

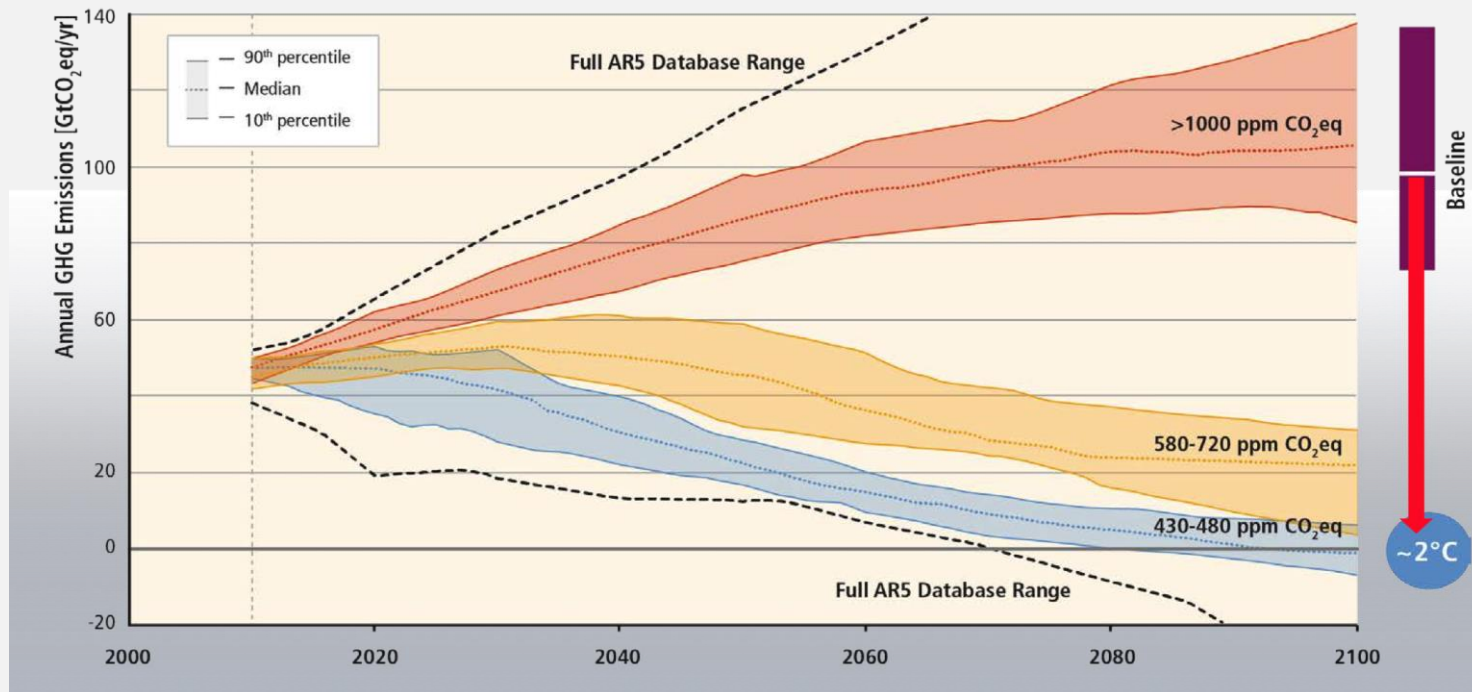
# Building a Low-Carbon, High-Octane Canadian Economy

*Stewart Elgie*  
*May 27, 2016*  
*Muskoka Summit*

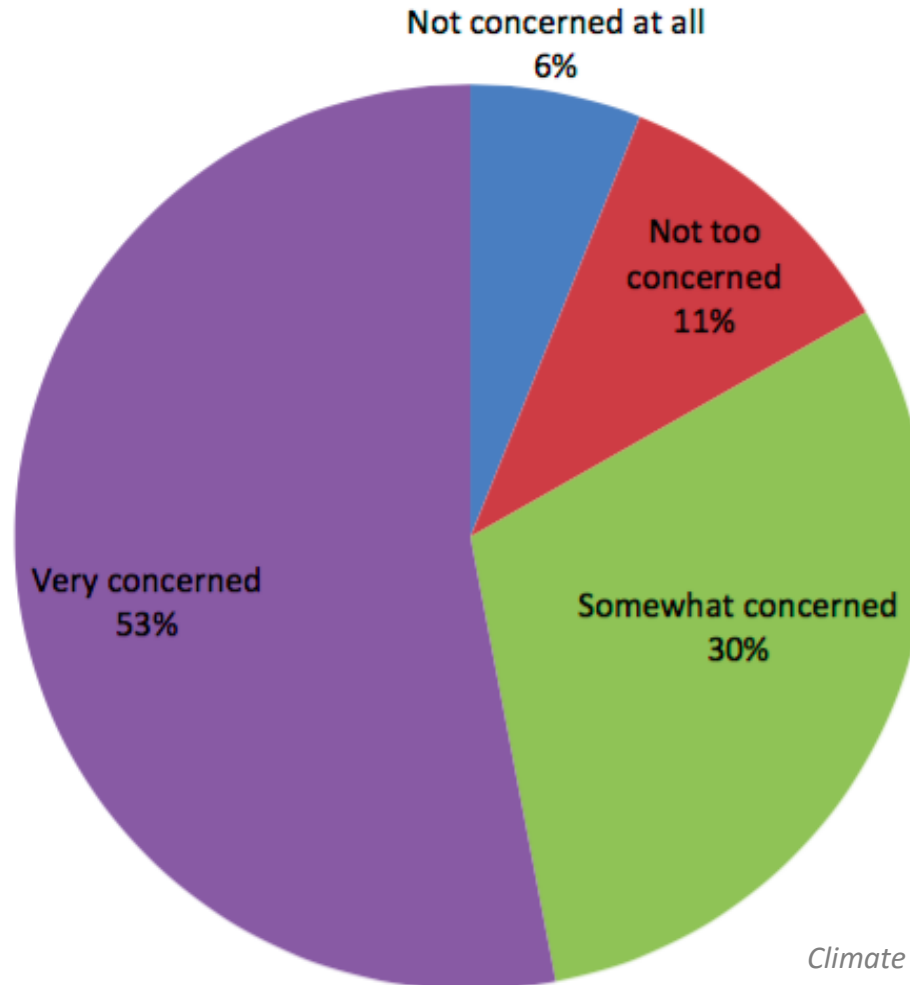
# Key messages

1. What is holding us back from acting?
2. What does a low carbon economy mean for (resource-intensive) Canada?
3. How to shift to clean growth: The three i's
4. Can we do it?

# Climate change is bad



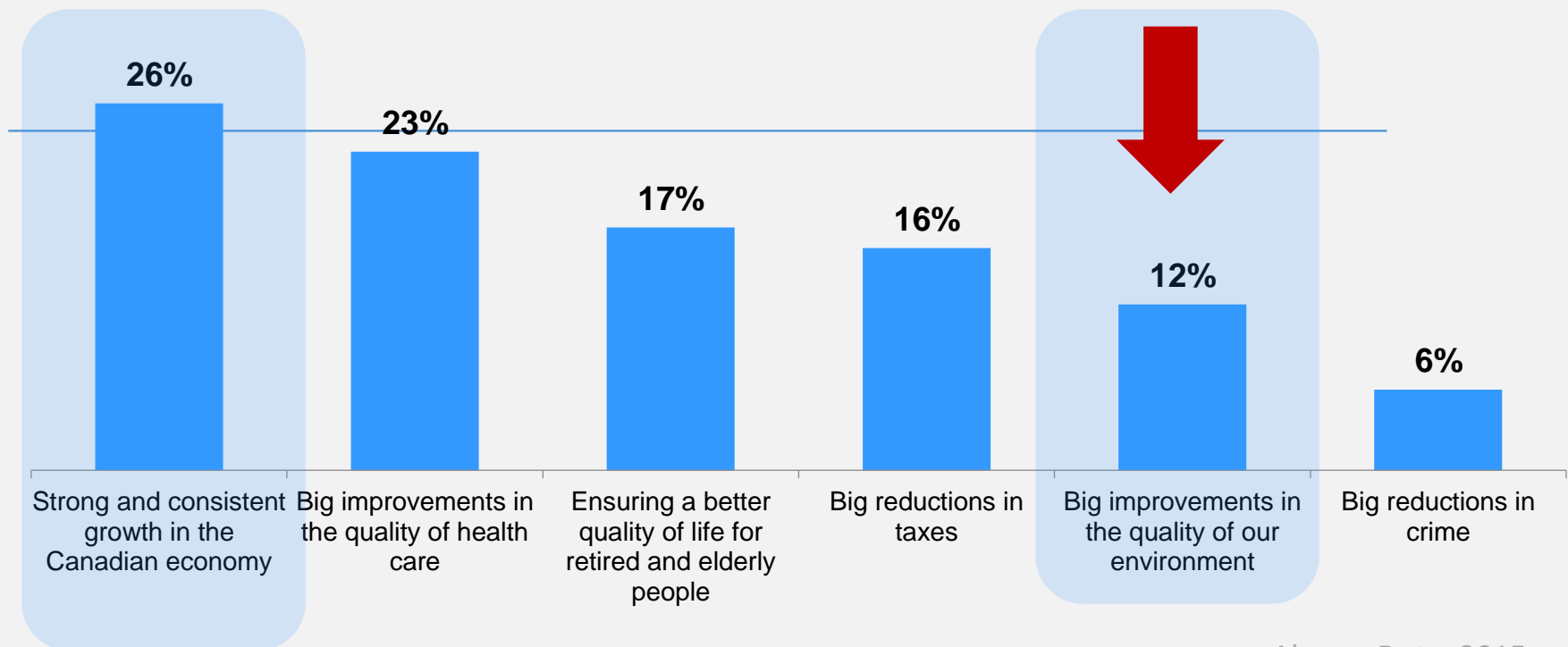
# Canadians are concerned



*Climate Action Network, 2015*

# But... economy beats environment

If you could only choose one of these aspirations, which one would be your top priority?



