

Local Futures, Resilient Cities

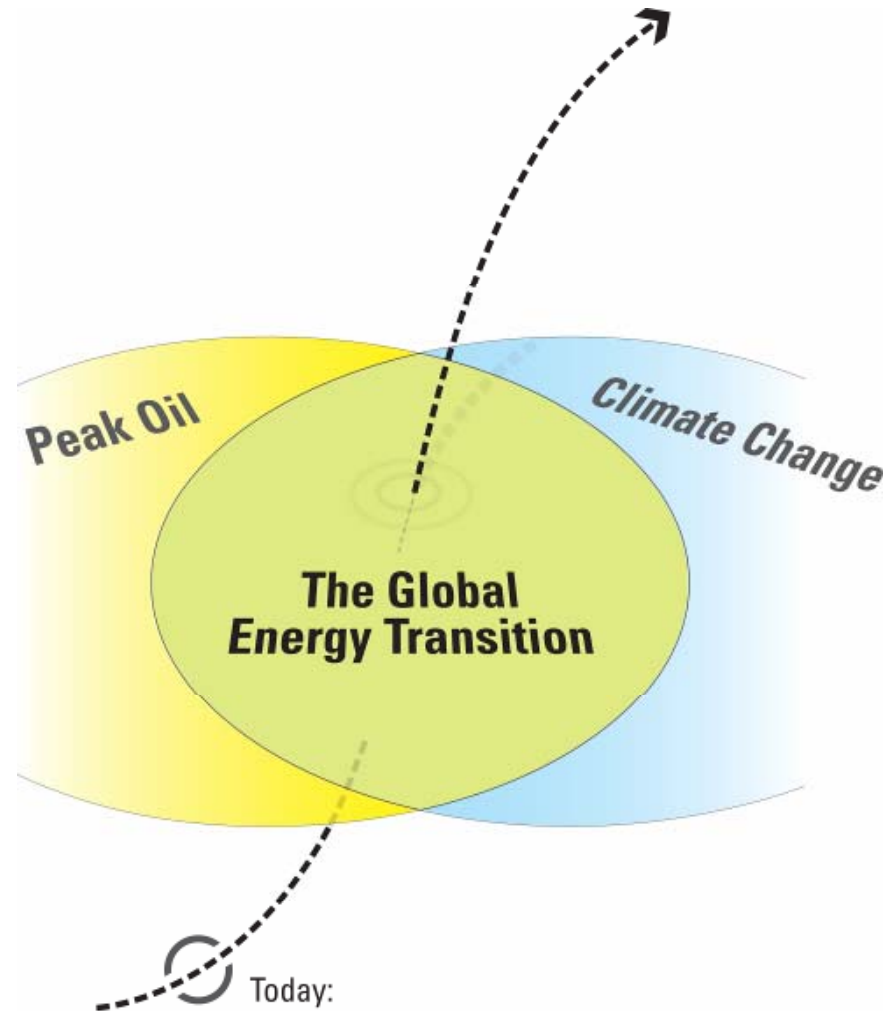
Planning for Peak Oil
and Climate Change

Local Futures Conference
November 2009

Bryn Davidson

B.Eng. M.Arch. LEED-AP

 **Dynamic Cities Project**
www.dynamiccities.org



SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

CLIMATE CHANGE and the FUTURE of SOUTHERN CALIFORNIA

JULY 2009

design
planning
policy for a
changing world



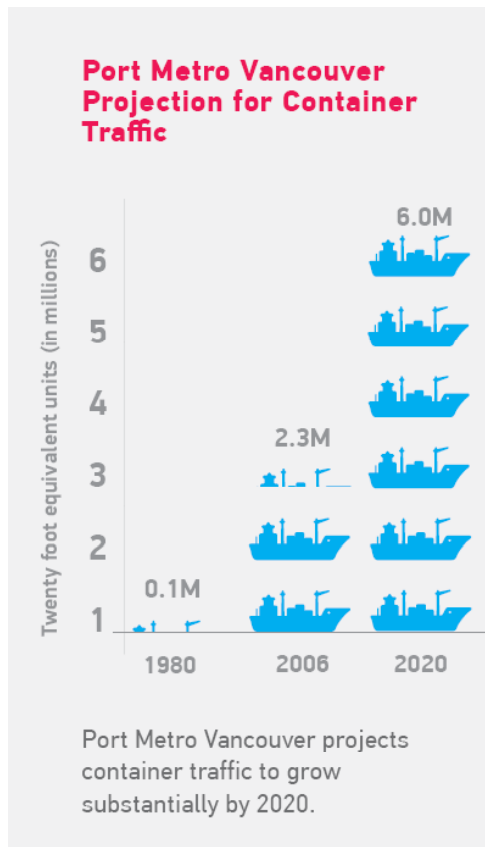
www.dynamiccities.org

1. Local Future(s) : ***What future are we planning for?***
2. Energy Transition: ***Climate Change vs. Peak Oil***
3. Dynamic City = ***Sustainable + Resilient***

What future are we planning for?



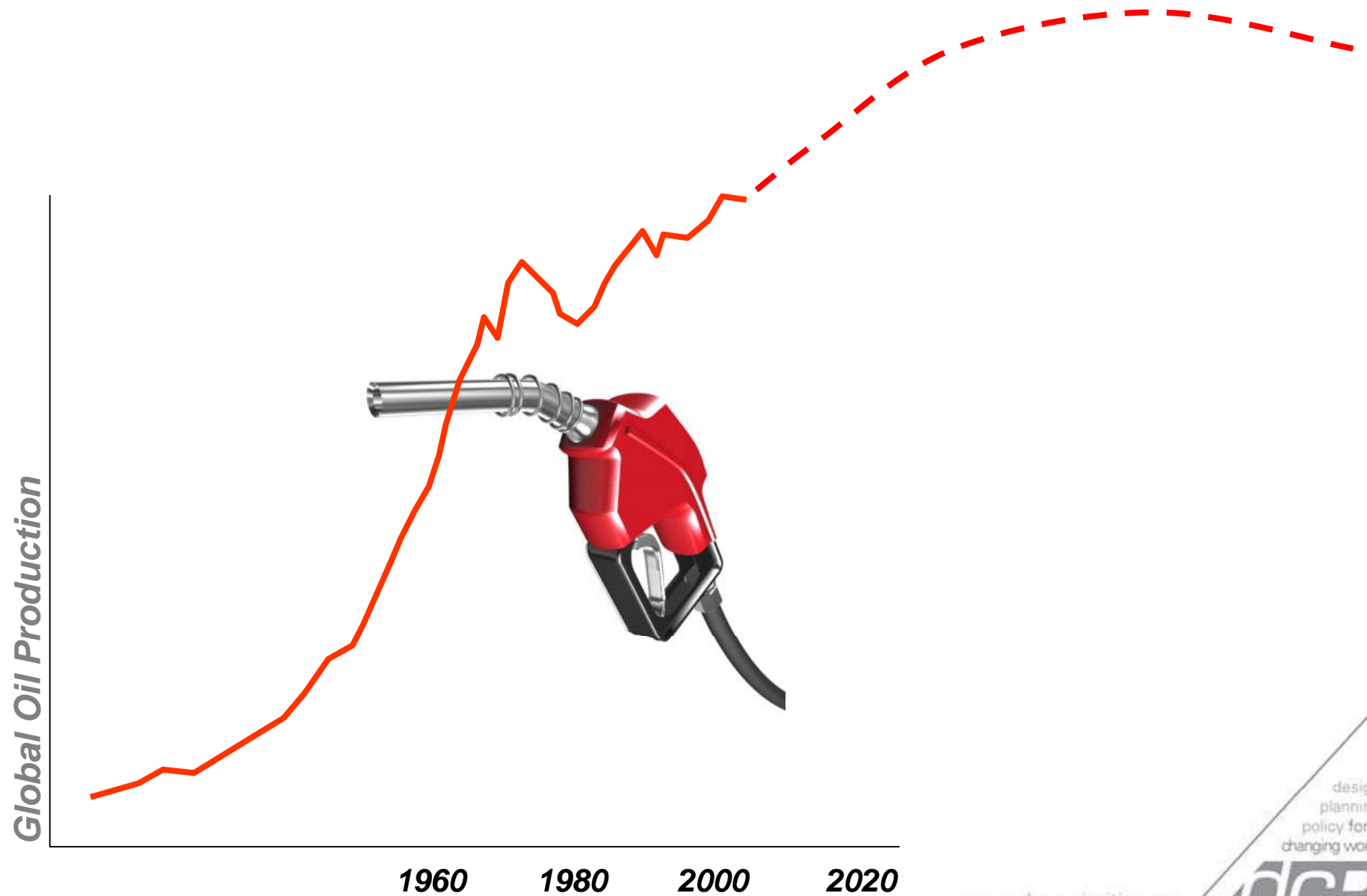
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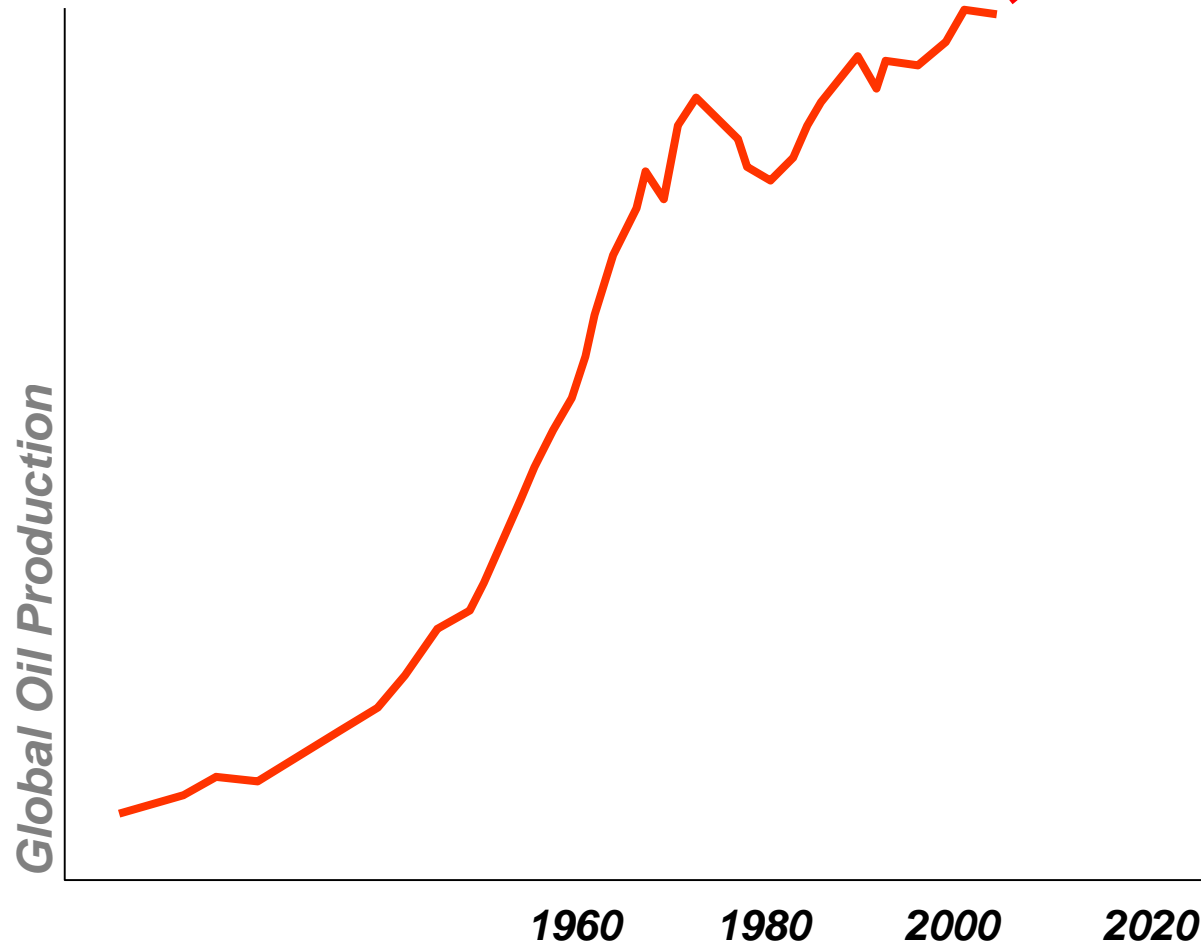
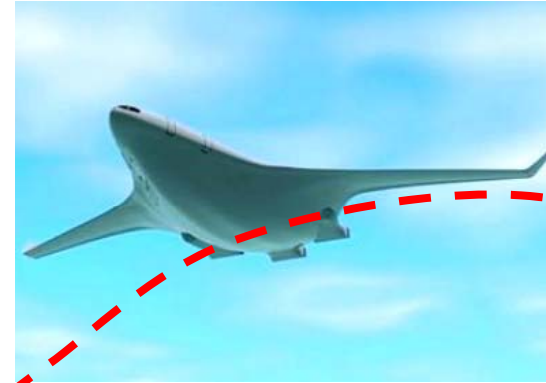
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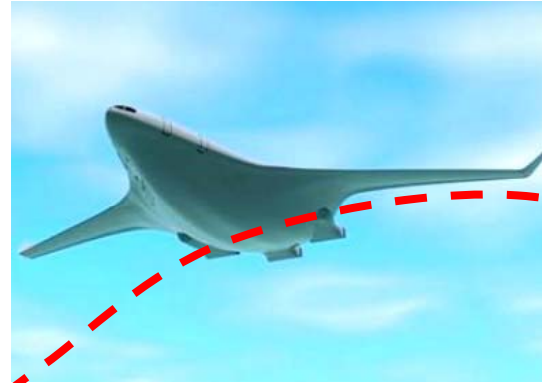
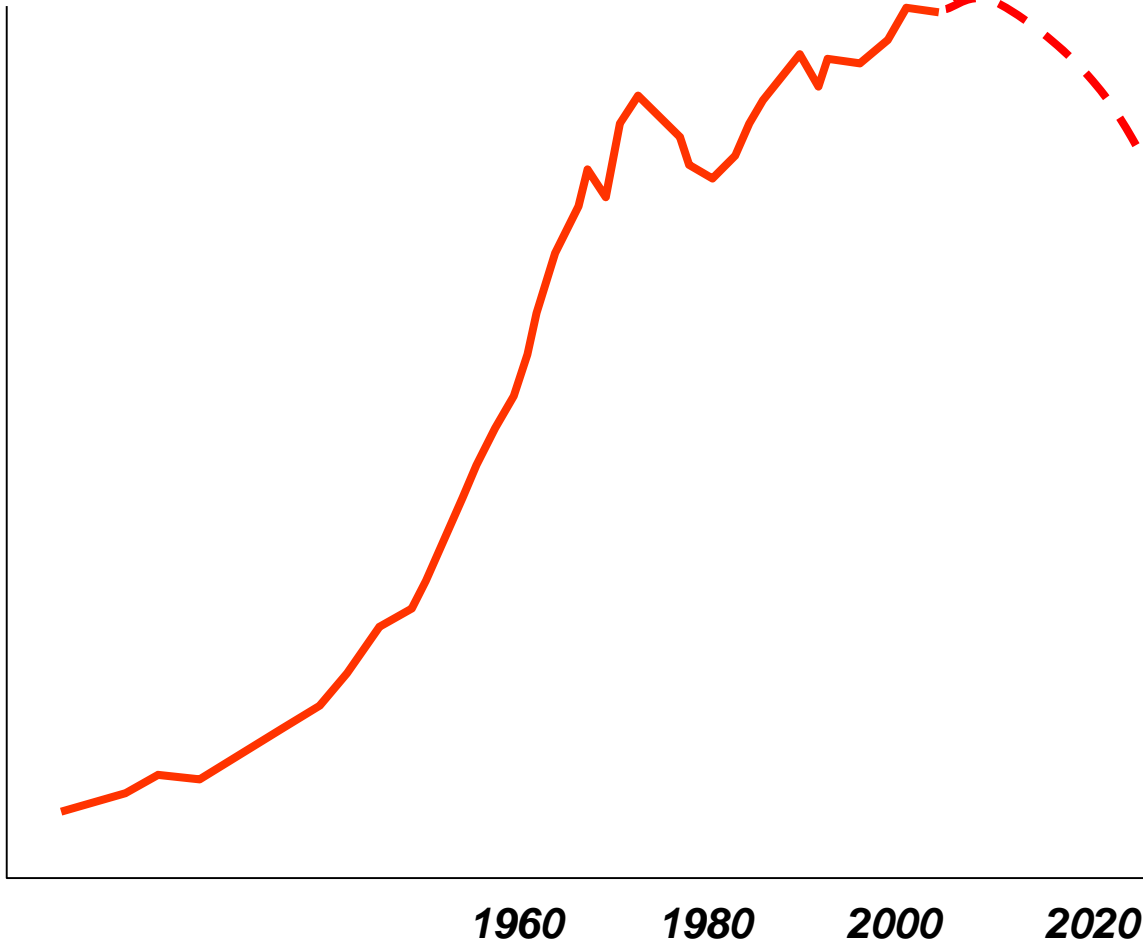


