

Economic Renewal and Local Climate Change Strategies: Two Sides of the Same Coin?

*Ralph D. Torrie, Managing Director, Navigant Consulting
Presentation slides for Inaugural Meeting
Southwest Ontario Clean Air Council (SWP-CAC)
London Council Chambers, London Ontario, March 11, 2009*

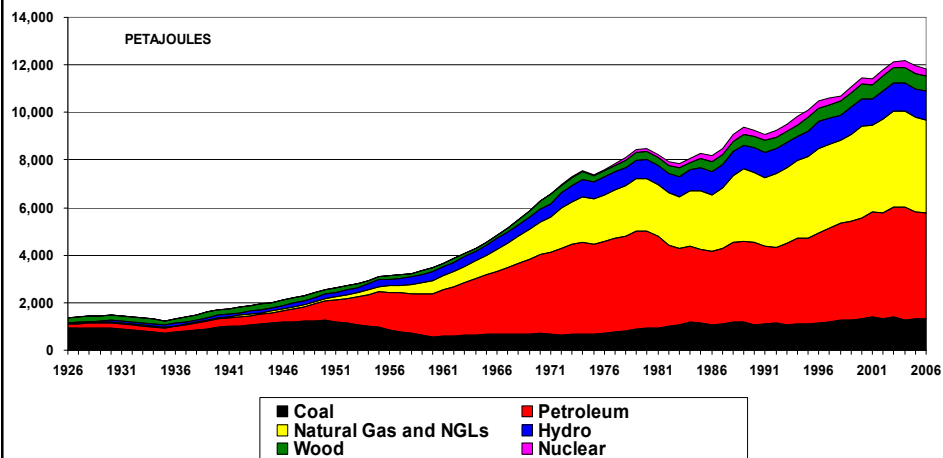
Ralph.torrie@navigantconsulting.com

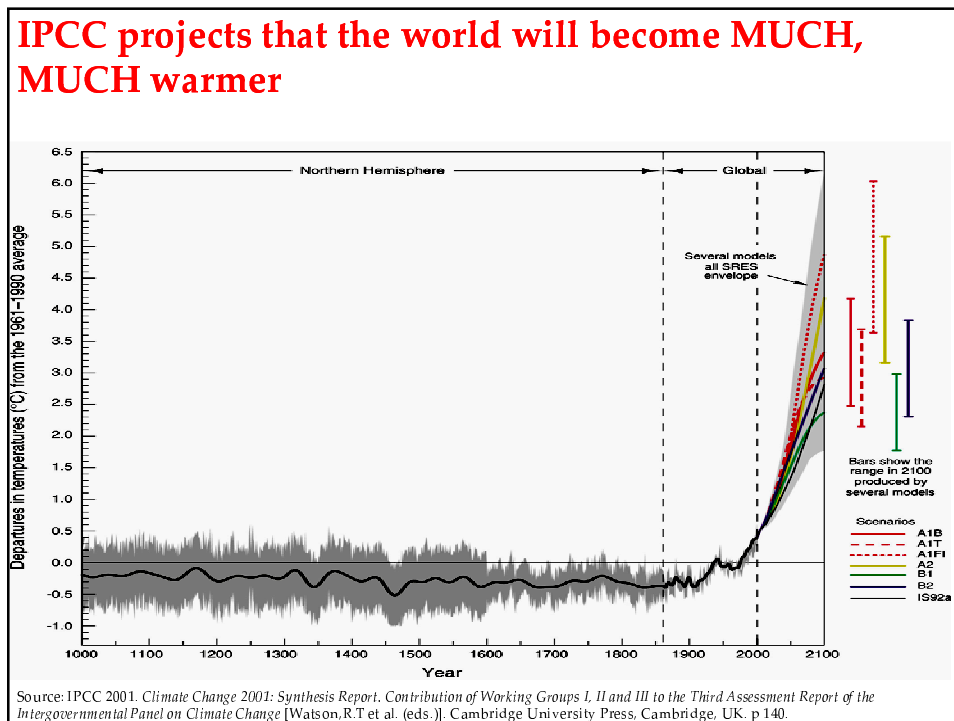
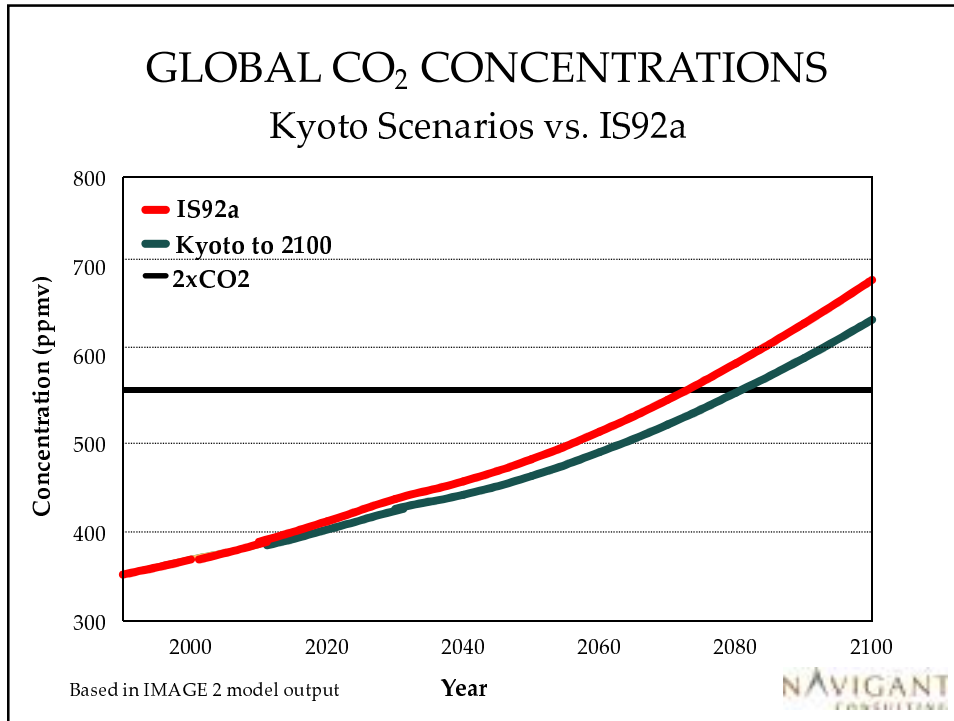