*Abacus Data, 2015*

# The climate vs. economy trap



*“A carbon tax .... will destroy jobs and growth.”*

Stephen Harper

# Seeing it today in ON and AB

## Kevin Libin: Ontario's big, green assisted economic suicide plan



KEVIN LIBIN | May 16, 2016 | Last Updated: May 17 7:50 AM ET  
More from Kevin Libin | @kevinlibin

## Christine Van Geyn: Deciphering Ontario's job-killing carbon tax



CHRISTINE VAN GEYN, NATIONAL POST | November 23, 2015 | Last Updated:  
Nov 24 1:49 PM ET  
More from National Post

## Alberta carbon tax could bring whopper of a bill to cities and towns

Fuel and heating are some of the costs expected to rise under new provincial policy

By Kyle Bakx, CBC News | Posted: Nov 25, 2015 3:00 AM MT | Last Updated: Nov 25, 2015 11:55 AM MT

MARGARET WENTE

## Electric cars and unicorns: Ontario's new green scheme

MARGARET WENTE

The Globe and Mail  
Published Tuesday, May 24, 2016 7:00AM EDT

NEWS ONTARIO

WARMINGTON

## Phony cap-and-trade a waste of our money



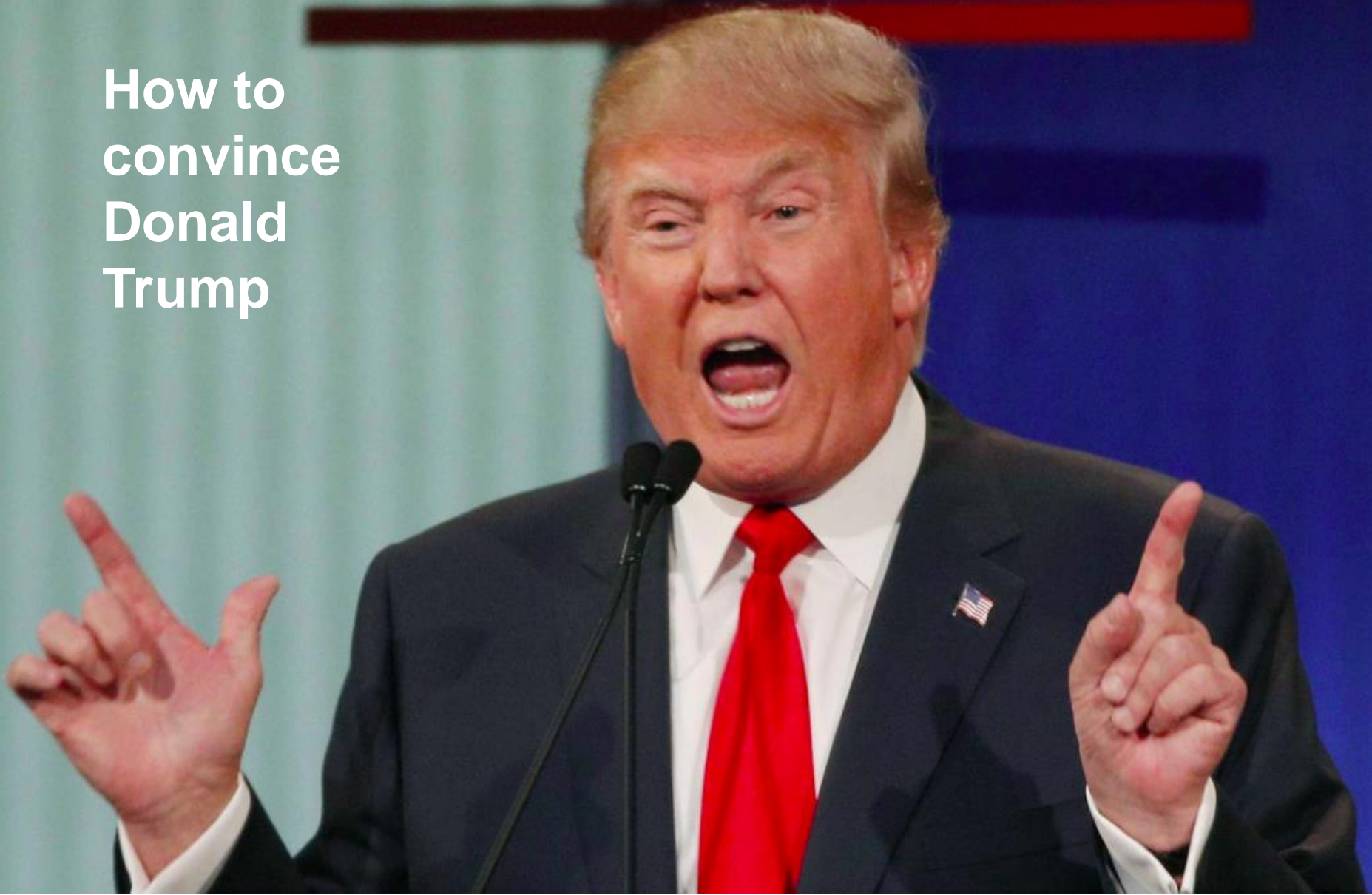
BY JOE WARMINGTON, TORONTO SUN



**It's the  
*economy*,  
Stupid!**



# How to convince Donald Trump

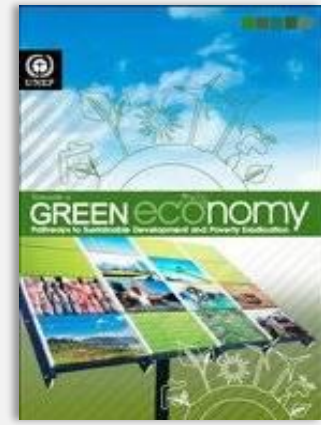
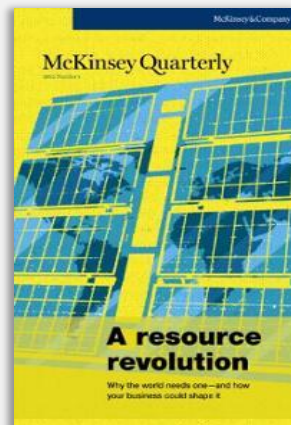
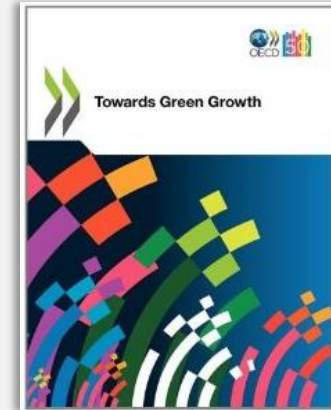


# The economy of the future...

Likely to reward companies that are

- *energy efficient*
- *low polluting,*
- *eco-innovative, and*
- *use natural resources efficiently*