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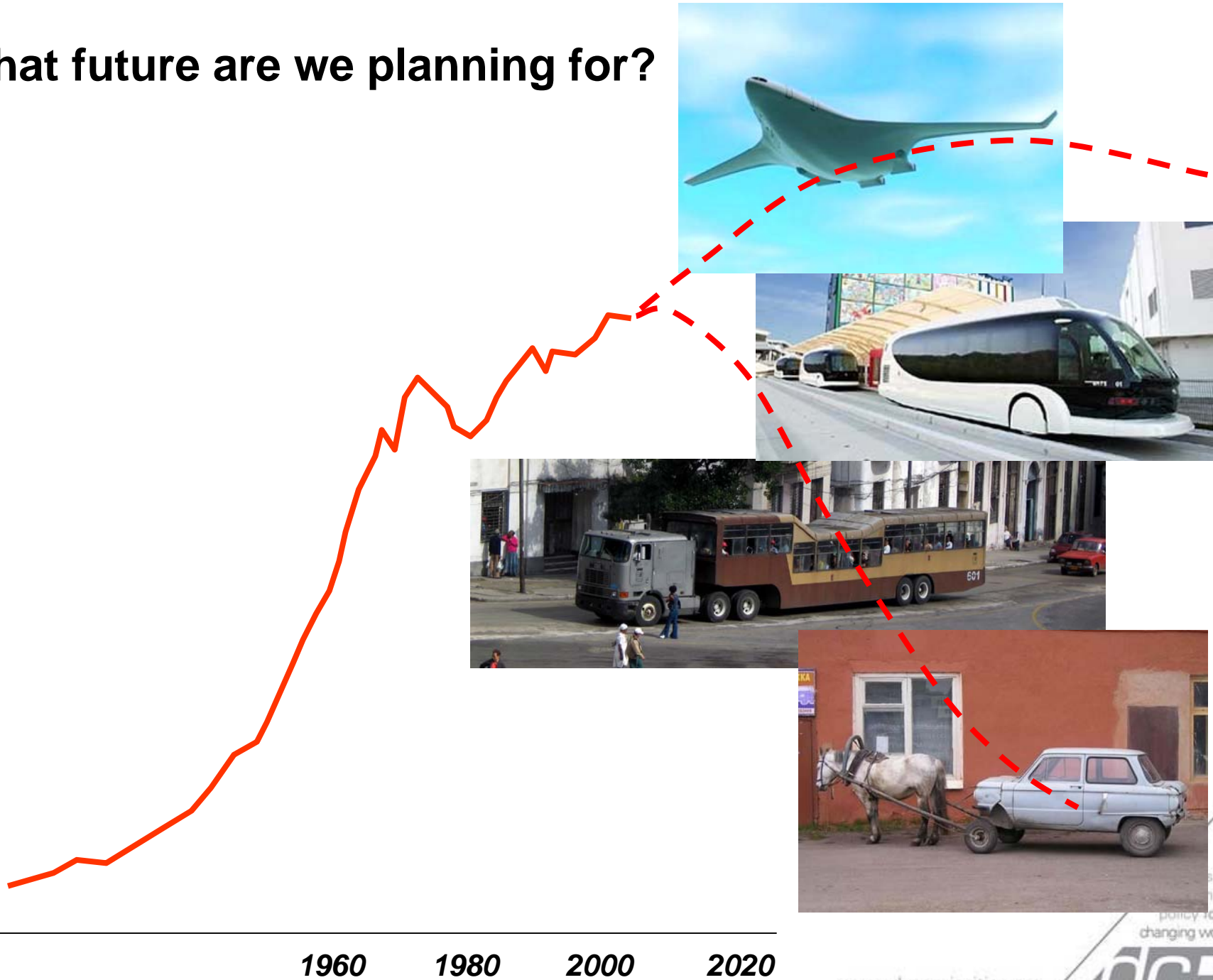
What future are we planning for?

Global Oil Production

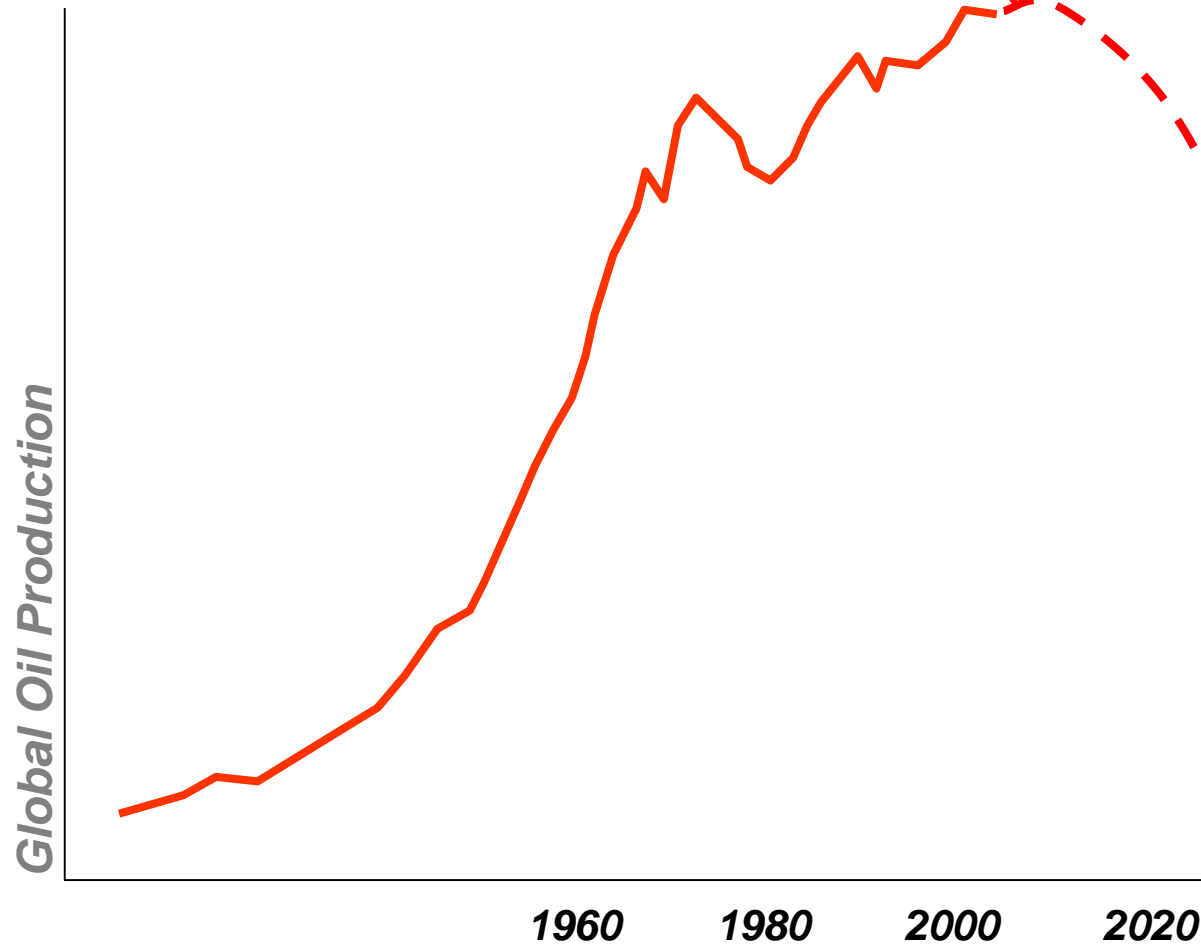
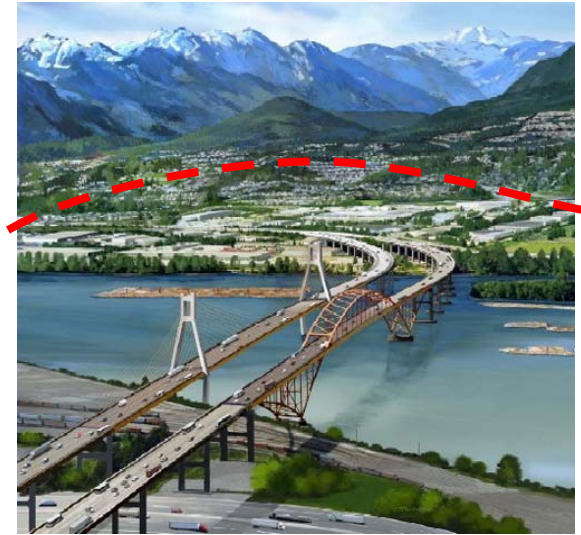


What future are we planning for?