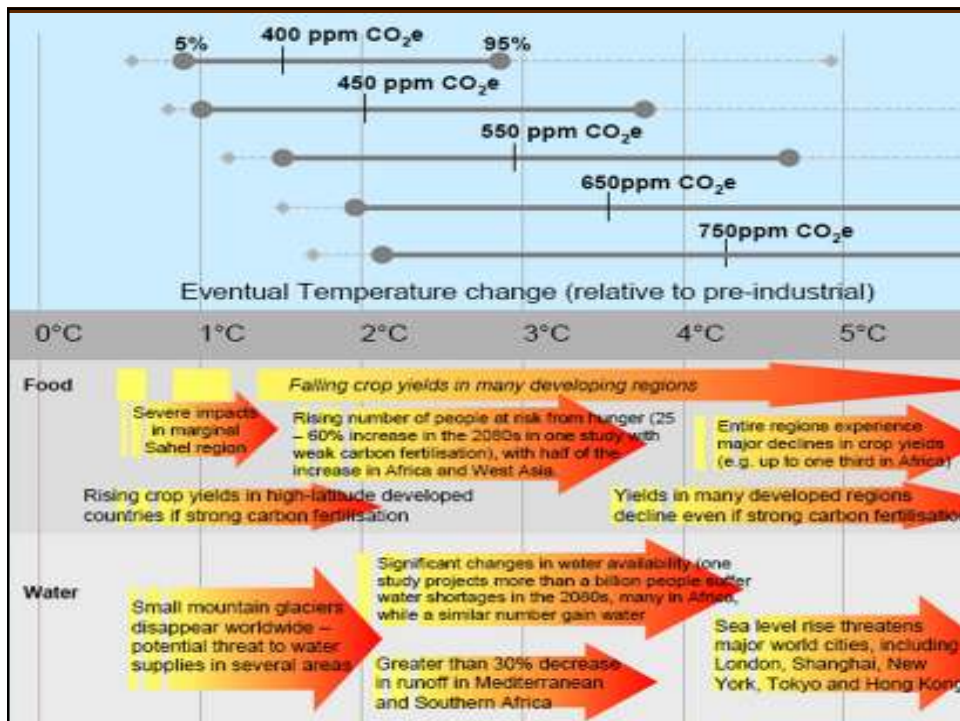
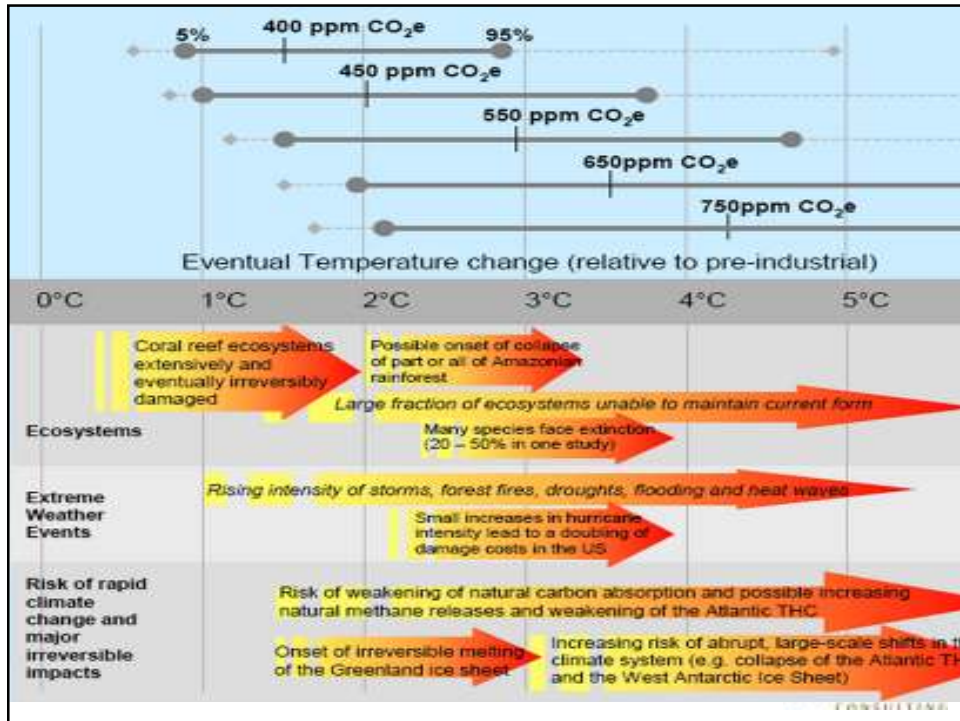
Page 1