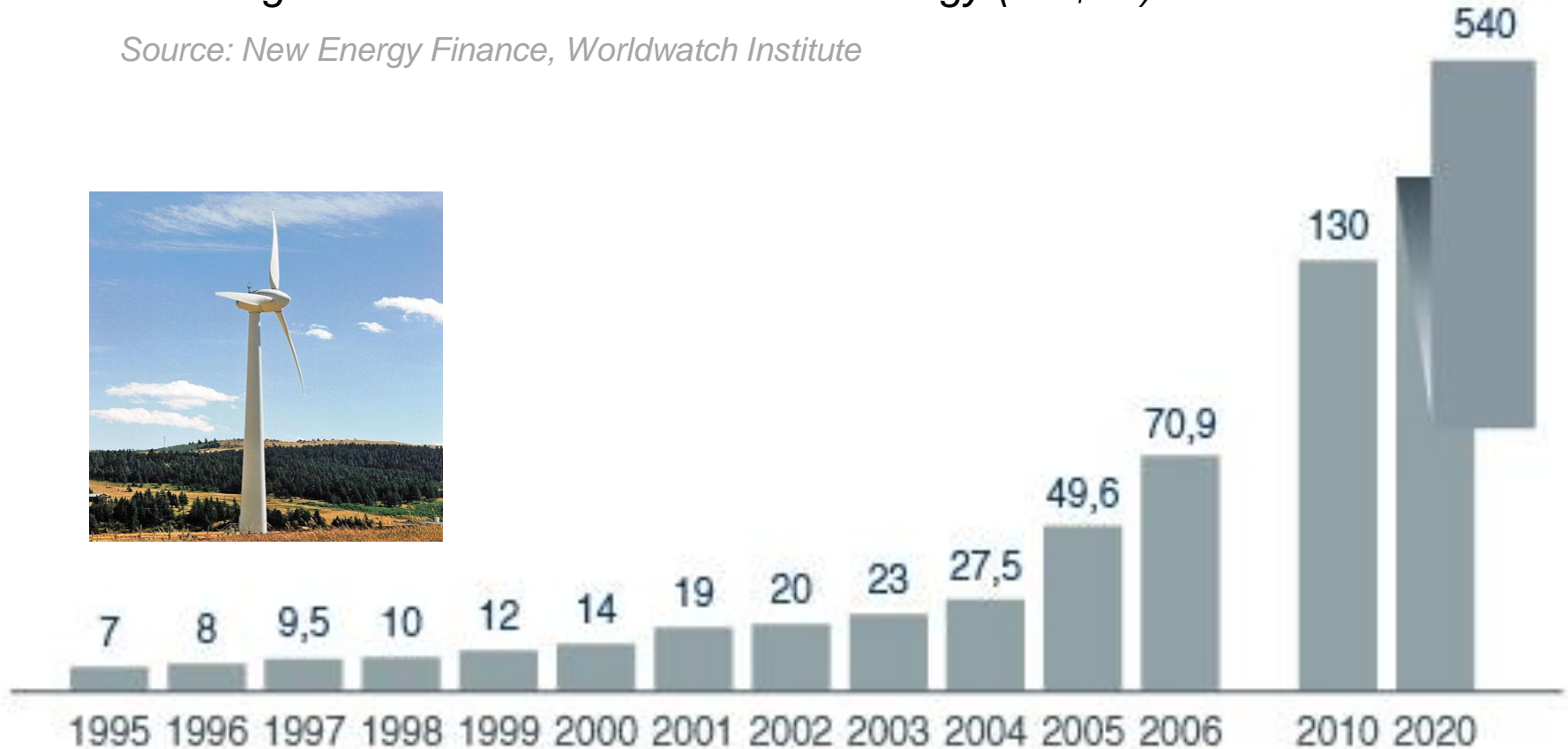
➤ across *all* sectors



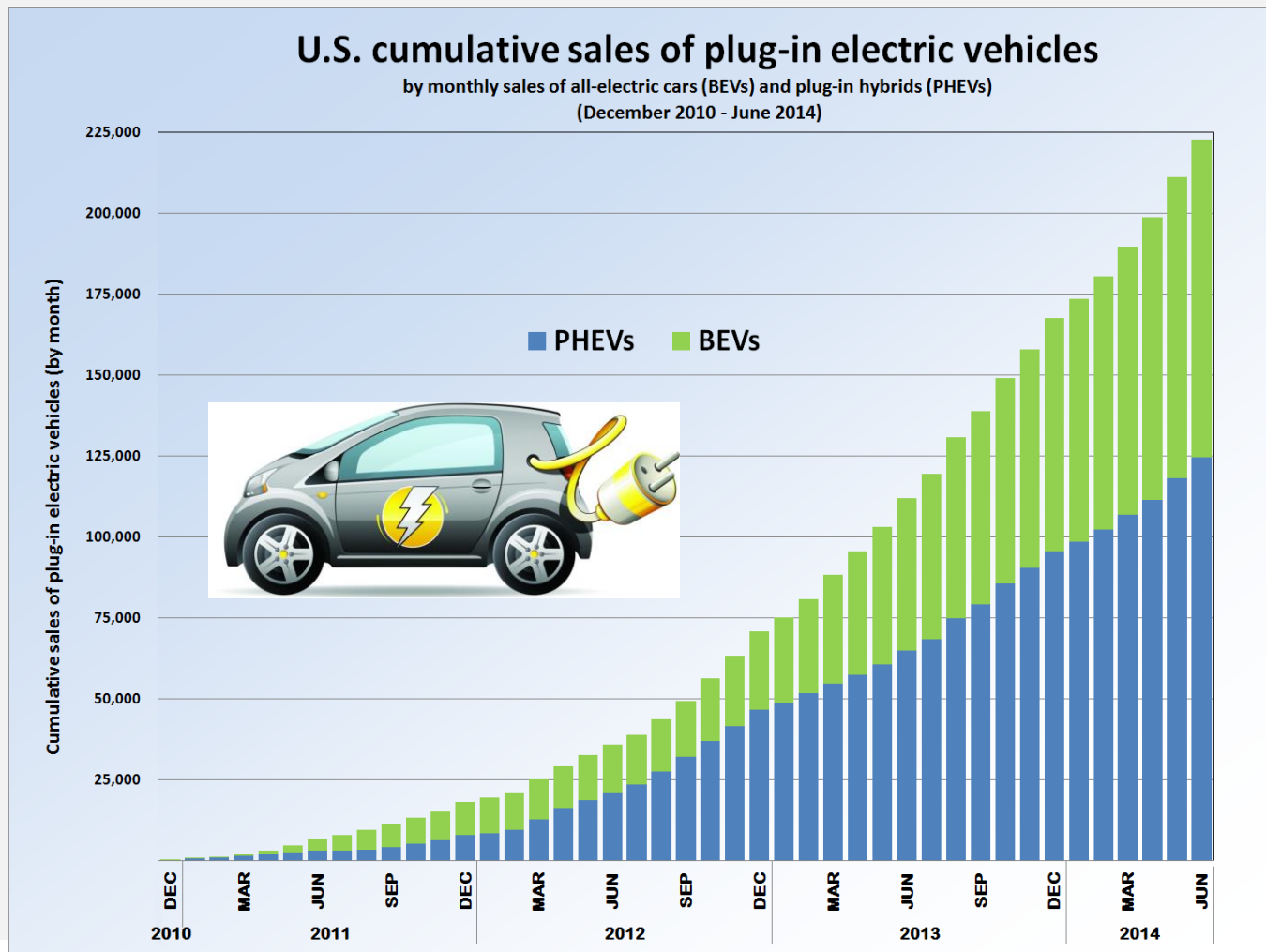
# Cleantech is booming

*Annual global investment in renewable energy (US\$bn)*

*Source: New Energy Finance, Worldwatch Institute*



# Cleantech is booming

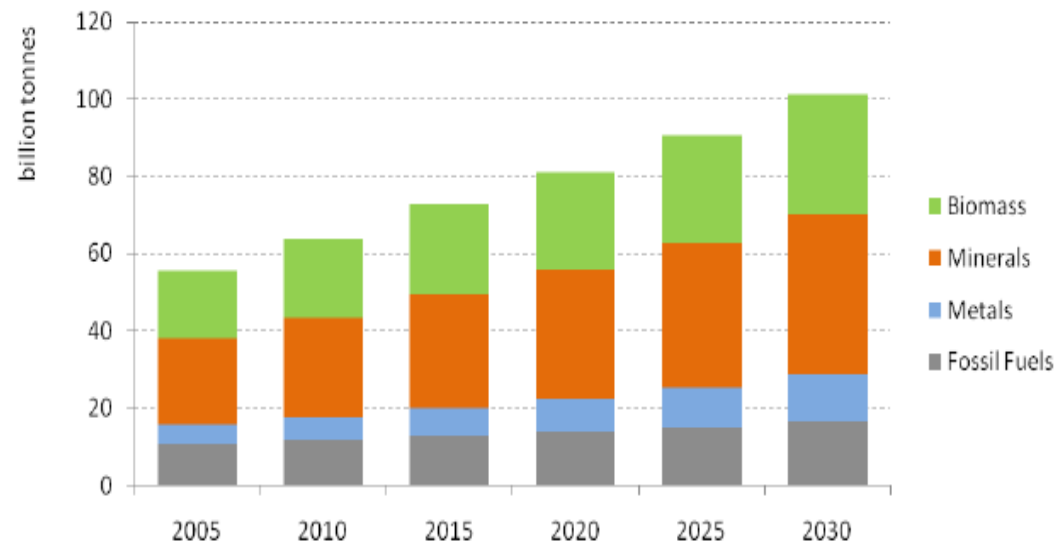


# But... so is global demand for resources

World demand for resources is projected to *grow by 60%* in next 20 years

Global demand for oil & gas at record levels (future?)

Figure 3: "Business-as-usual" scenario on worldwide resource extraction, 2005 to 2030



Source: Lutz and Giljum, 2009



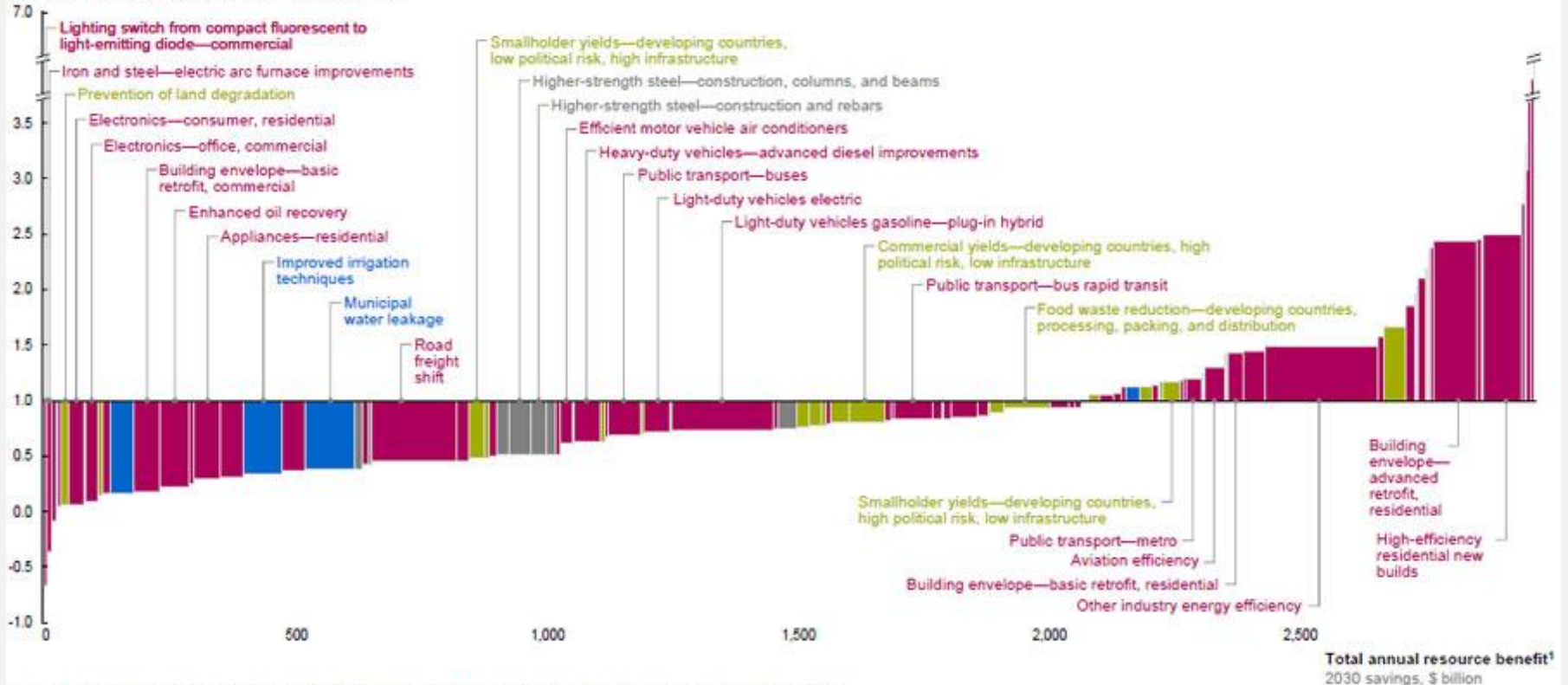
# Resource productivity – the \$3T opportunity

## The productivity opportunity totals \$2.9 trillion in 2030 from an investor perspective

Investor perspective, 2030

### Cost efficiency of investment

\$ spent for implementation per \$ total resource benefit



<sup>1</sup> Based on current prices for energy, steel, and water at a discount rate of 10 percent per annum. All values are expressed in 2010 prices.

SOURCE: McKinsey analysis

**Economy of  
today**

**vs**

**Economy of  
tomorrow?**



**= False choice**

# Canada's niche in greening global economy?

A. Among leaders in emerging  
'green' / clean tech. sectors  
(strategic niches)

and

B. World's most  
environmentally responsible  
source of energy & natural  
resource products

= mutually reinforcing





# Niche: Leader in environmentally responsible resource production



# Niche: Leader in environmentally responsible resource production?



**2020?**



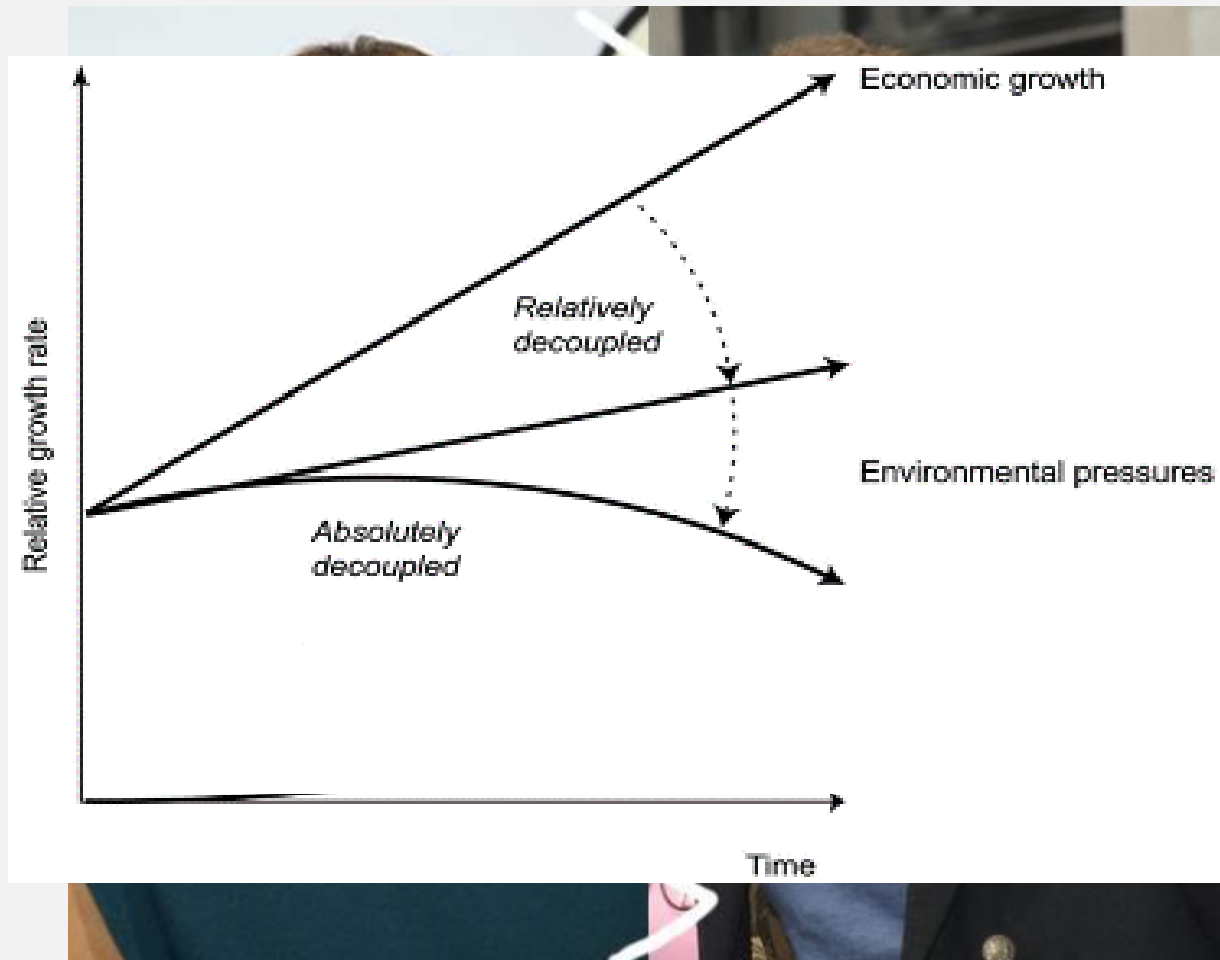
**cosia<sup>®</sup>**

CANADA'S OIL SANDS  
INNOVATION ALLIANCE

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L'ALLIANCE CANADIENNE  
POUR L'INNOVATION DANS  
LES SABLES BITUMINEUX