Global Oil Production



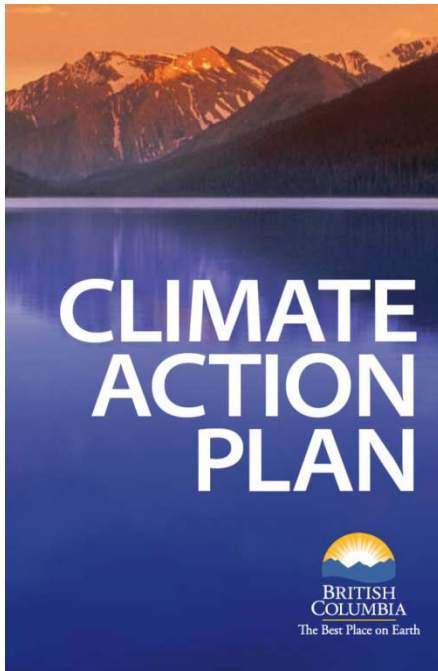
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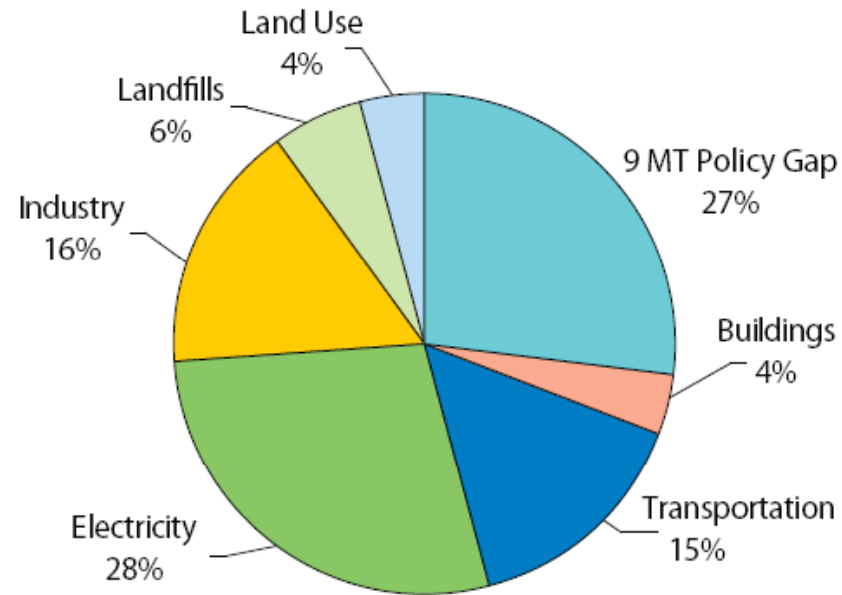
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2. Energy Transition: ***Climate Change vs. Peak Oil***

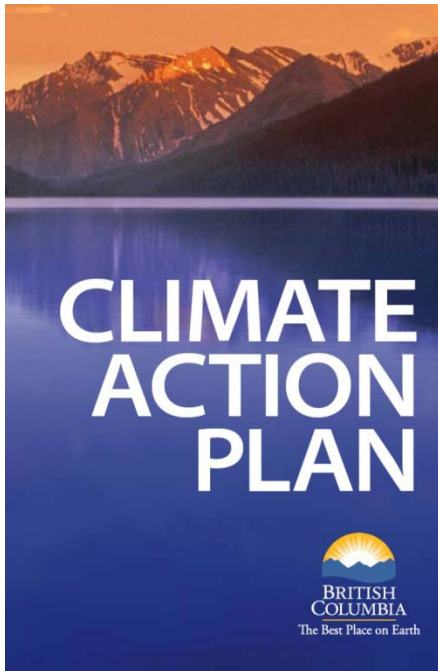
3. Dynamic City = ***Sustainable + Resilient***



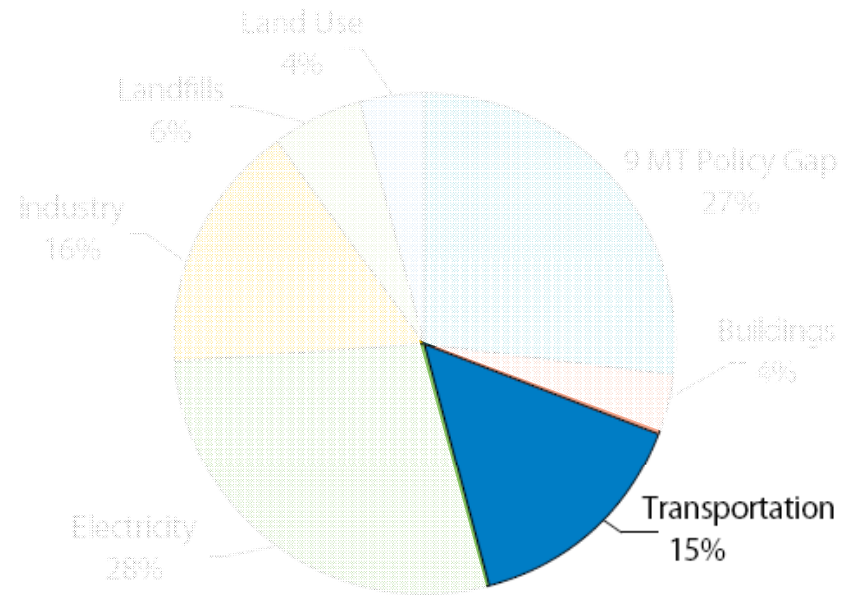
Percentage of Target Reductions Achieved by Sector



Bundle of strategies for reducing emissions.

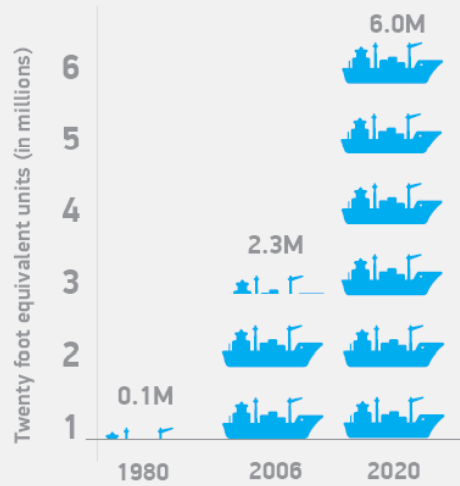


Percentage of Target Reductions Achieved by Sector



Only ~15% of strategies address oil depletion.

Port Metro Vancouver Projection for Container Traffic



Port Metro Vancouver projects container traffic to grow substantially by 2020.

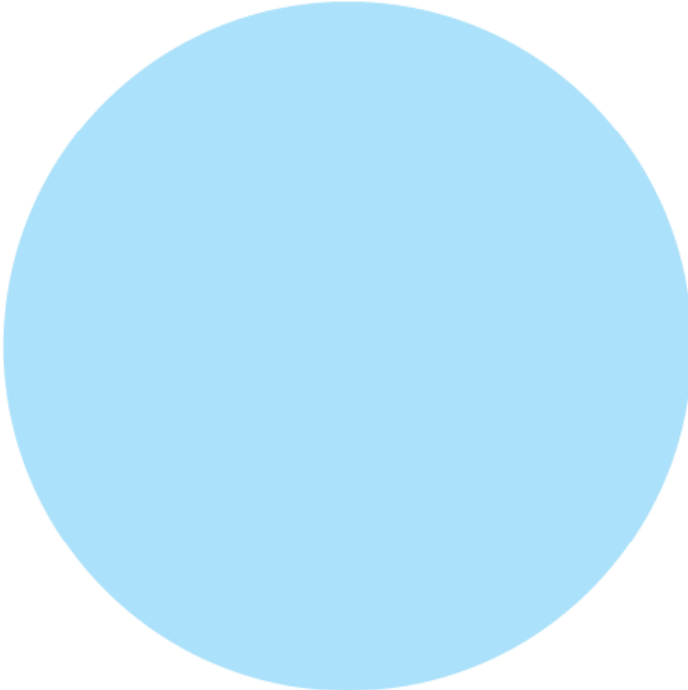
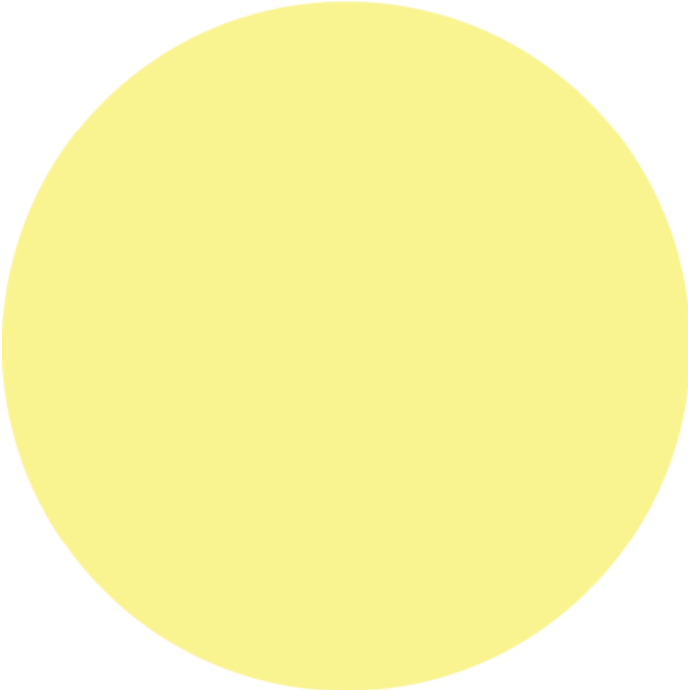
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Peak Oil

Vs.

Climate Change



Peak Oil

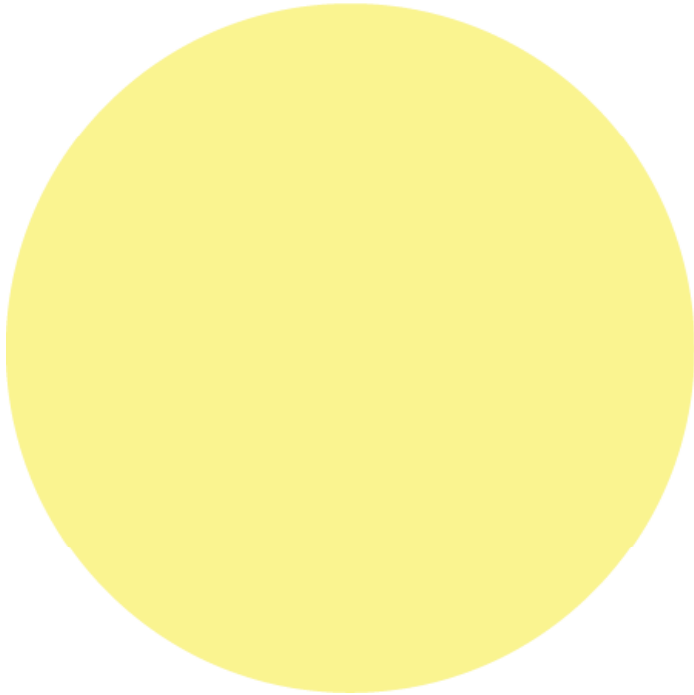
Vs.