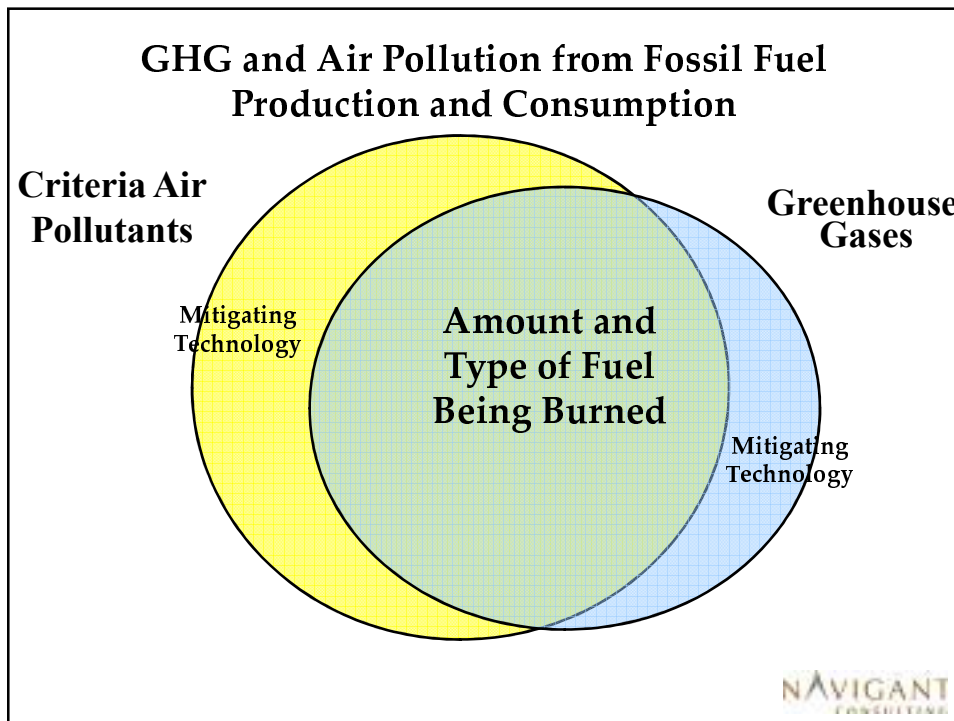
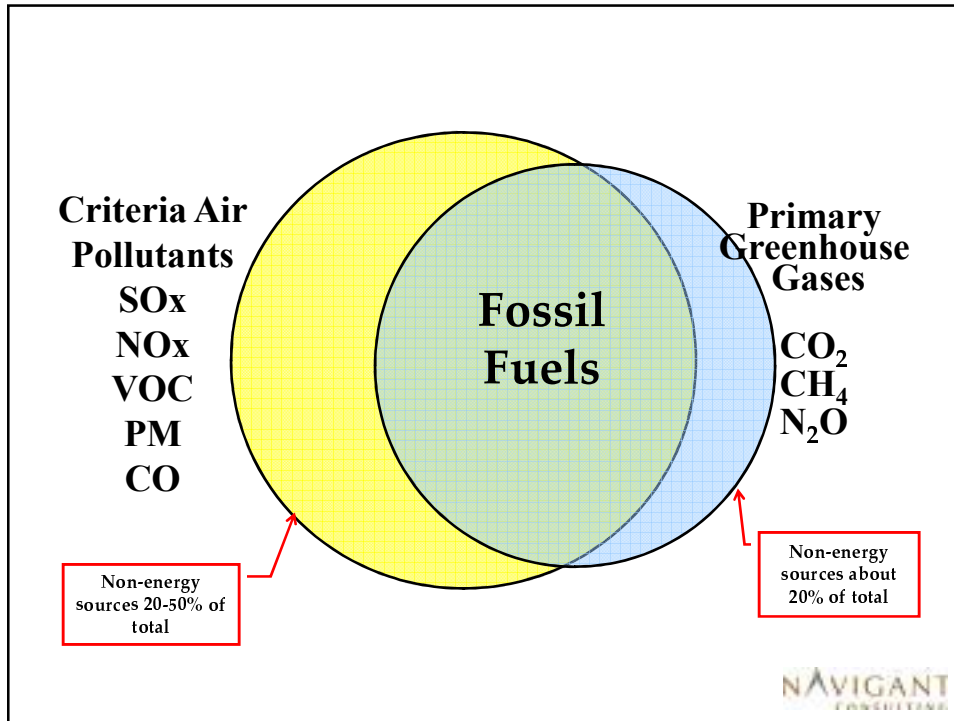


