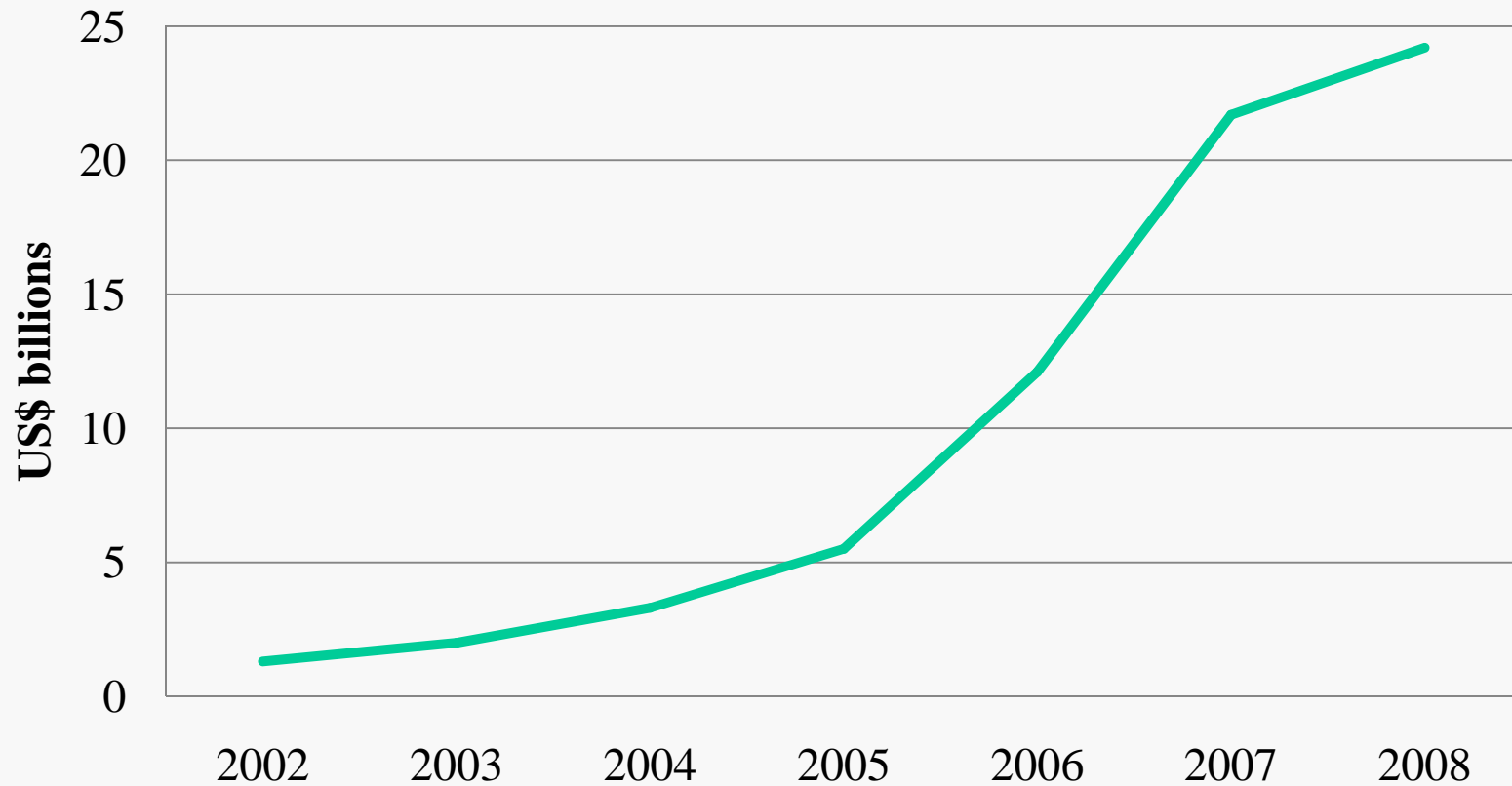
New private clean energy investment, 2008



Source: New Energy Finance, UNEP



New Asian clean energy financing



Source: New Energy Finance, UNEP



Global climate-friendly trade

- World Bank list of goods, proxy for services
- Known technologies
- Significant contribution to emissions stabilization
- Based on WTO environmental goods list
- Harmonized system 6-digit level
- Limitations, need to view this as a starting point



Top Traded Climate-Friendly Tech

- Photosensitive semiconductor devices (incl PV cells)
- Photovoltaic system controllers
- Gas turbine parts
- Gears for wind turbines
- Membrane liners for landfills, gas stations



Top Climate-Friendly Traders

Export		Import	
Rank	Country	Rank	Country
1	Germany	1	U.S.
2	China	2	Germany
3	U.S.	3	China
4	Japan	4	France
5	Italy	5	U.K.
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14	Canada	7	Canada

Sources: Conference Board of Canada, UN Comtrade



Climate-friendly technology exports

	Value 2008	Compound annual growth 2002-08 Nominal (Real)
World	\$209 billion	10%
Canada	\$4 billion	0% (-2%)
Ontario	\$2 billion	-3% (-6%)