# Decoupling



# Decoupling

## Ontario

GDP **+11%**  
Emissions **-19%**  
(2005-2013)

## Sweden

GDP **+58%**  
Emissions **-23%**  
(1990-2013)

## US RGGI

GDP **+9.2%**  
Emissions **-18%**  
(2009-2013)

## Denmark

GDP **+38%**  
Emissions **-25%**  
(1990-2012)

## Brazil

GDP **+101%**  
Emissions **-15%**  
(1990-2013)

## EU

GDP **+45%**  
Emissions **-19%**  
(1990-2012)

**In 2014, for the first time in 40 years,  
global GDP grew while GHGs didn't**

# Competitiveness and environmental performance can go hand in hand

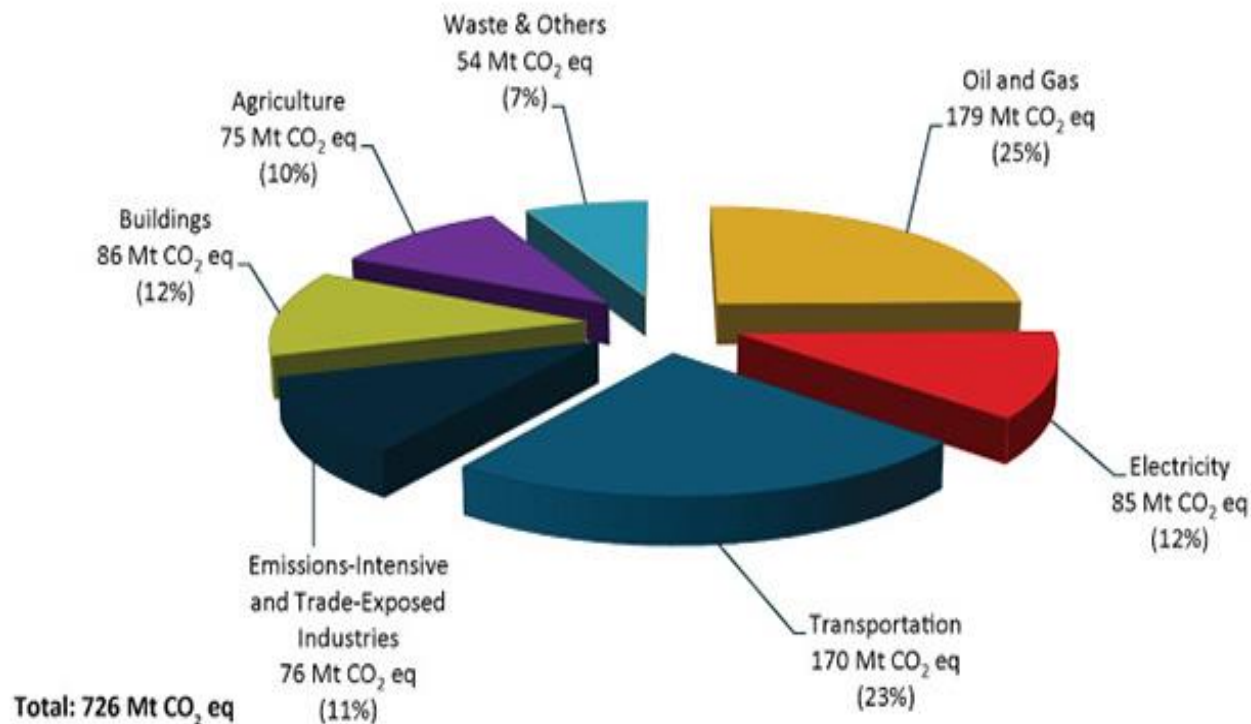
Country	World Economic Forum Global Competitiveness Index Ranking 2014-15*	Environmental Performance Ranking 2014-15**
Switzerland	1	1
Finland	3	9
Germany	4	8
Netherlands	6	11
Sweden	8	7
Norway	9	3
Denmark	11	12
<b>Canada</b>	<b>12</b>	<b>19</b>

\*Based on countries included in the Environmentally Adjusted Global Competitiveness Index (GCI).

\*\*Calculated based on the difference between the GCI and the Environmentally Adjusted GCI.



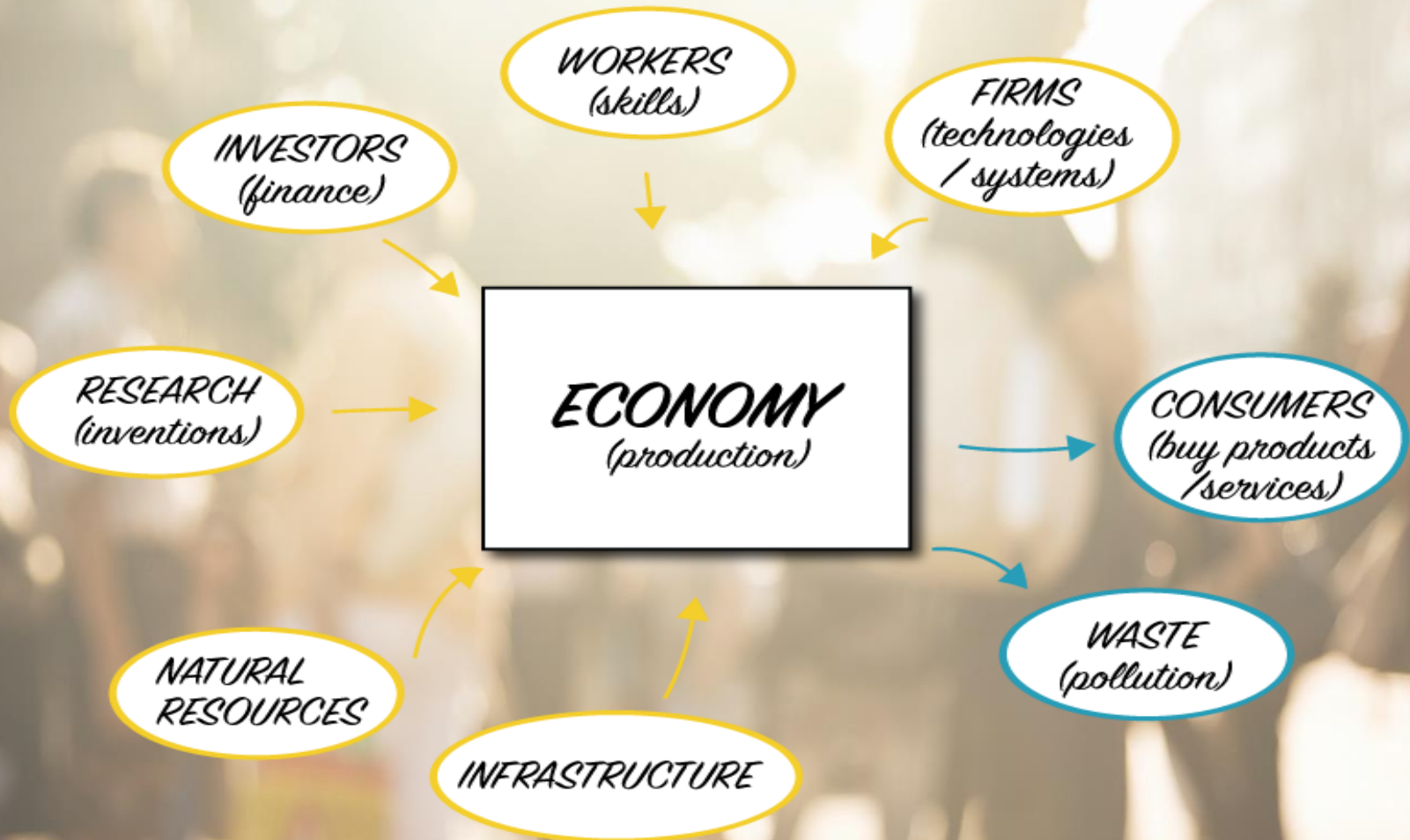
# Shift to low carbon economy



# **HOW to get there?**

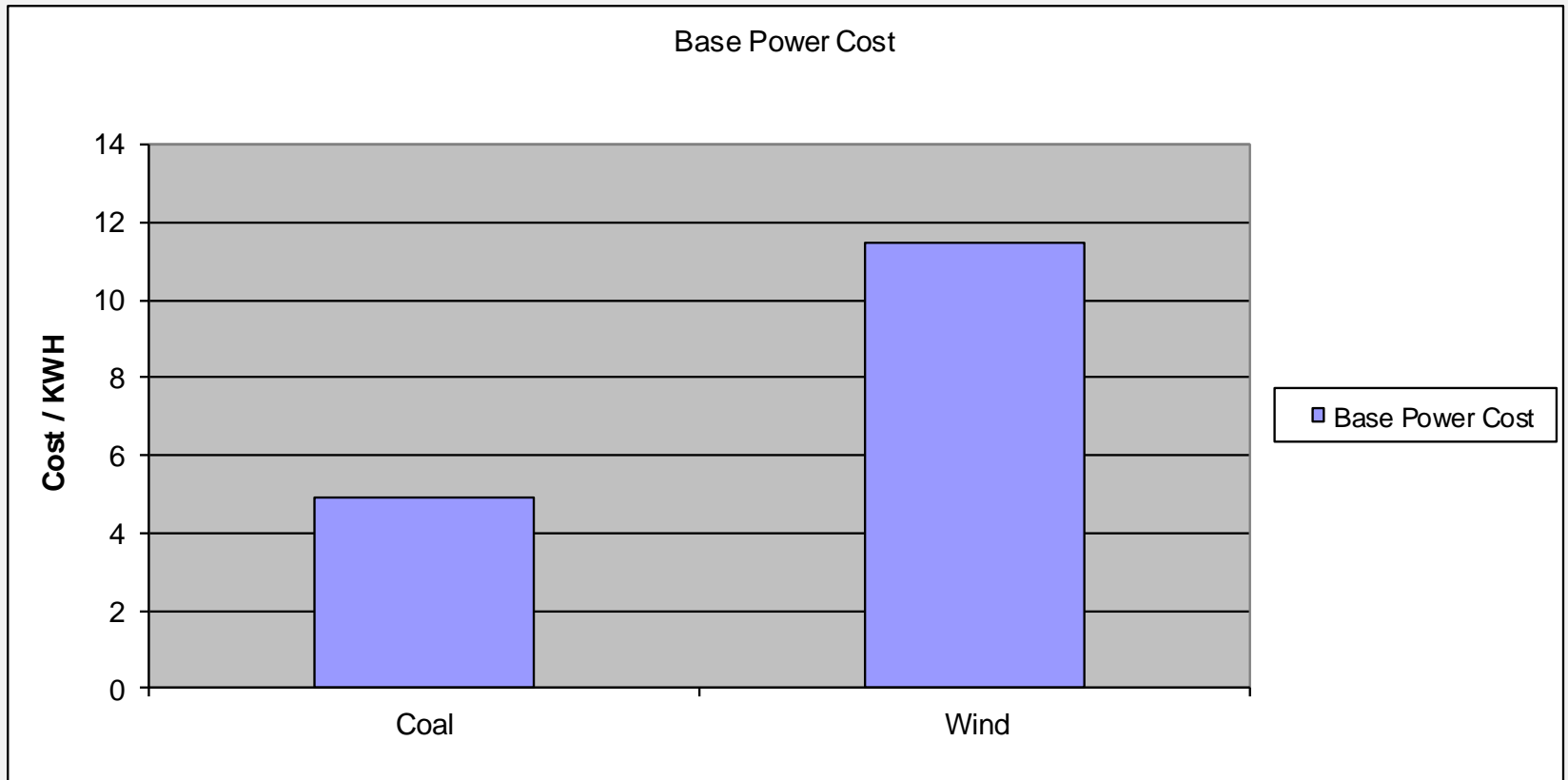
**Key public policies to  
drive clean growth**