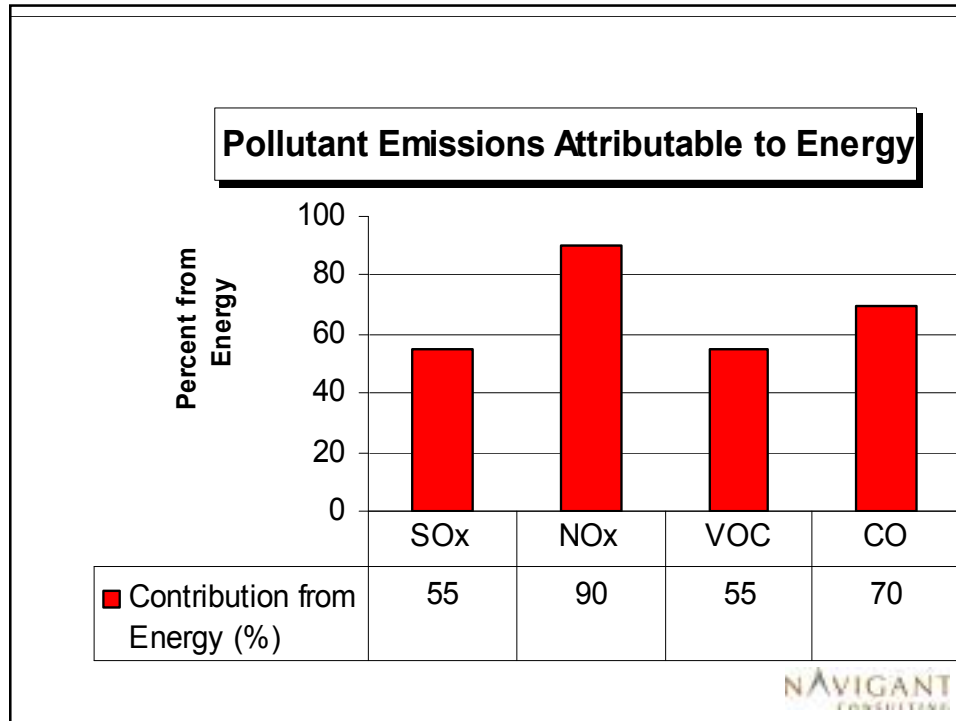
Canadian Domestic Demand for Primary Energy, 1926-2006