Sources: Conference Board of Canada, UN Comtrade



Companies don't see opportunities

Action on climate change	Canada's ranking out of 20 countries
Disclosing emissions	10
Seeing physical risk	18
Established emissions/energy reduction plan	18
Seeing regulatory risks	19
Seeing physical opportunities	19
Externally verifying emissions disclosures	19
Seeing regulatory opportunities	20

Source: Conference Board of Canada, Carbon Disclosure Project



Climate-friendly technology imports

	Value 2008	Compound annual growth 2002-08 Nominal (Real)
World	\$209 billion	10%
Canada	\$7 billion	4% (3%)
Ontario	\$4 billion	3% (4%)

Sources: Conference Board of Canada, UN Comtrade



Do we have areas of strength?

- Compare share of technology in Canadian exports to share of technology in world's exports
- If Canadian share of technology greater than global, Canada has a “revealed comparative advantage”
- Gives sense of export competitiveness
- Exclude resources and agriculture

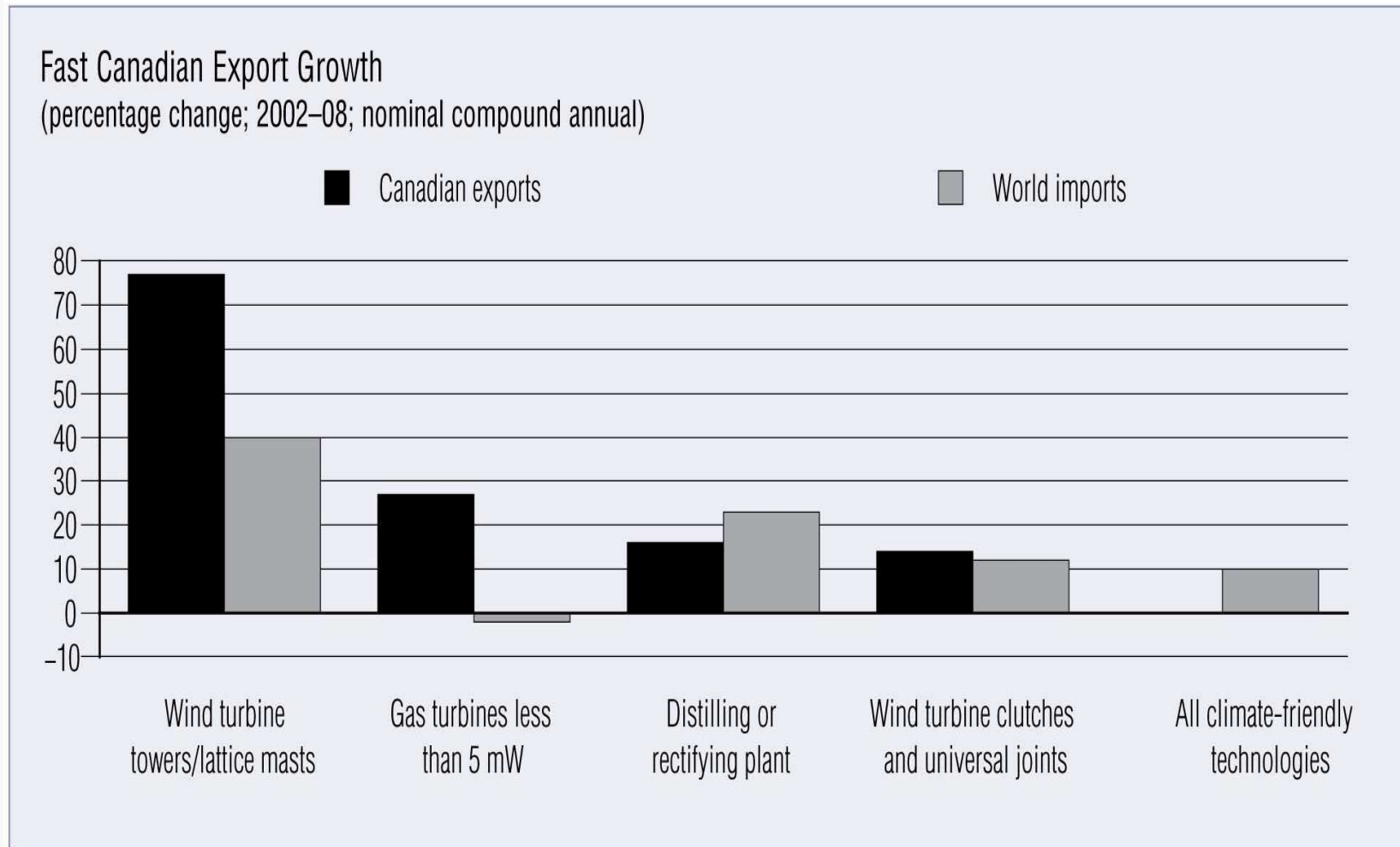


Do we have areas of strength?