# How an economy works (sort of)



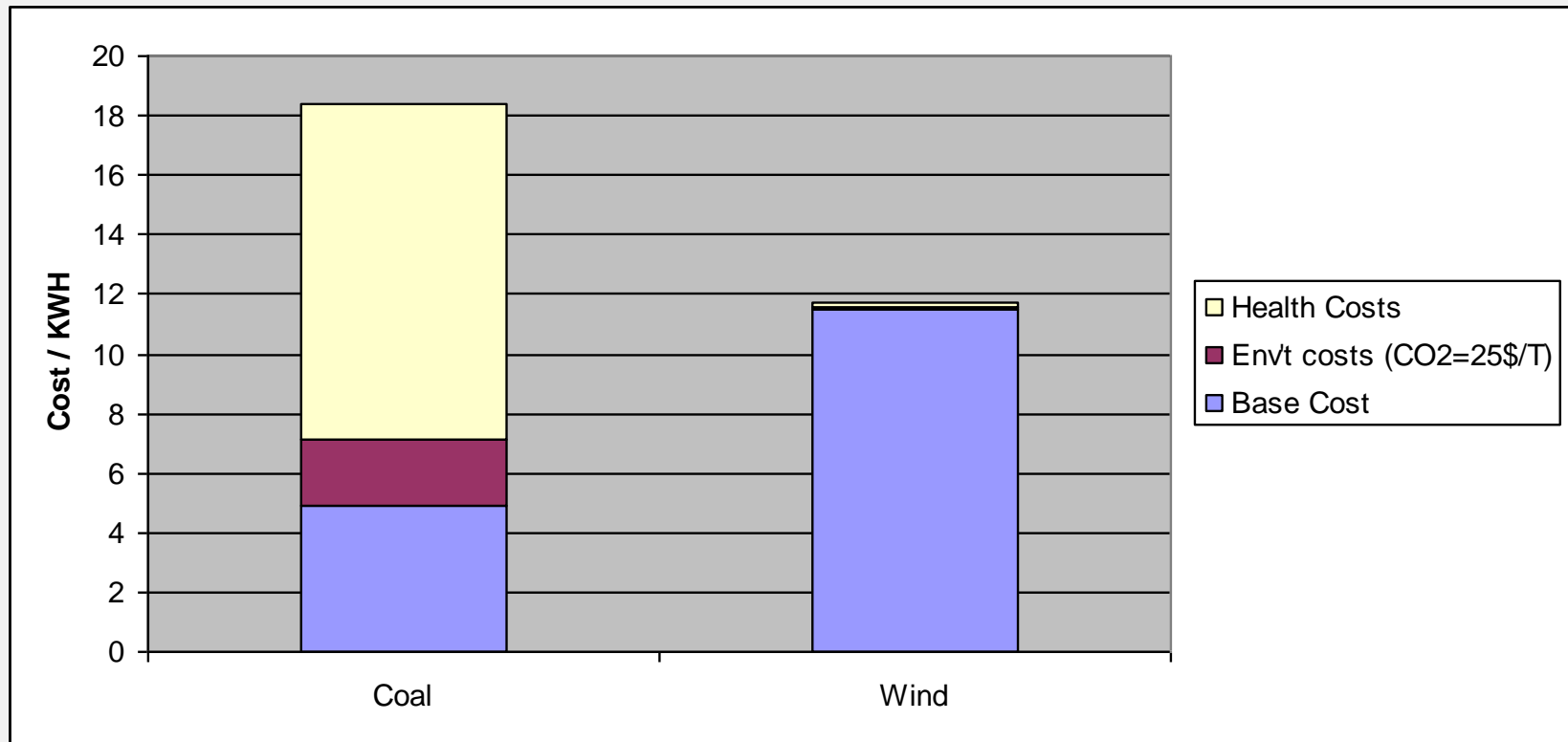


# Coal vs. wind power base cost (2009)



# Coal vs. wind power

## with environment and health costs

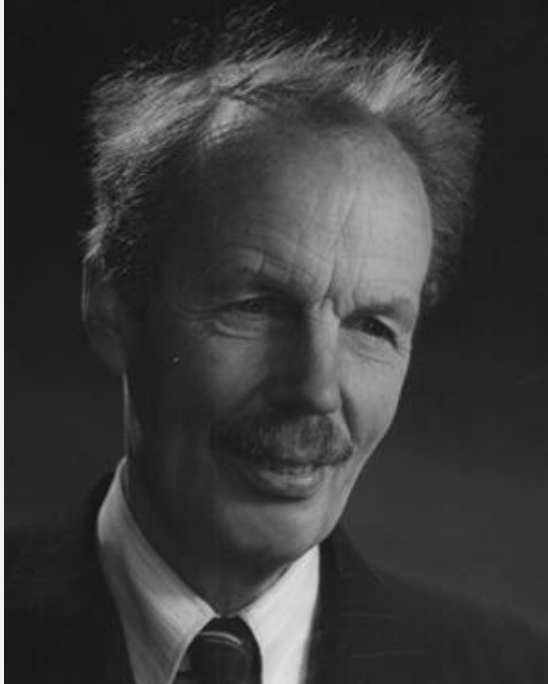


# 1 Incentives (pricing) can steer the market



*Credit: ParksandGardenUK*

# Pricing pollution – 2 main ways



Pigou: “Tax / Fee”



Dales: “Markets”

# Why? Pricing vs. regulation

## Lower cost

- Flexible (re how to reduce)