“You don’t know what you’ve got
‘till its gone.”

- » 2-4 deg (Celsius) increase in average temperature is now unavoidable, compared to less than one degree warming to date.
- » Ecosystem impacts may occur in a less continuous way (e.g. Greenland ice melt, permafrost methane release, sudden and rapid degeneration of regional forest and agricultural ecosystems, etc).
- » Globally, the economic costs will mount into the trillions, and may in fact be incalculable.



NAVIGANT
CONSULTING

How do we defend ourselves against
climate change?...




NAVIGANT
CONSULTING

*The difficulty lies not with
the new ideas, but in
escaping the old ones. . . .*

John Maynard Keynes

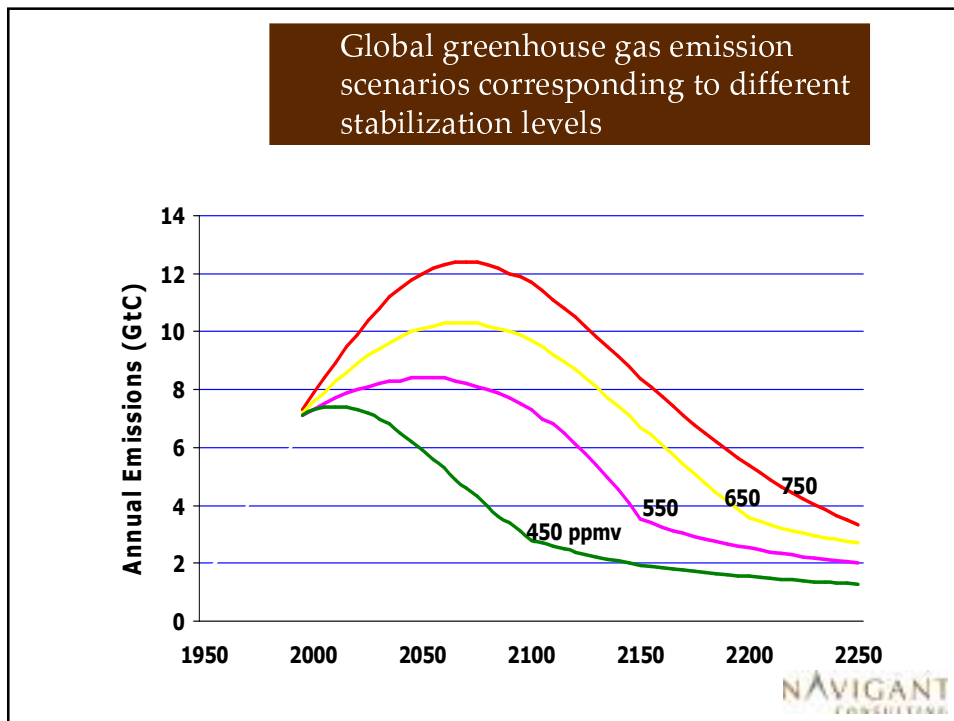

NAVIGANT
CONSULTING

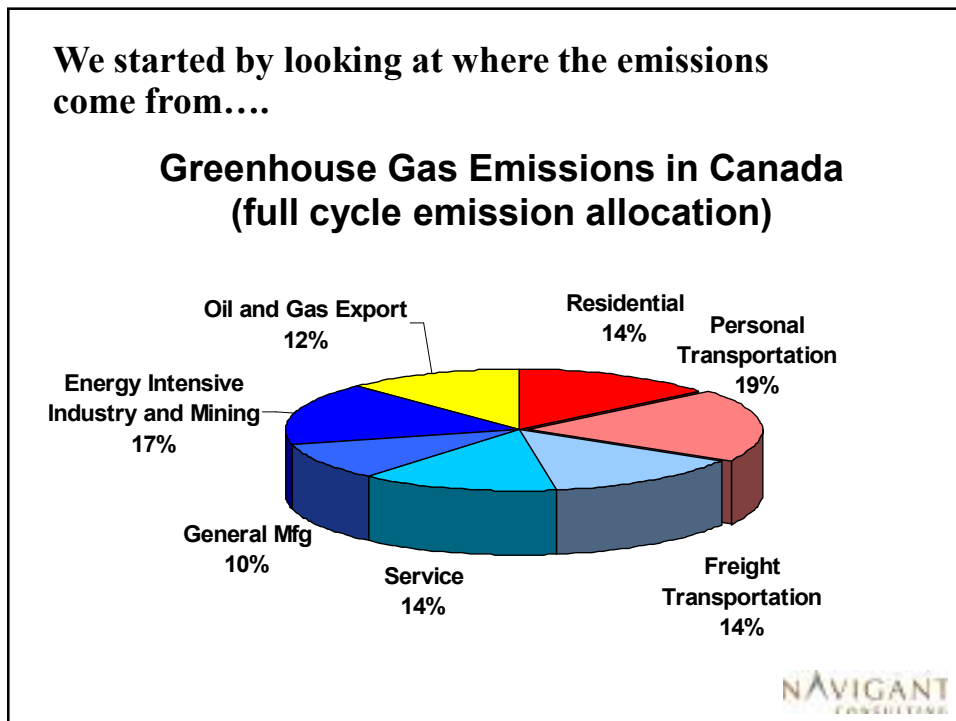
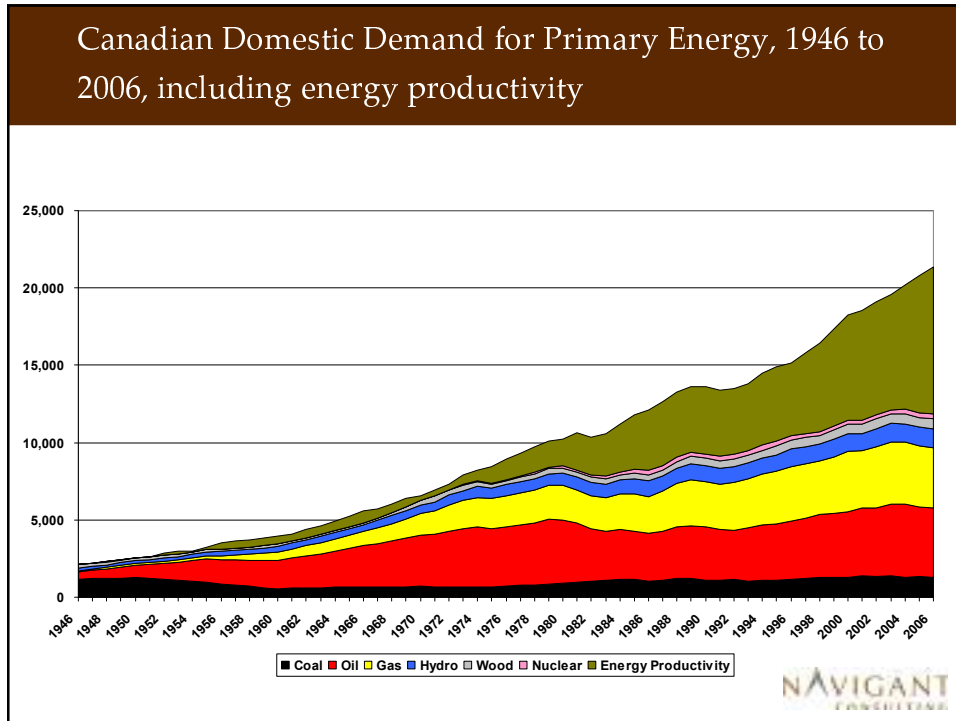
NAVIGANT
CONSULTING



“There’s a gentleman here who says he’s come to caulk where others have been too afraid to caulk.”