Climate Change

Many responses will contribute to a **disastrous acceleration of climate change**

- * **Gas to Coal Switching**
- * **Coal to Liquids**
- * **Tar Sands and Shale**
- * **Forest Removal for Biofuels**

Peak Oil



Vs.

Climate Change



**Many strategies
do nothing to
reduce oil
dependence**

- * Emissions Trading**
- * Atmospheric Carbon Capture**
- * Forestry Based Offsets**

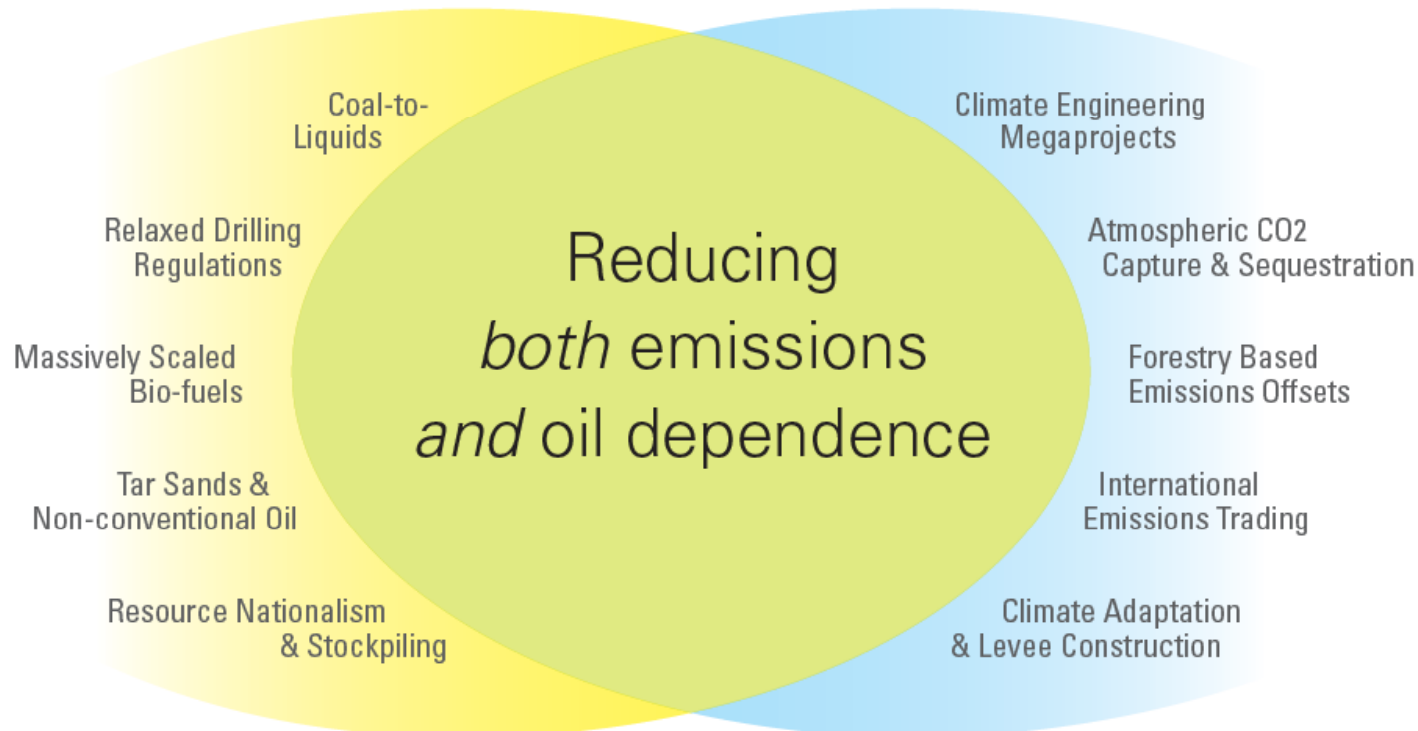
Peak Oil Priorities

Targeting energy security

+

Climate Change Priorities

Targeting climate stability



Top Priority:
Strategies to Reduce
Emissions *and* Oil Dependence

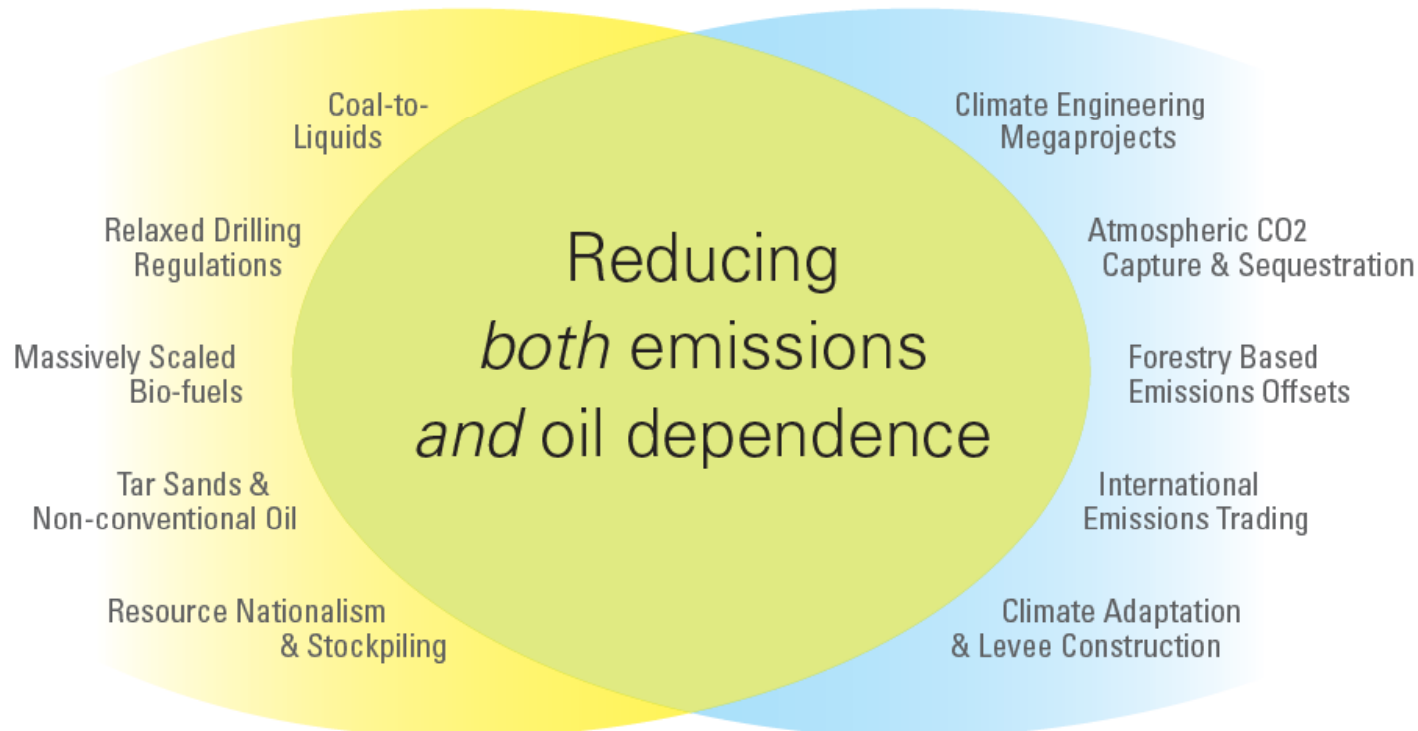
Peak Oil Priorities

Targeting energy security

+

Climate Change Priorities

Targeting climate stability



Top Priorities:

Transportation, Land Use, Goods Movement
(New Technologies and Local Alternatives)

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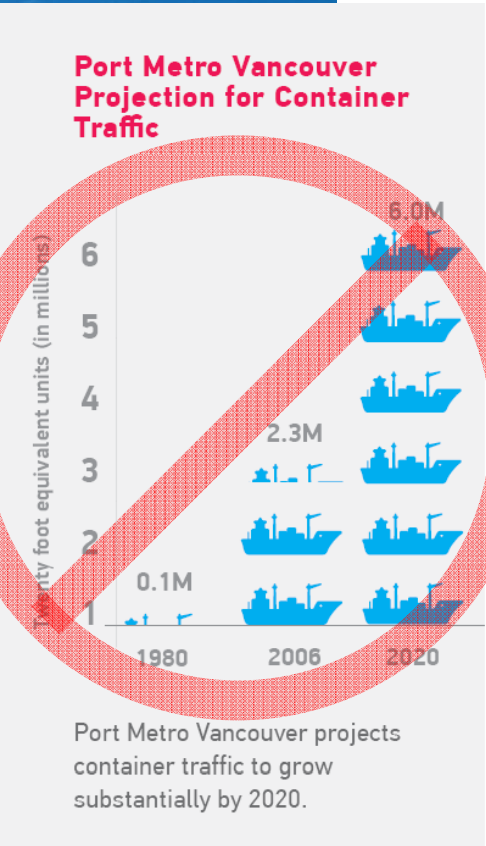
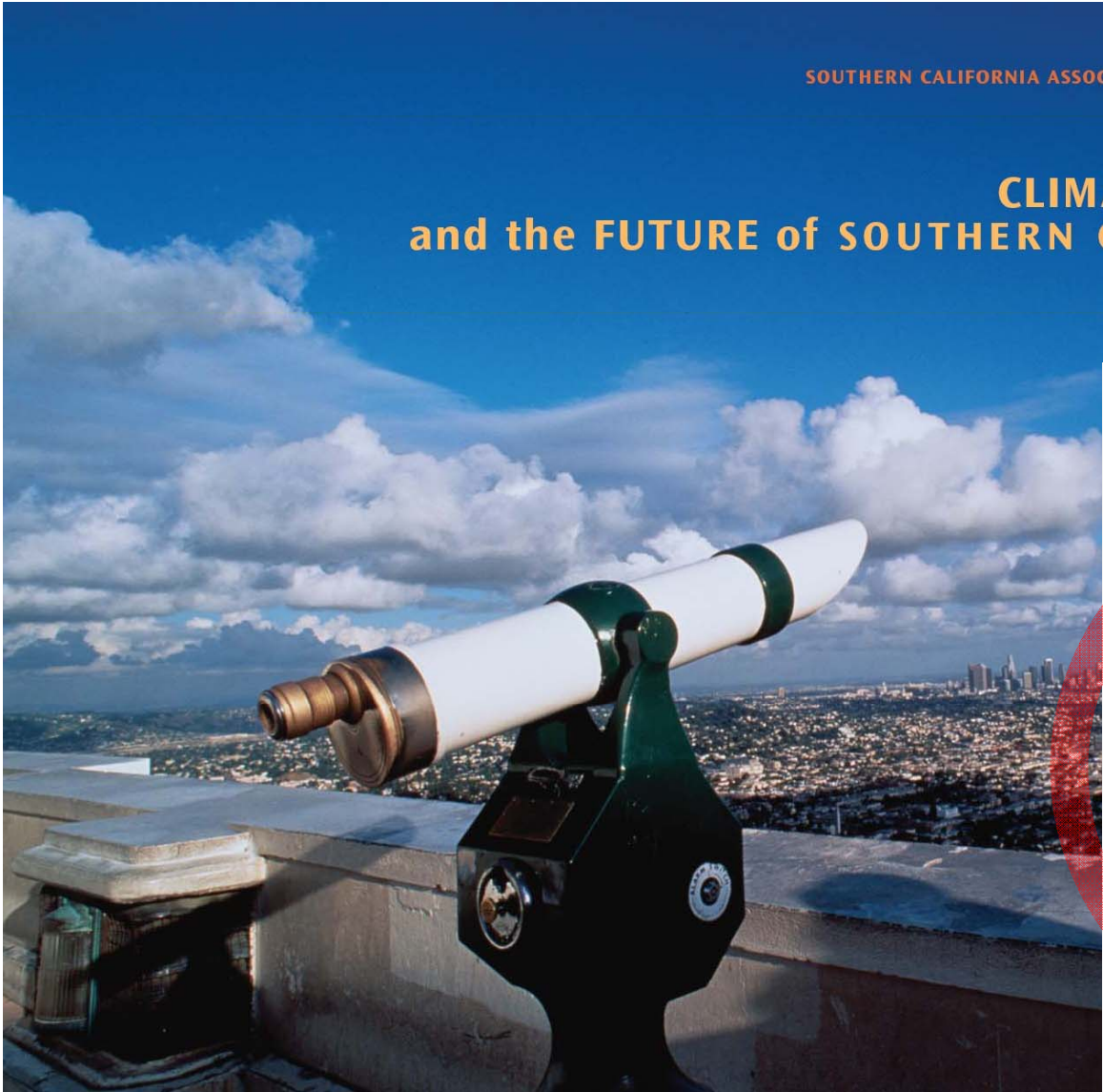
2. Energy Transition = Climate Change + **Peak Oil**