- Firms have different cost curves

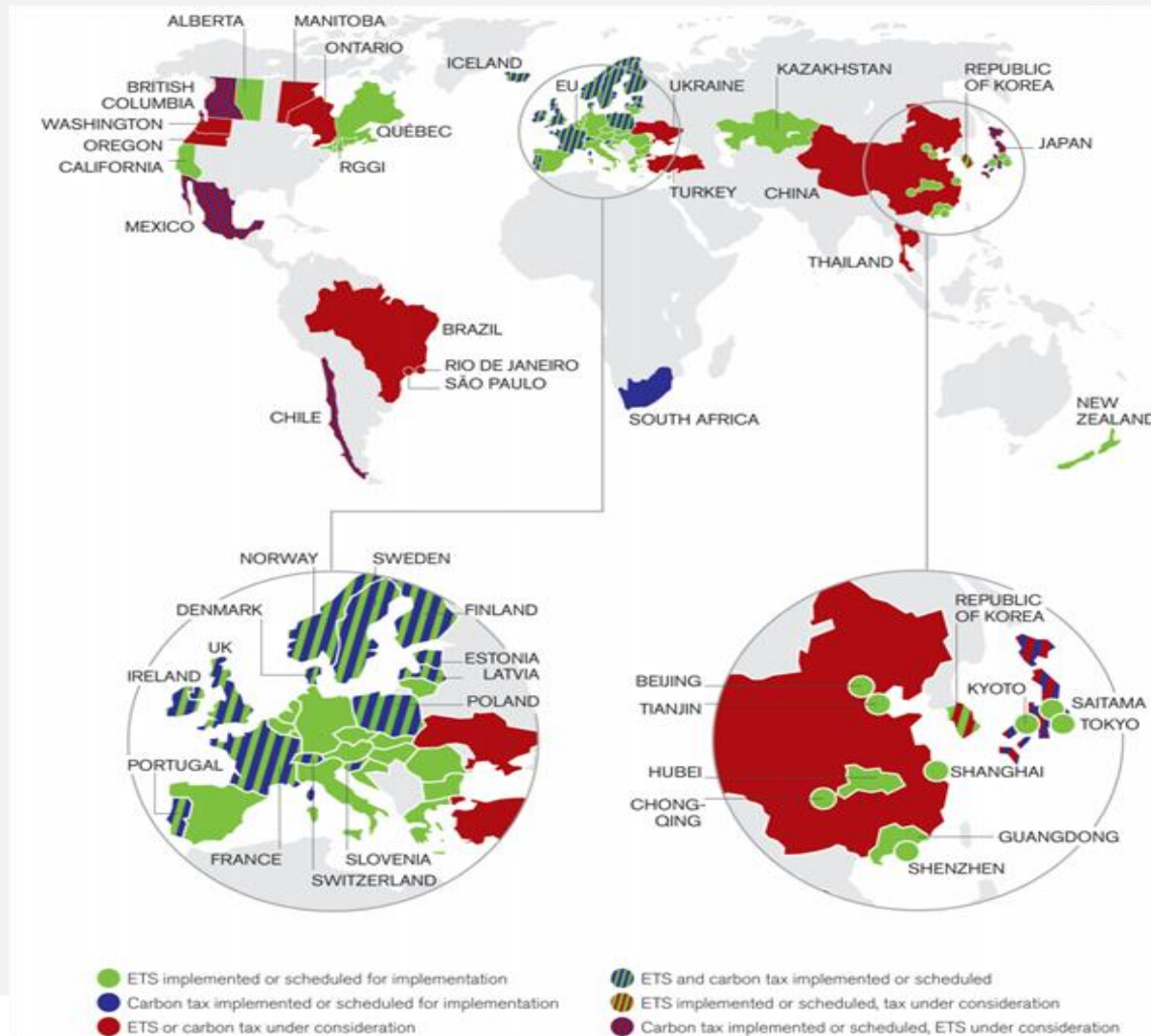
## Promote innovation

- Continuous incentive to go further



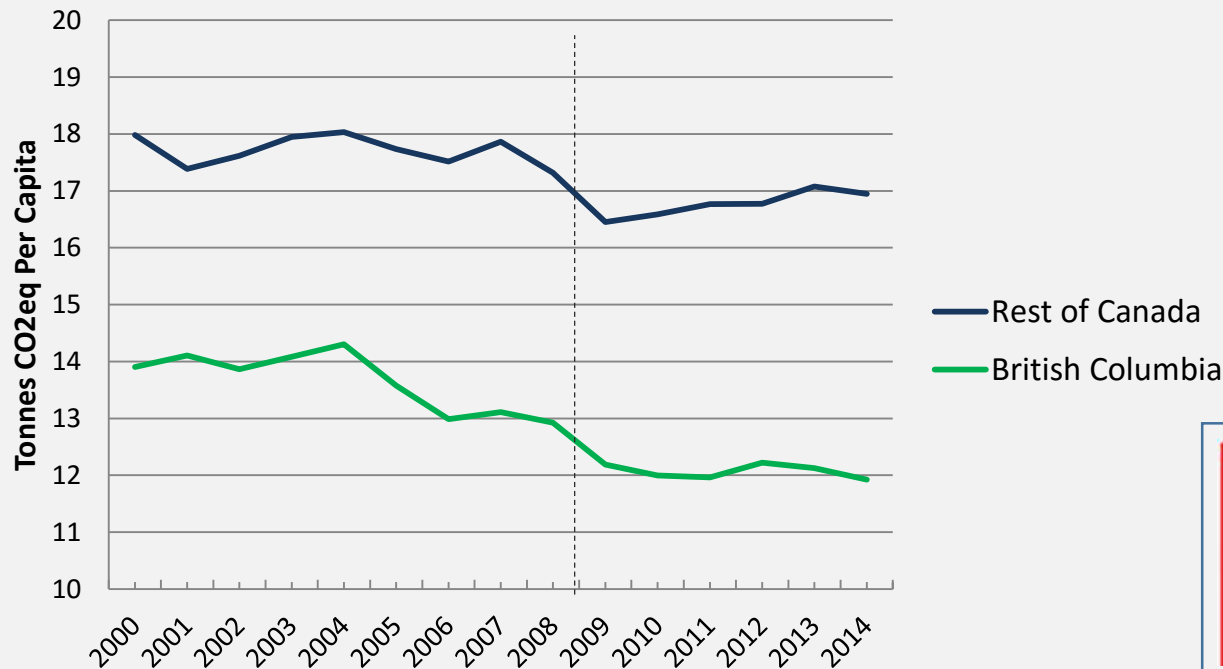


# Carbon pricing worldwide



# It works: BC's carbon tax shift

## GHG Emissions subject to Carbon Tax



- BC GHGs drop 6% vs ROC in 6 yrs
- BC GDP outpaces ROC (by < 1%) in 6 years



**The  
Economist**

**Greenery in Canada  
We have a winner  
B.C. carbon tax woos sceptics**

# It works

## EU carbon taxes

CHART 2: THE EFFECT OF ETR ON GHG EMISSIONS

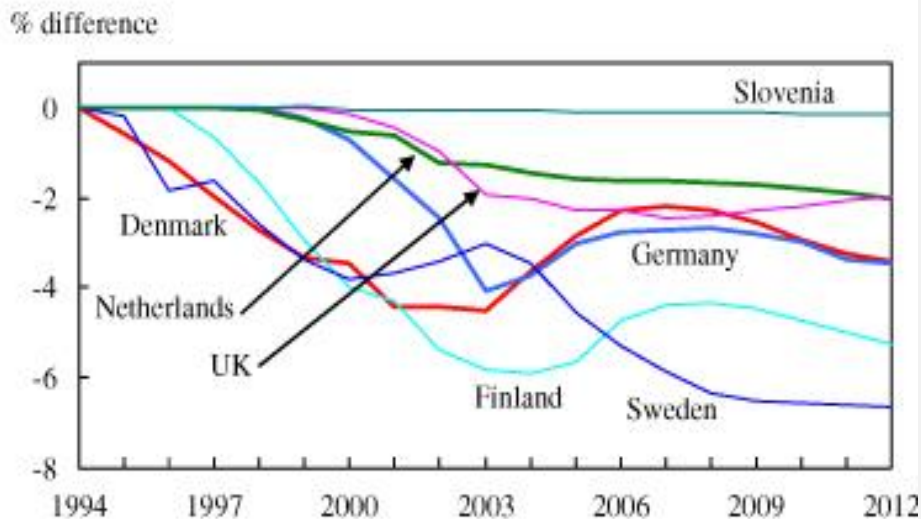
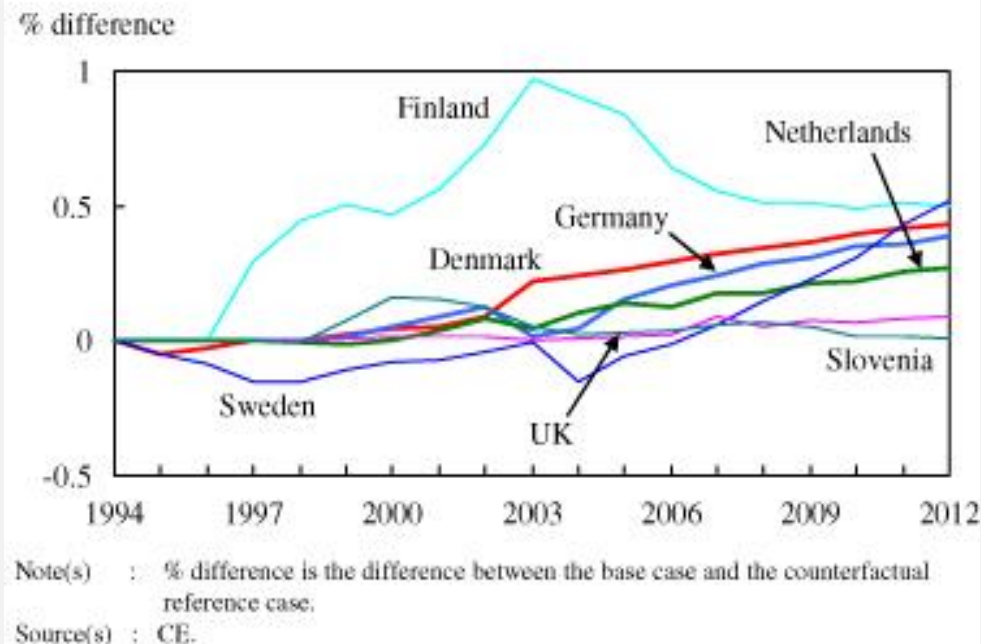


CHART 3: THE EFFECT OF ETR ON GDP

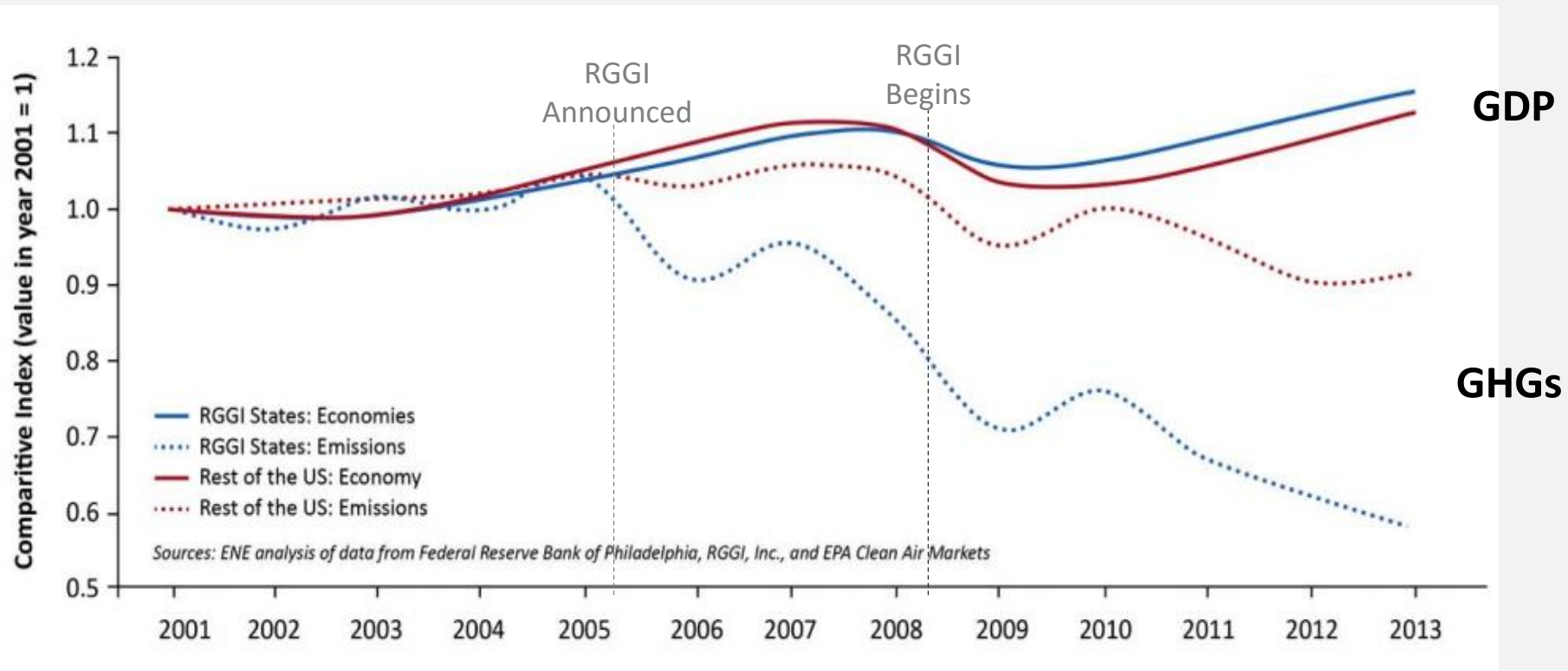


COMETR study



# It works

## RGGI (U.S. N-E) cap and trade



# Carbon pricing: key to clean growth

“The **price signal** is the **most powerful incentive** for both industry and consumers to **conserve energy** and **enhance efficiency**. ...Carbon pricing can lead to **innovation** and new technologies that have positive outcomes for consumers and **position Canadian firms** to be suppliers of less carbon-intensive products and services.”

- Canadian Council of Chief Executives

# 2

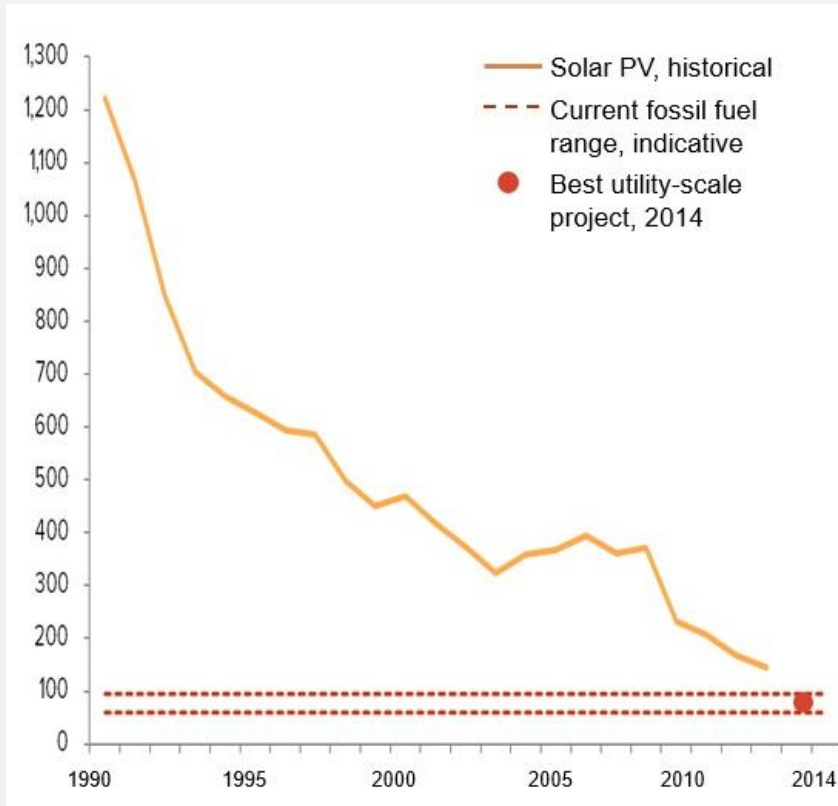
## Innovation - can lower costs, improve performance