Courtesy E J Pettinger





- » 10 kilograms of CO₂ =
 - › About 20 kW.hours of average electricity in Ontario
 - › About 5 cubic metres of natural gas
 - › About 4 Litres of gasoline or other petroleum fuel

NAVIGANT
CONSULTING

Household Emissions– An Example

- » Four person household in SW Ontario, one SUV and one Compact, each clocking about 20,000 km per year
- » Natural gas for space and water heating: 3,000 cubic metres per year, **6,000 kilograms** of CO₂
- » Electricity for lights and appliances, computers, etc: 10,000 kW.hours per year, **3,000 kilograms** CO₂
- » Compact car, 7 Litres per 100 km, 1400 Litres, **3,500 kilograms** of CO₂
- » SUV, 14 L/100 km, 2800 Litres, **7,000 kilograms** of CO₂
- » Total direct emissions for family of four: **19.5 metric tonnes**, or about 5 tonnes per person

NAVIGANT
CONSULTING



Cleaner, quieter, more efficient cars...



NAVIGANT
CONSULTING

And trucks too...



NAVIGANT
CONSULTING

NAVIGANT
CONSULTING

Smarter technologies for electricity use...



NAVIGANT
CONSULTING

Combined heat and power production...



NAVIGANT
CONSULTING

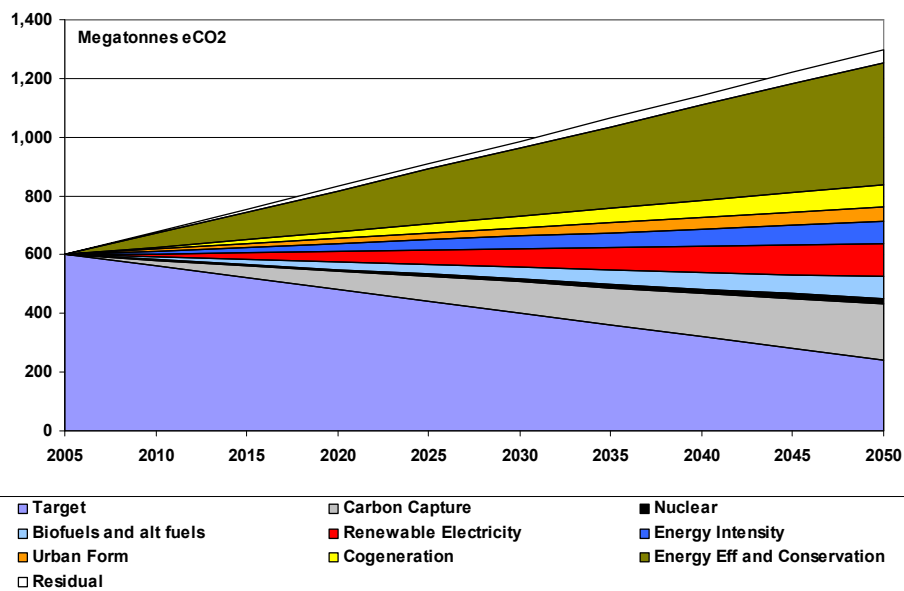
NAVIGANT
CONSULTING

Renewable energy...