3. Dynamic City: ***Sustainable + Resilient***

a. Resilient Infrastructure Investments

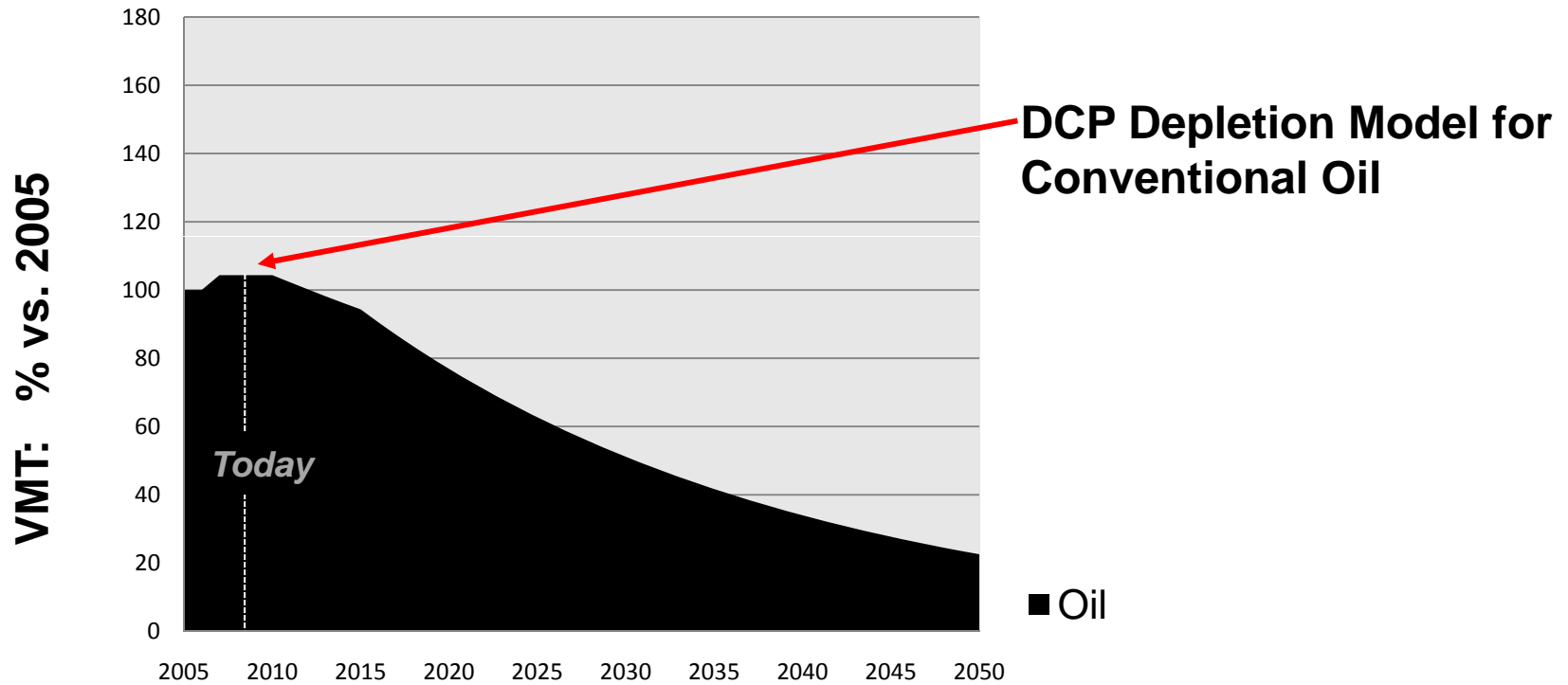
b. Resilient Communities (Through Transition Shocks)

CLIMATE CHANGE and the FUTURE of SOUTHERN CALIFORNIA



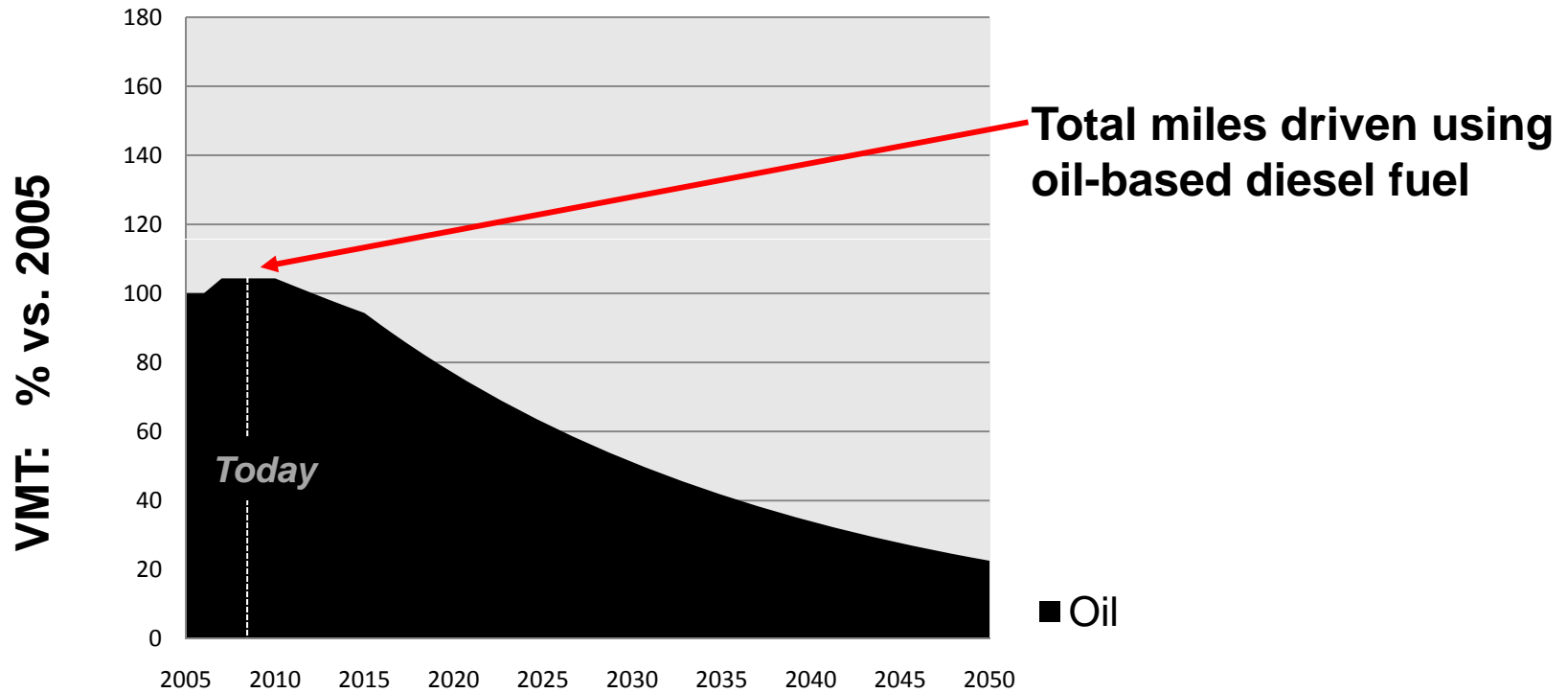
Freight Truck Miles

Peak Oil + Climate Change Scenario



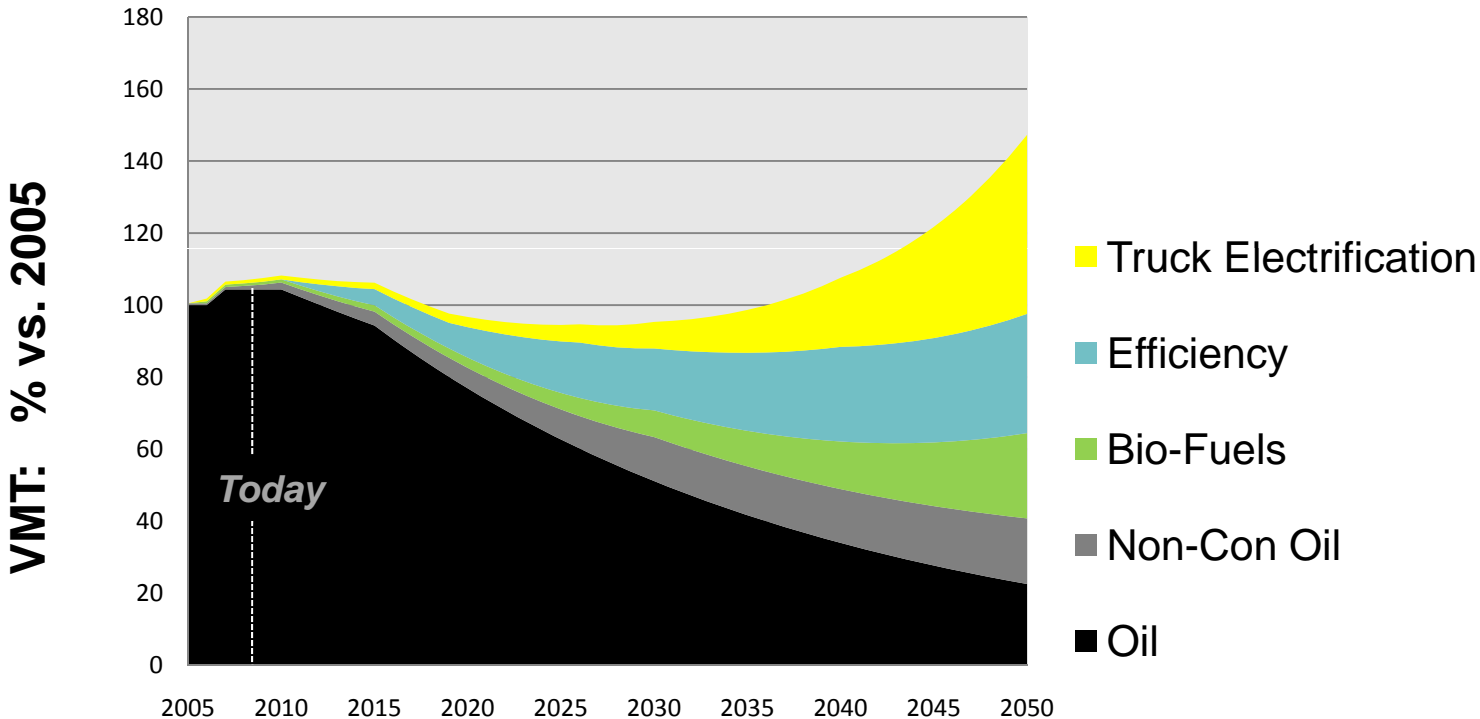
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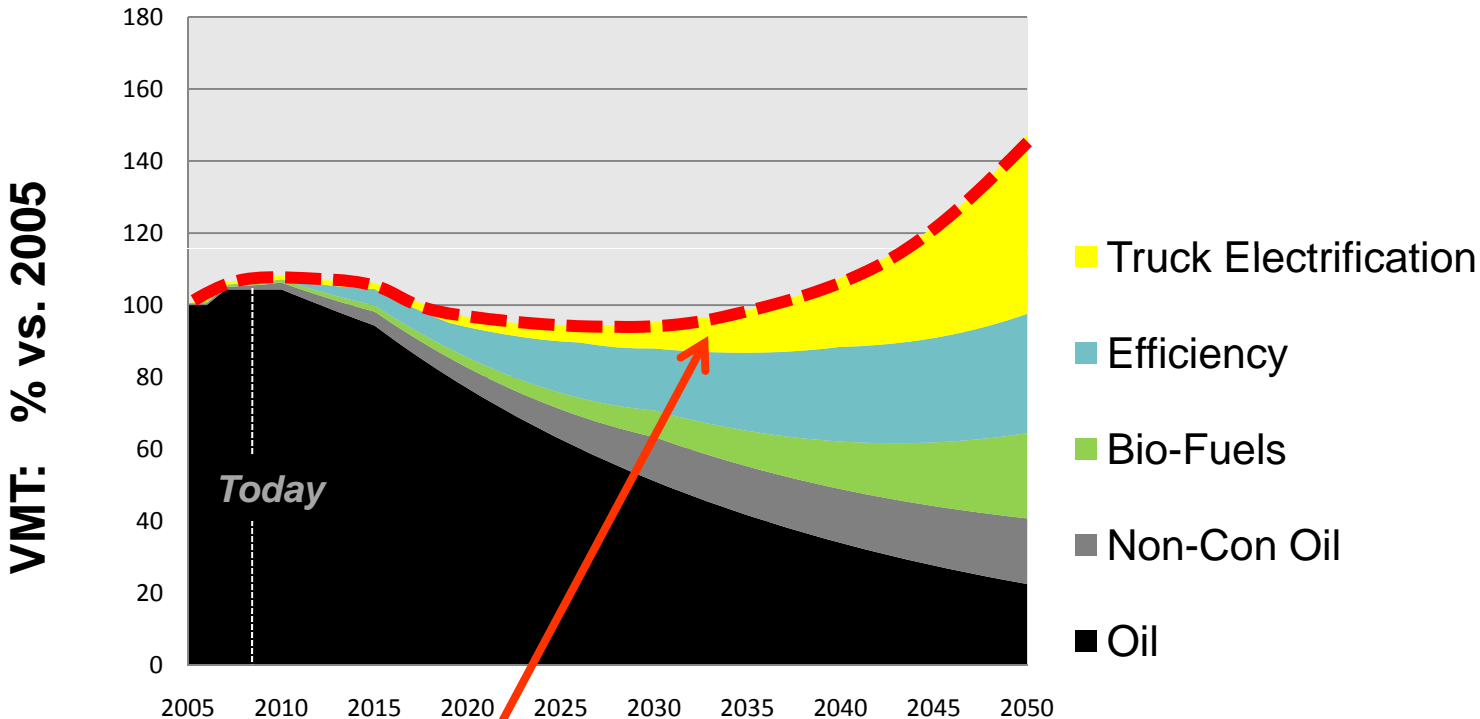