- Overall comparative disadvantage
- But Canada does certain things well
- 13 areas of revealed comparative advantage
- Gas turbines; methane-reducing waste-management technologies; parts of solar, wind systems; energy efficient appliances



Comparative advantage technologies

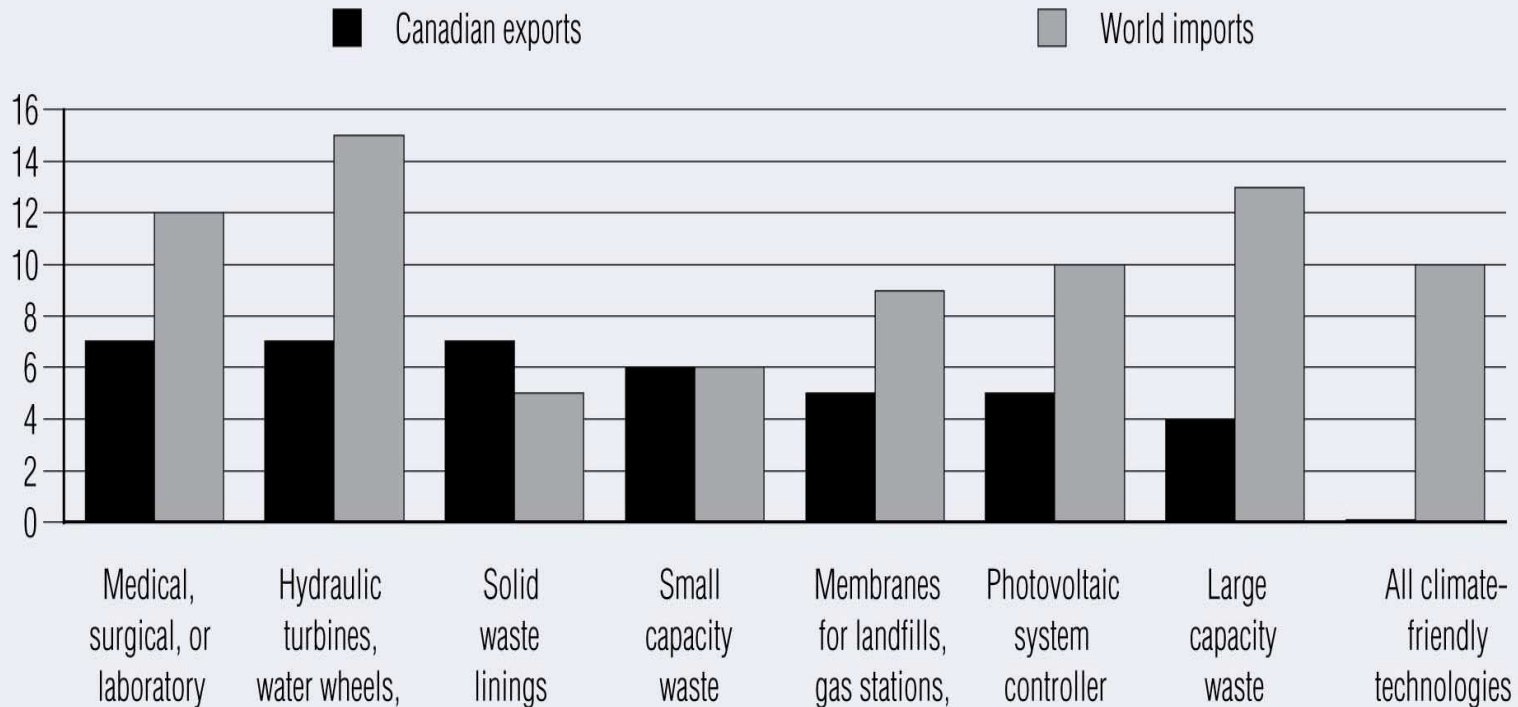


Source: Conference Board of Canada, UN Comtrade.



Comparative advantage technologies

Moderate Canadian Export Growth
(percentage change; 2002–08; nominal compound annual)



Source: Conference Board of Canada, UN Comtrade.



Top Canadian Imports

- Some in areas of comparative disadvantage
 - E.g., Wind-powered electric generating sets
- Some in areas of comparative advantage
 - E.g., Solar photovoltaic controllers
 - Parts of global supply chains?



Businesses Should

- Get out ahead of policymakers
- Identify world-leading technologies/parts/services
- Think global, long-term
- Buy best global technologies in areas of weakness
- Engage globally via multiple methods
- Reevaluate over time – strengths can shift



Governments should

- Recognize policy rationale in this area
- Provide climate, regulatory policy clarity and stability
- Invest in research and development
- Remove Canadian trade barriers, including buy local
- Negotiate removal of others' trade barriers



Summary and Conclusions

- Feasible to halt emissions with existing tech
- Global trade and investments growing rapidly
- Companies not seizing exploding global opportunities
- Failing to maintain existing opportunities
- Canada will not be a world leader in everything
- Not too late to become world leaders in some tech
- Identify technology strengths today – and tomorrow
- Need policy clarity and more global outlook





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