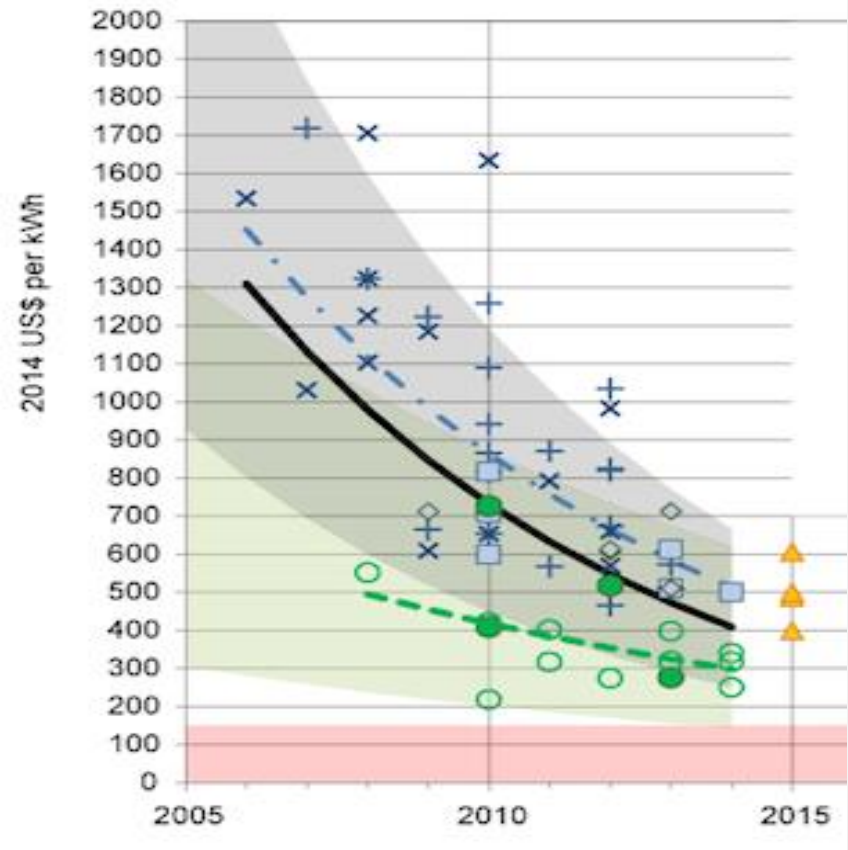
*Credit: Huffington Post*

# (Clean) innovation

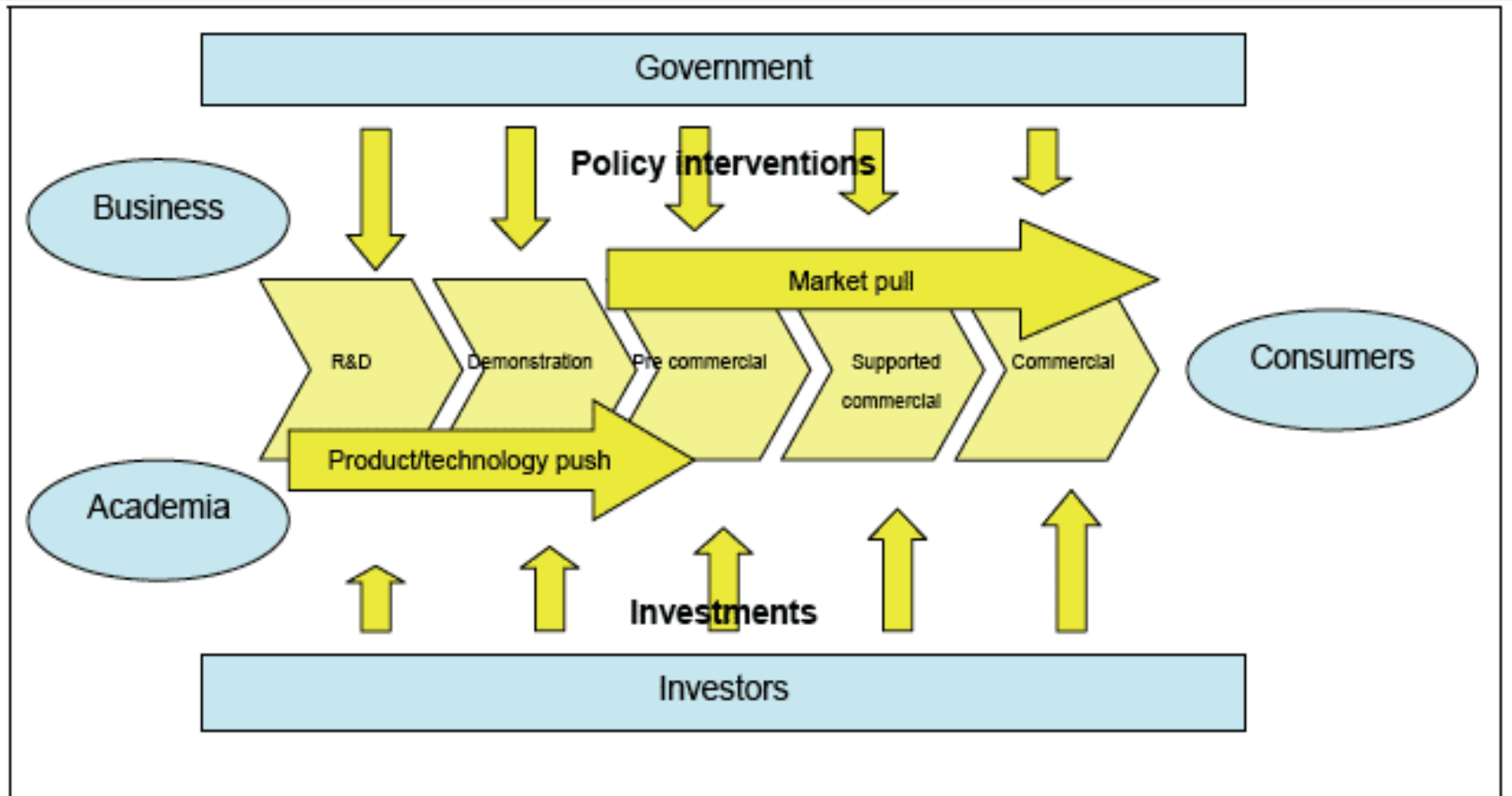
## Solar power costs



## Electric car battery costs



# How innovation happens (sort of)



# Public investment in innovation

## What Makes the iPhone so Smart?

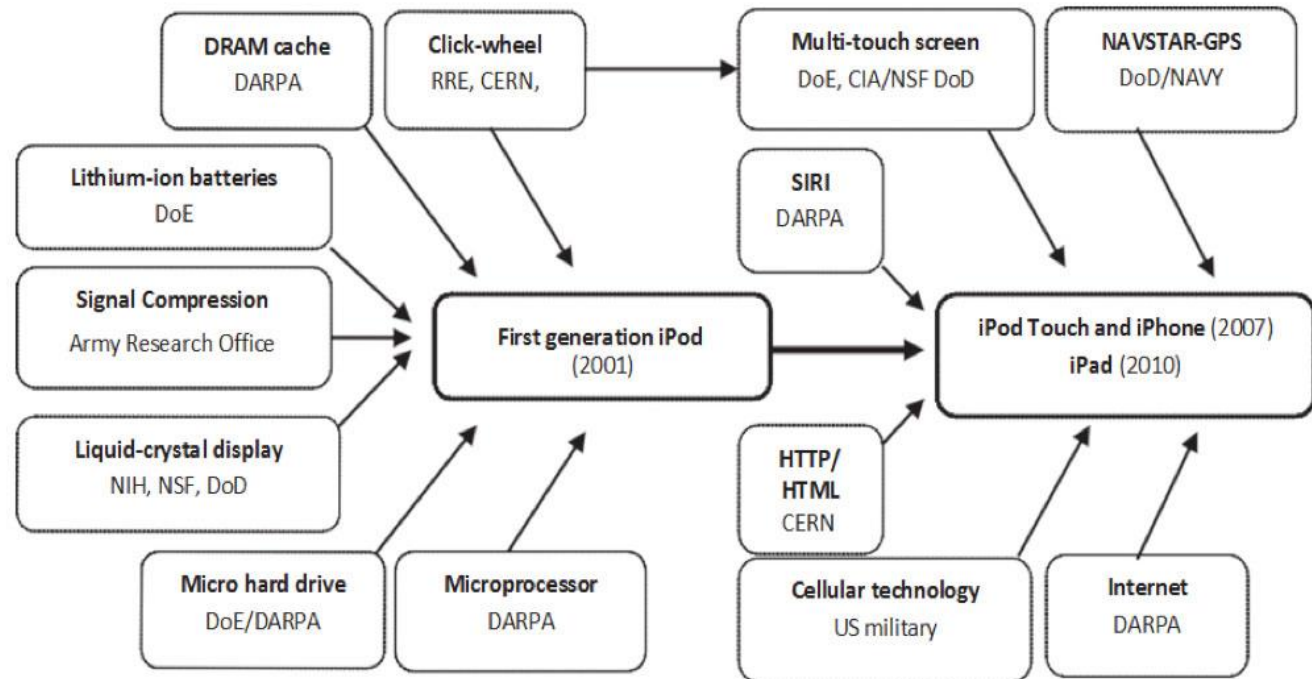
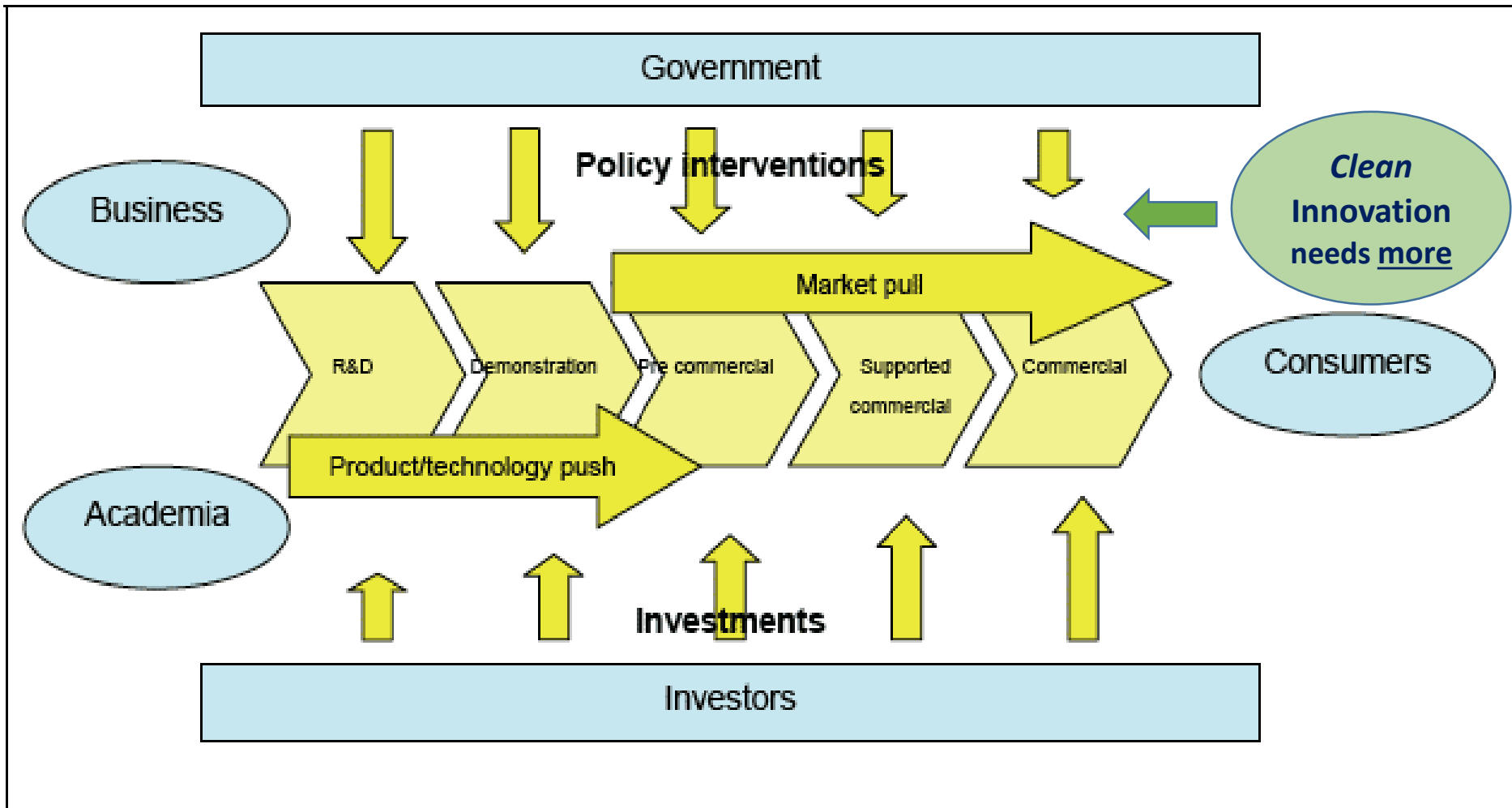
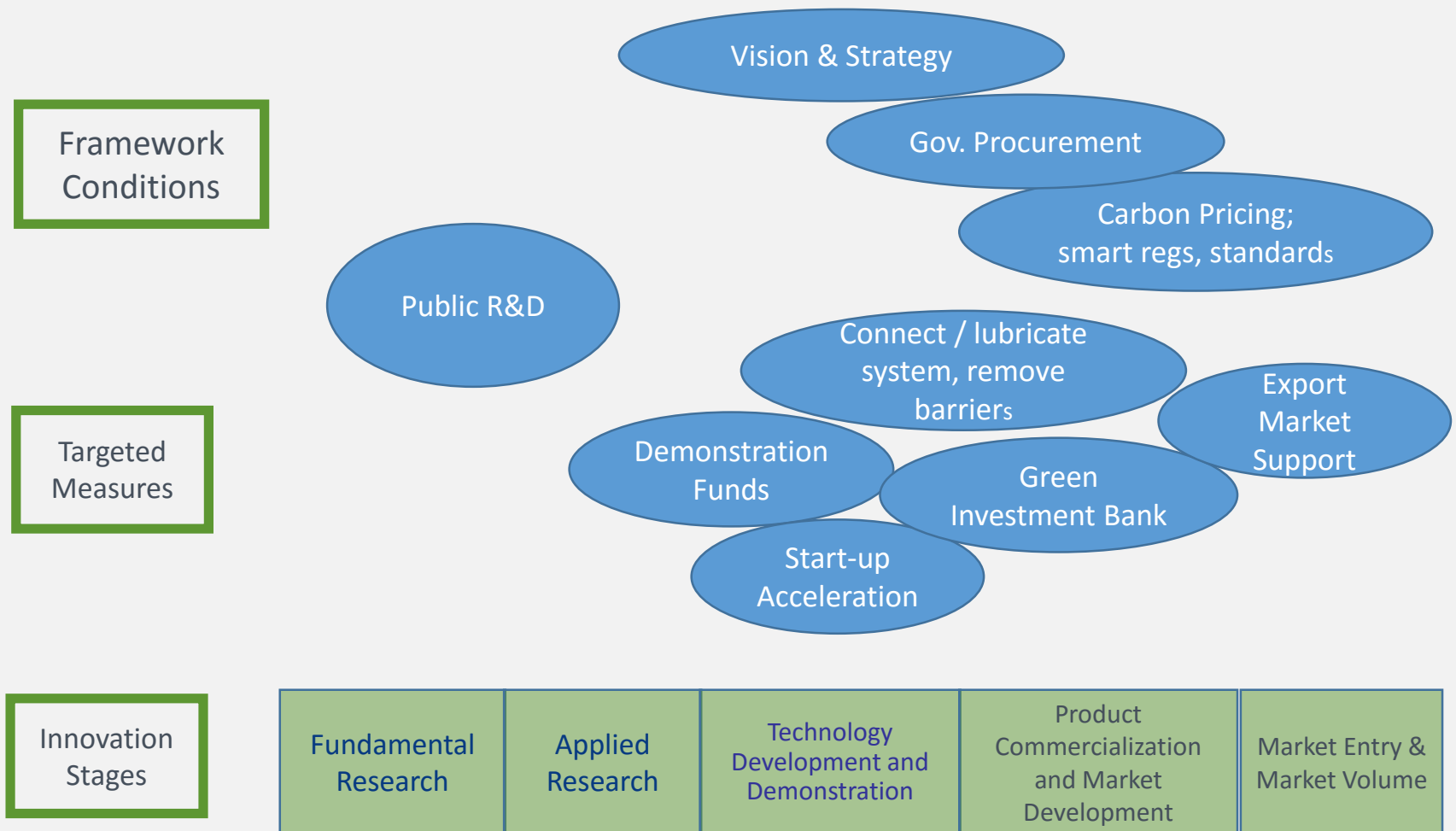


Figure 13 from *The Entrepreneurial State: debunking public vs. private sector myths* (2015, p. 116)

# How Clean Innovation Happens



# Multiple roles for government



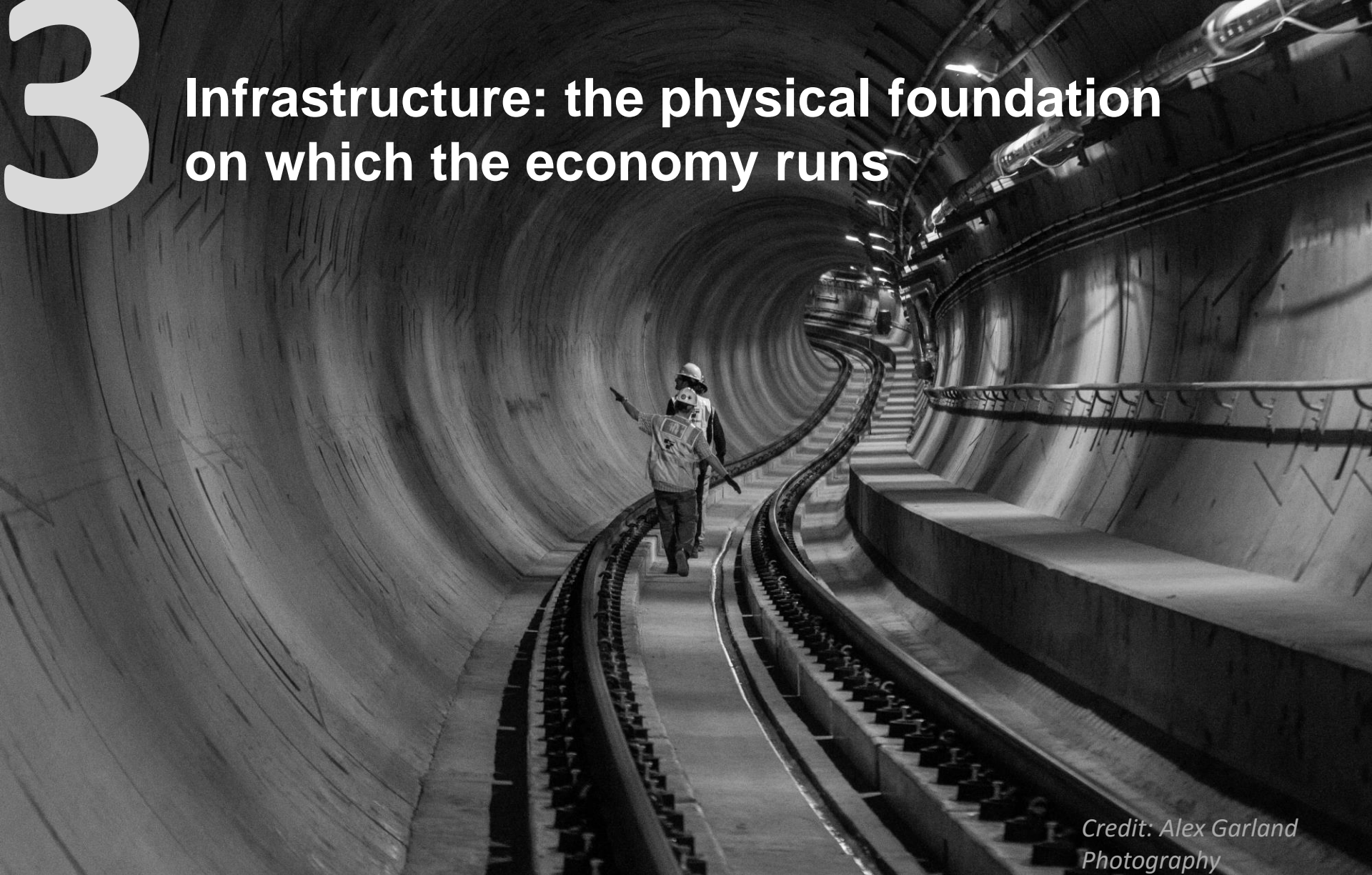


# How an economy works (sort of)



# 3

## Infrastructure: the physical foundation on which the economy runs



*Credit: Alex Garland  
Photography*



\$90T in global investment by 2030



# Driving transformative policy change

1. Start with compelling **vision**, and specific **goals**
2. **Reframe** the discussion (“env’t vs economy”)  
1 part threat, 2 parts opportunity ... can-do!
3. Convene **unusual allies** (biz + NGO leaders)
4. Work **outside** (public) + **inside** (gov)
5. Base on solid **research**, evidence
6. **Early wins**, and keep momentum
7. Need **lasting support** across parties, regions
8. Pt. II: **Structures** to implement, engage

# Smart Prosperity initiative

**Goal:** Canada makes more economic, innovation and environmental progress than any developed nation over the next decade

## How?

1. Accelerate Clean Innovation
2. Invest in Clean Infrastructure & Skills
3. Boost Energy & Resource Efficiency
4. Price Pollution and Waste
5. Conserve and Value Nature



**“New Thinking is good for the  
environment and the economy.”**





# Window of opportunity?







Want to save the planet?

*Fix the economy.*

# Stewart Elgie

Sustainable Prosperity  
selgie@sustainableprosperity.ca

**sustainableprosperity.ca**