Freight Truck Miles

Peak Oil + Climate Change Scenario

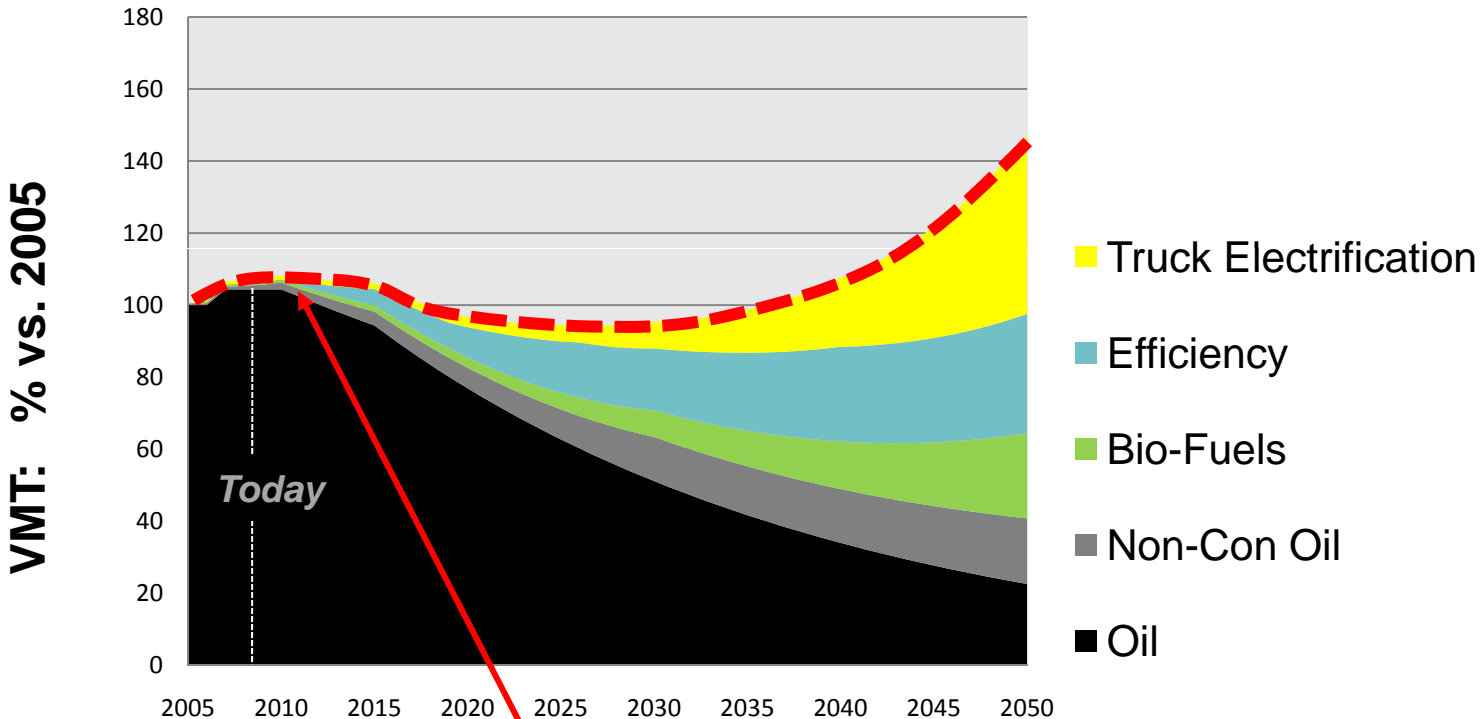


Freight Truck Miles



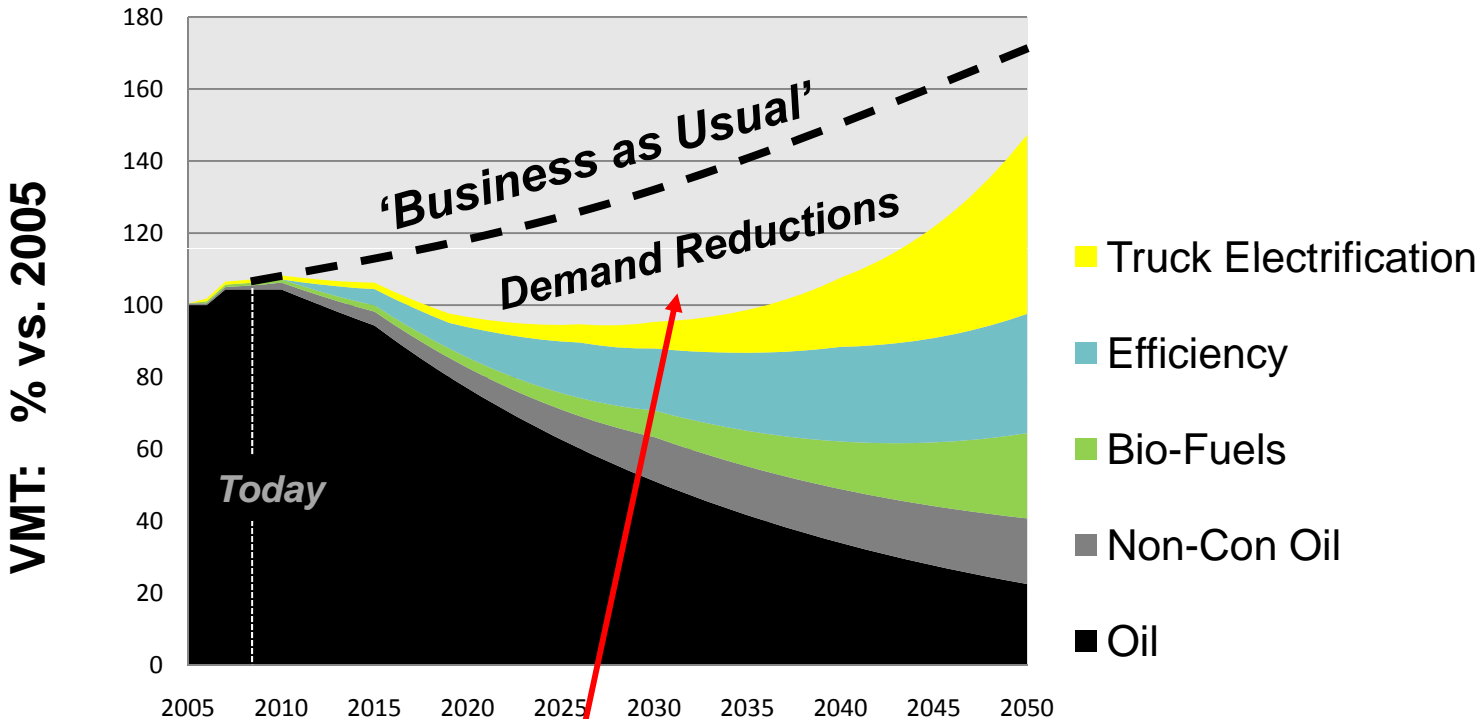
Total required road capacity for trucks

Freight Truck Miles



Peak Roads ?

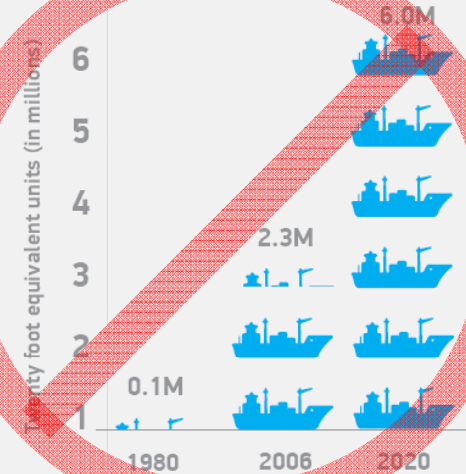
Freight Truck Miles



Scaling-Up 'Local'



Port Metro Vancouver Projection for Container Traffic



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Highway Expansion = Likely 'Stranded Asset'
(...not a resilient investment)

1. Local Future(s) : **What future are we planning for?**

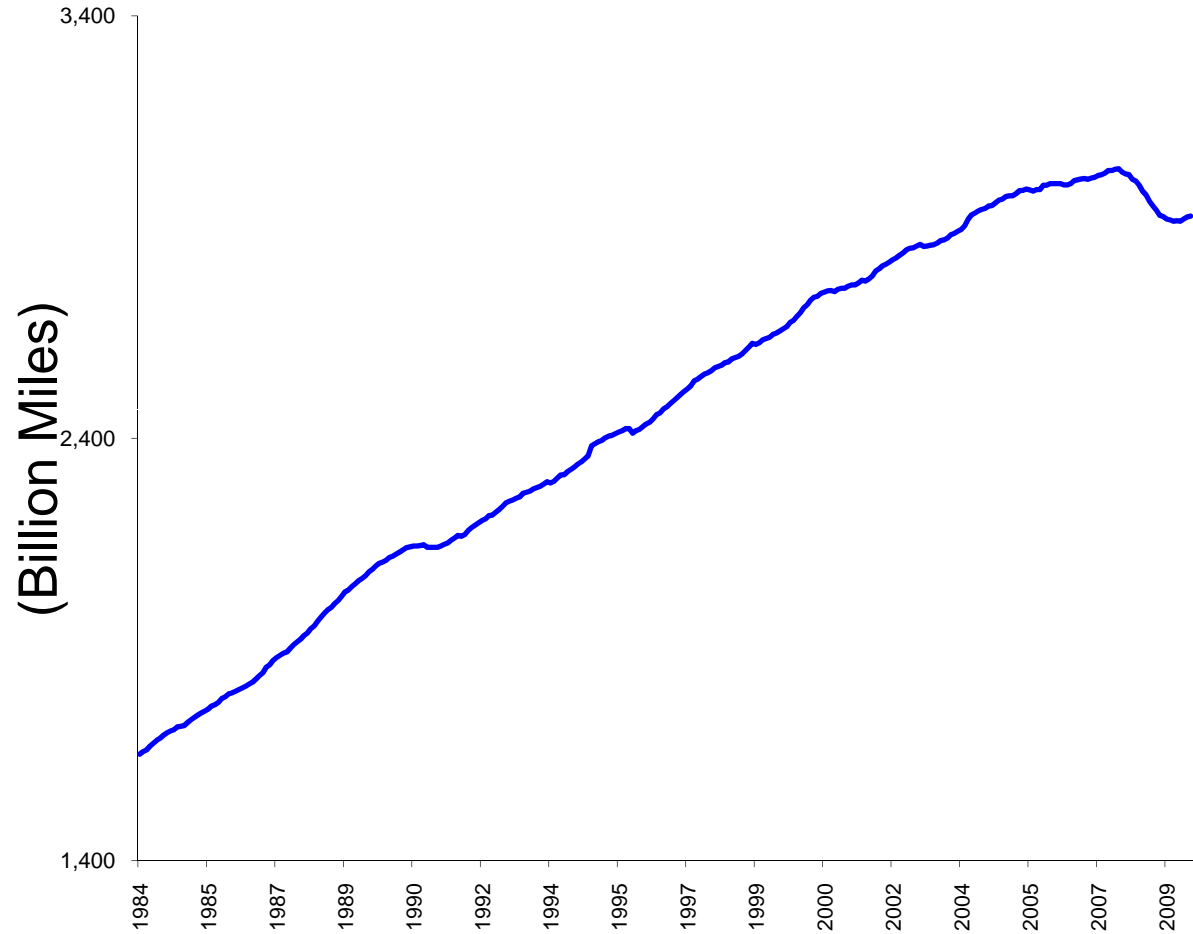
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3. Dynamic Cities = Sustainable + *Resilient*