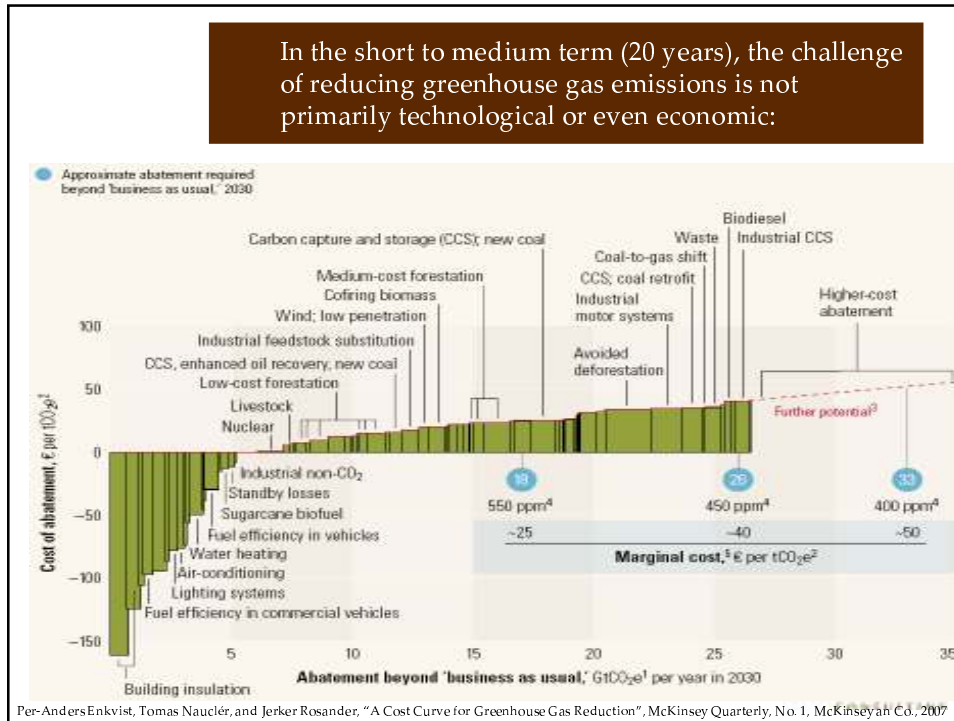


NAVIGANT CONSULTING

GHG Reduction Diagram for Canada -- Aggregate Wedges



NAVIGANT CONSULTING



Implementing Low Emission Futures – The Eye of the Needle

- Low emission futures have policy implications well beyond conventional energy policy. They must be developed in a broader context of sustainable development
- Energy price based strategies perhaps necessary but not sufficient
- Technology deployment fundamentally economic, but constrained by underdeveloped organizational and financial infrastructure, entrenched advantage of commodity suppliers, and externalization of environmental costs.
- Global marketing, rapid deployment will characterize demand side developments.
- Climatic conditions will deteriorate for decades, regardless of mitigation effort
- Local authorities must engage; community transformation





Barrier is not *technical* or *economic* –
It's logistical, financing and business
INFRASTRUCTURE



**At least 50% of the greenhouse gases
emitted from all sources in Canada fall
under the direct or indirect control of local
governments.**

*Climate change is a global issue but
local action is vitally important to
achieving sustainability...*



Local governments influence emissions and the scope for emission reductions through their direct and indirect control and influence over such items as:

- › Local roads, including traffic management and parking
- › Transportation other than roads, including public transit, cycling, pedestrian infrastructure
- › Recreational and cultural facilities, community heritage, park lands and green space
- › Policing, the safety and protection of people and property
- › Social welfare assistance and services
- › Business and economic development
- › Planning, operation, ownership and policy direction of public transit
- › The pattern of public and private investment in the community
- › The determination of urban form through zoning and land use regulation

NAVIGANT
CONSULTING

And the list continues...

- › Regulation and planning of land use and the built environment, including residential and commercial buildings, site layout
- › Storm sewers and drainage infrastructure
- › Aspects of environmental and public health and safety
- › Solid waste management, recycling and landfill facilities
- › Water supply and sewage treatment infrastructure
- › Their own use of fuels and electricity
- › Ownership, control of energy utilities

NAVIGANT
CONSULTING

NAVIGANT
CONSULTING

- » A deep and lasting transition to a low carbon future cannot be achieved without the active engagement of local governments. Local governments largely determine the level of greenhouse gas emissions in the society.
- » The pursuit of emission reduction and other greenhouse gas mitigation strategies brings multiple benefits to the community and complements other community objectives for environmental improvement, economic development, public health and enhanced livability.
- » There is a huge variation in the level and pattern of greenhouse gas emissions and mitigation opportunities from one locality to the next -- LOCAL action plans for greenhouse gas mitigation are necessary for success at the national level. This in turn underscores the need for capacity at the local authority level to develop and implement such strategies.



City Comparisons of Per Capita CO2 Emissions from Energy