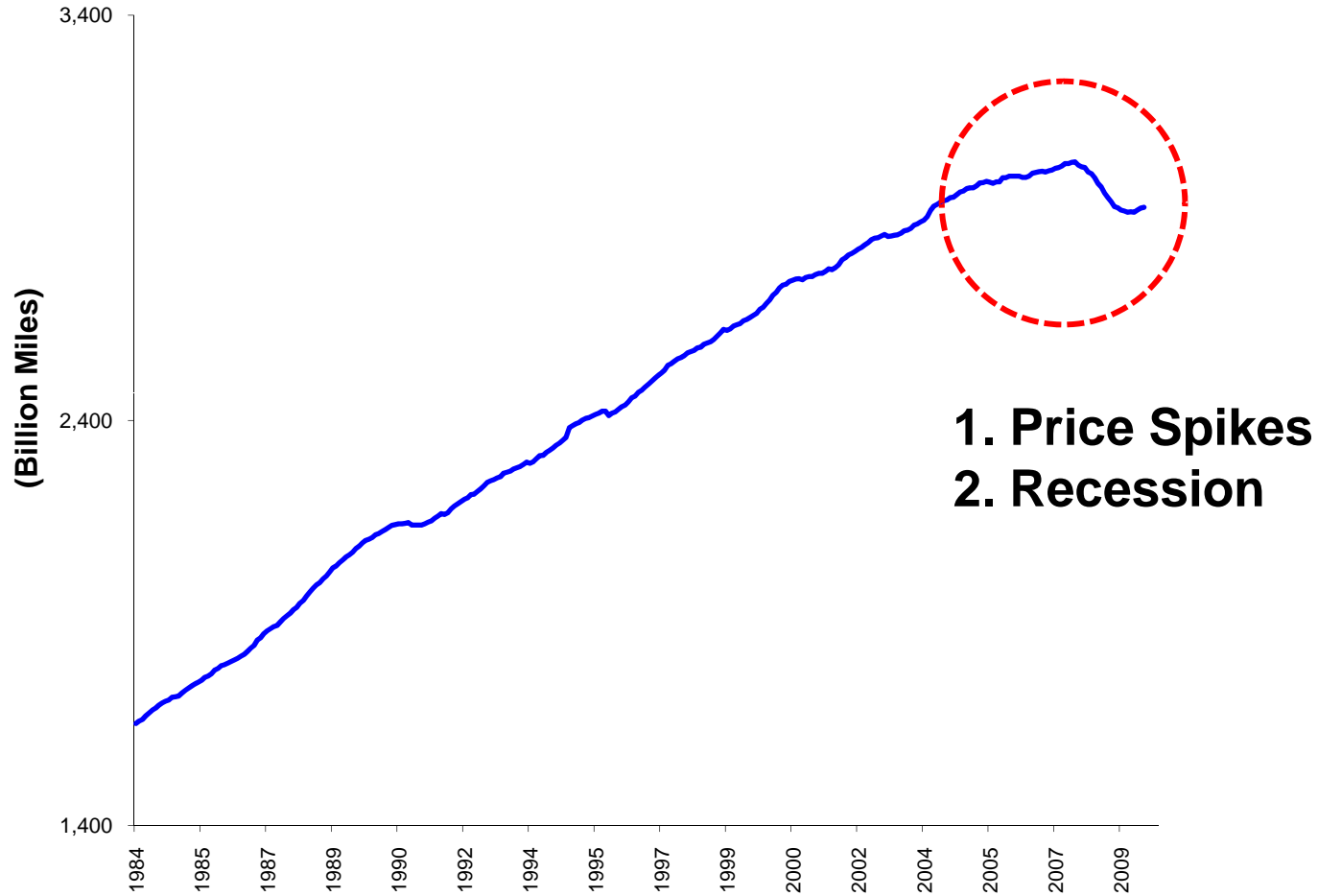
a. Resilient Infrastructure Investments

b. Resilient Communities (Through Transition Shocks)

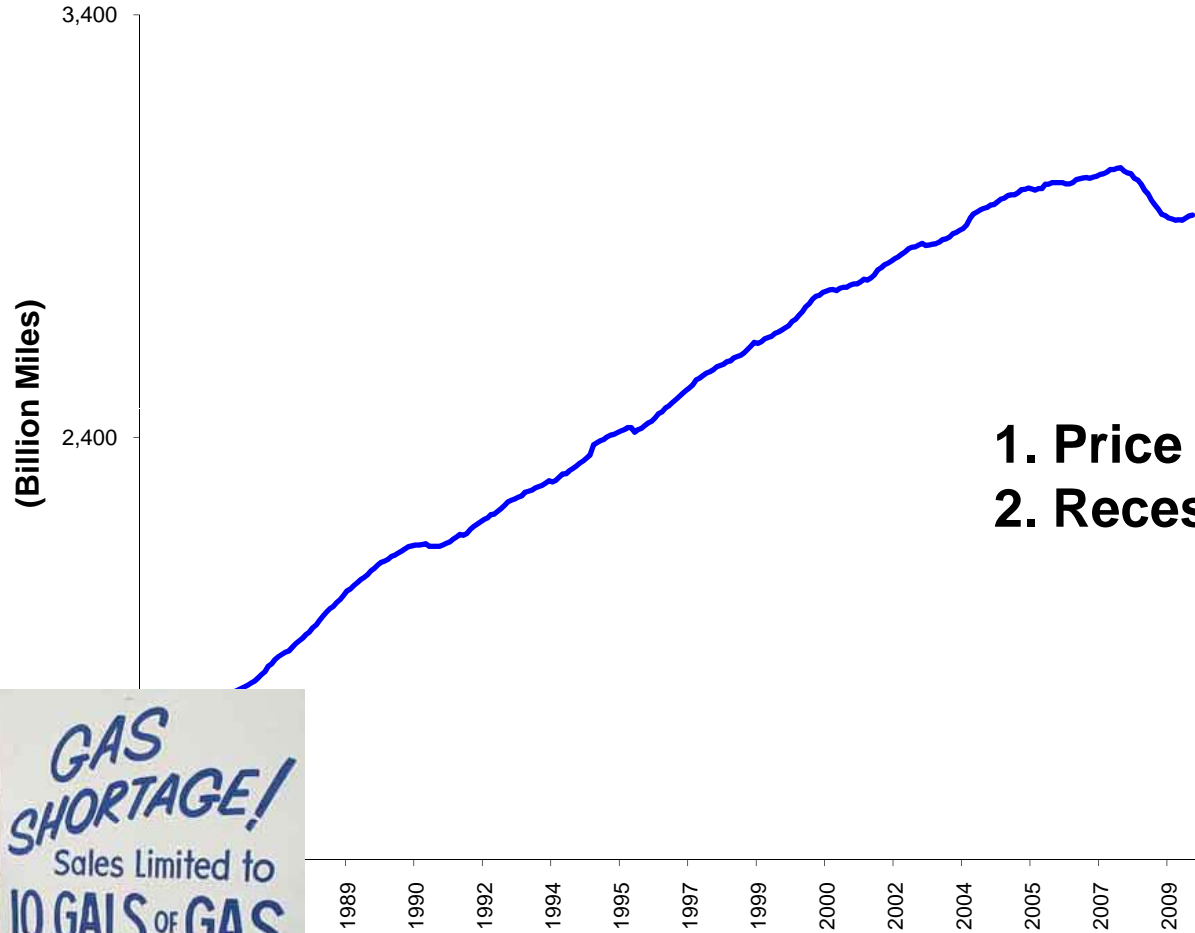
Miles Traveled on US Roads 1984-2009



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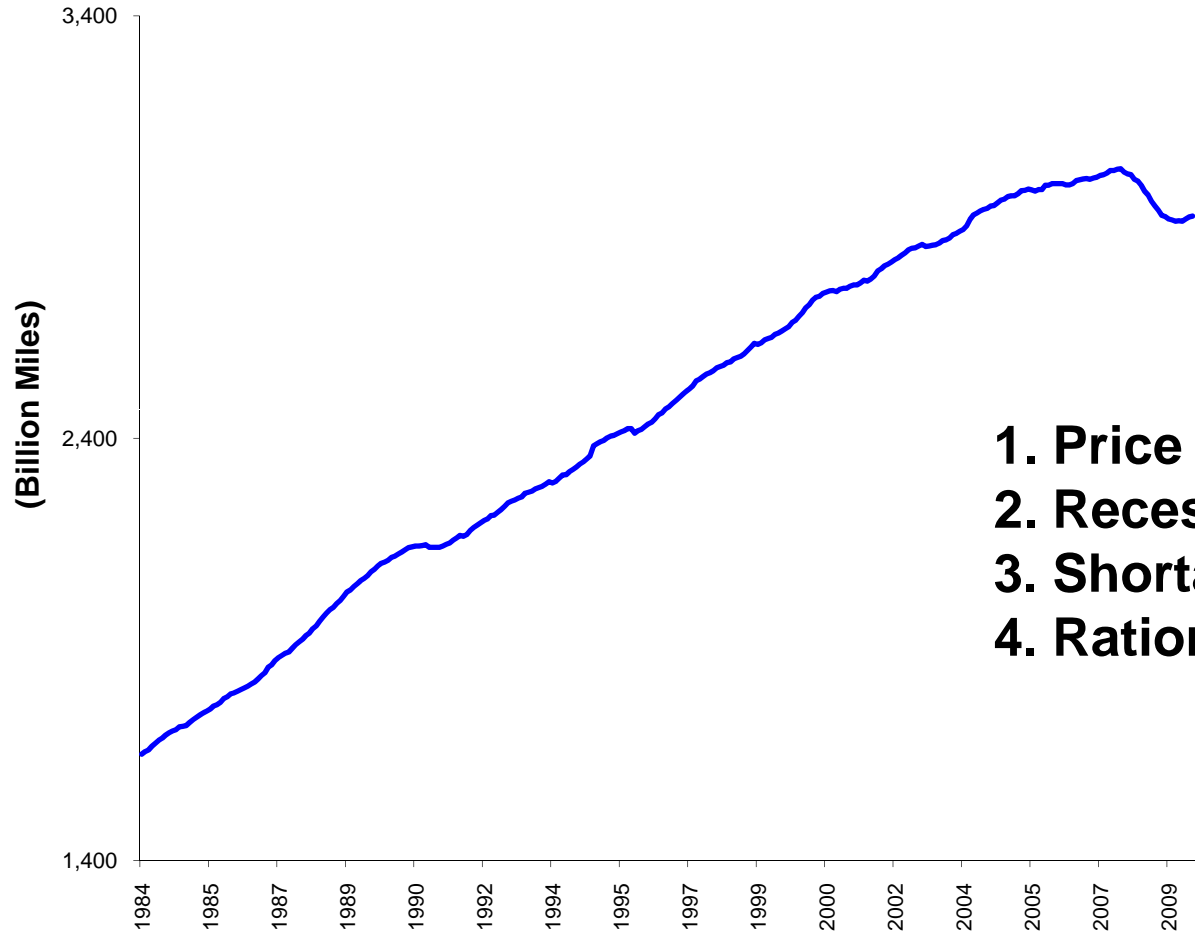
Miles Traveled on US Roads 1984-2009



- 1. Price Spikes
- 2. Recession

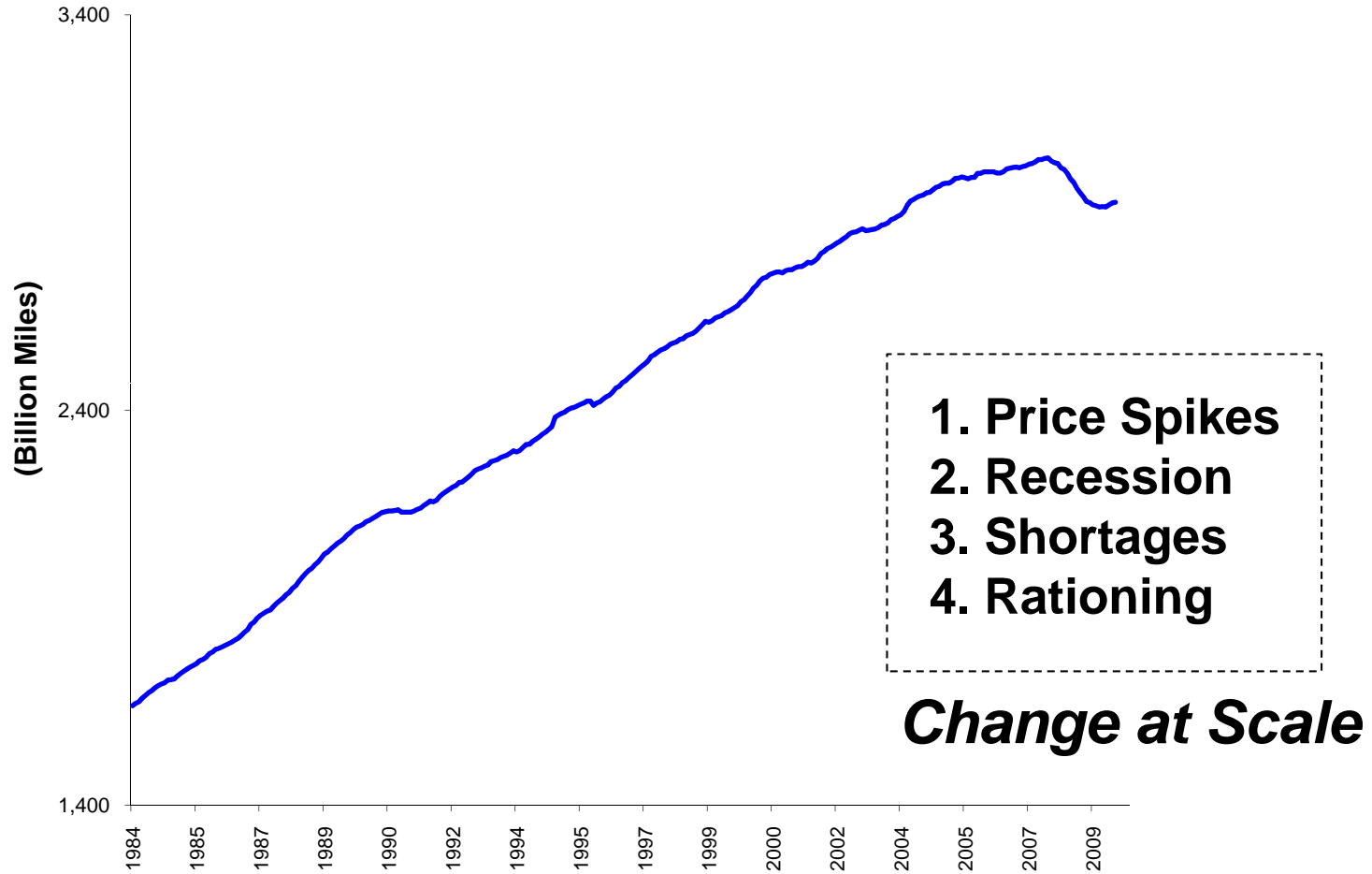


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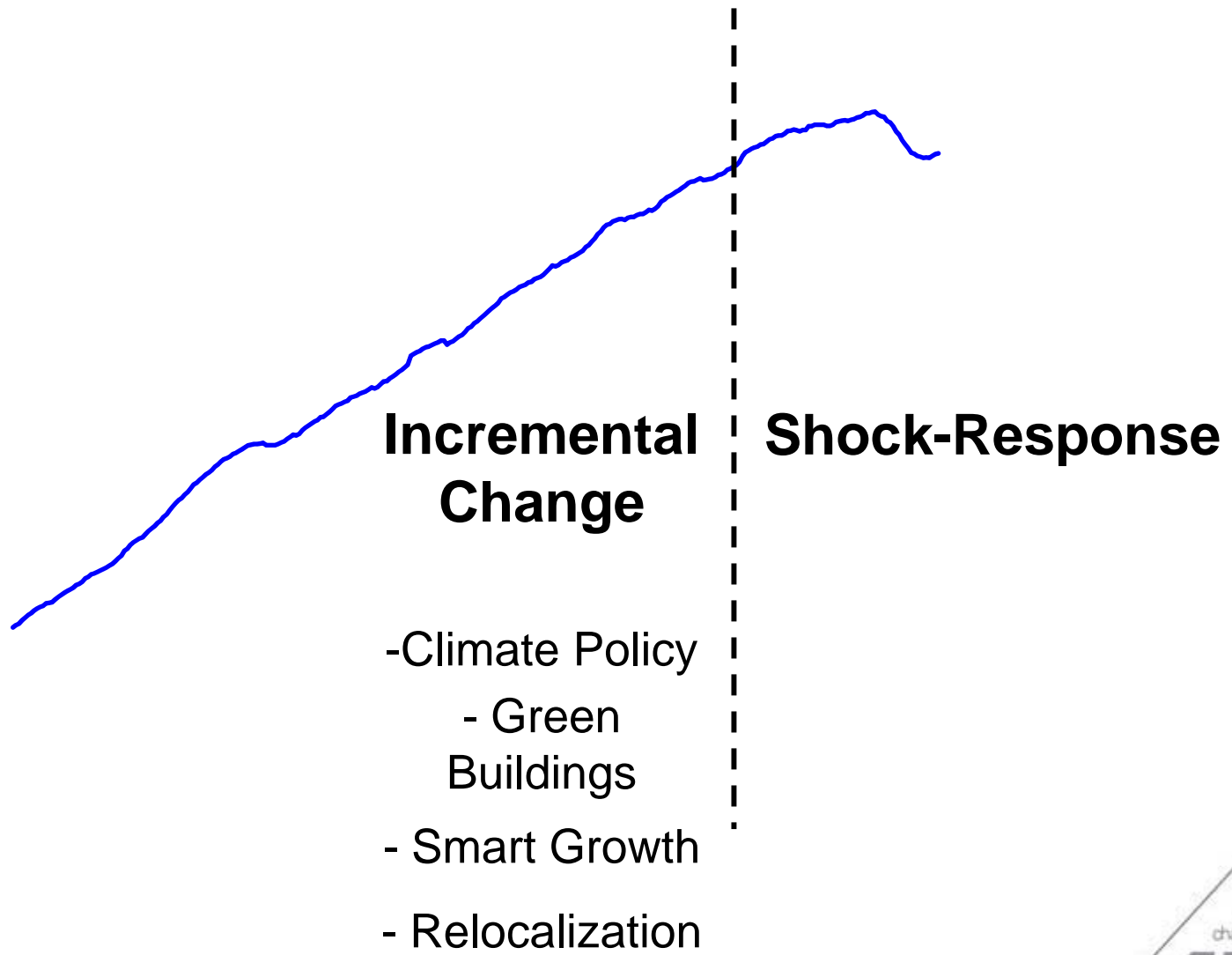


1. Price Spikes
2. Recession
3. Shortages
4. Rationing

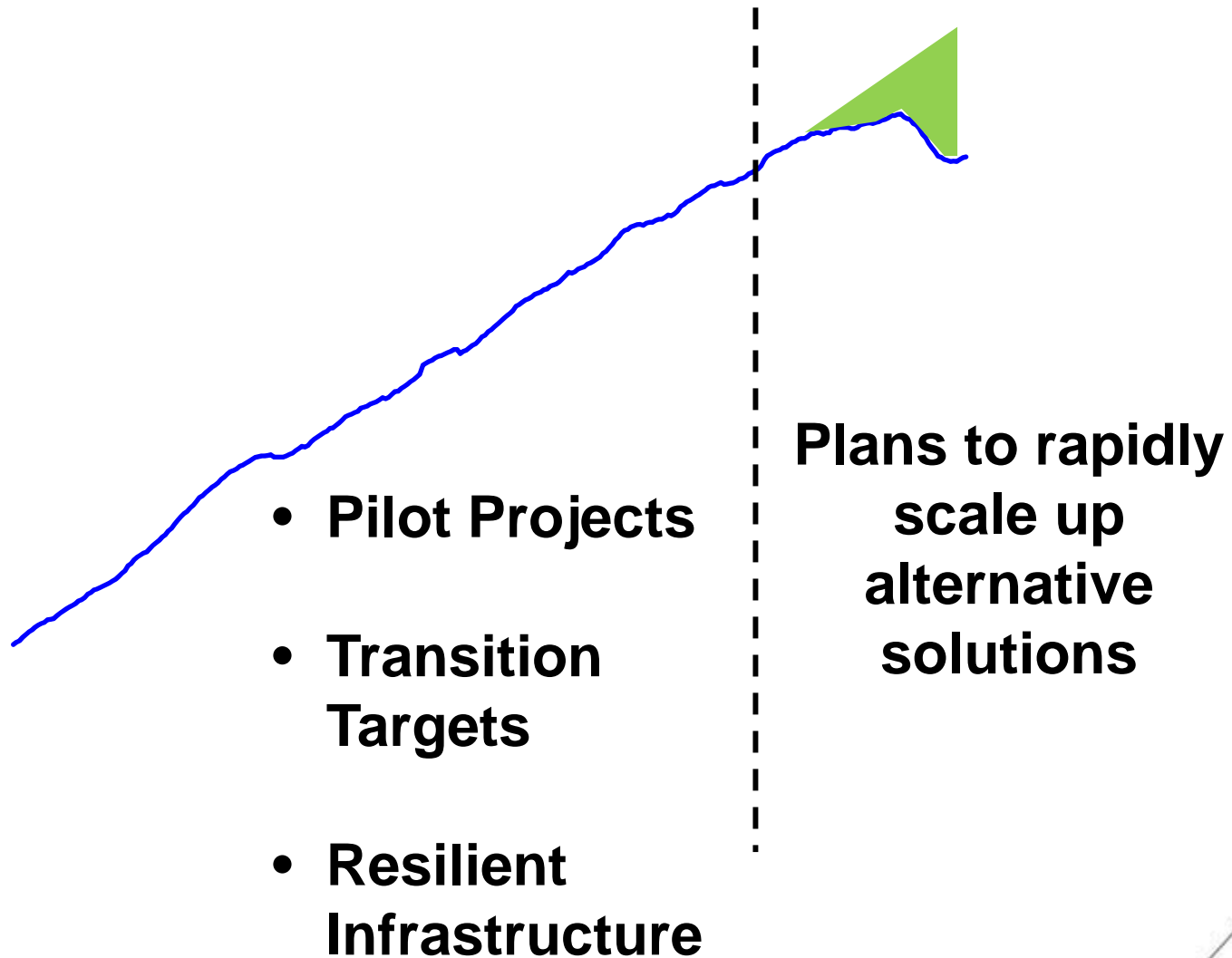
Miles Traveled on US Roads 1984-2009



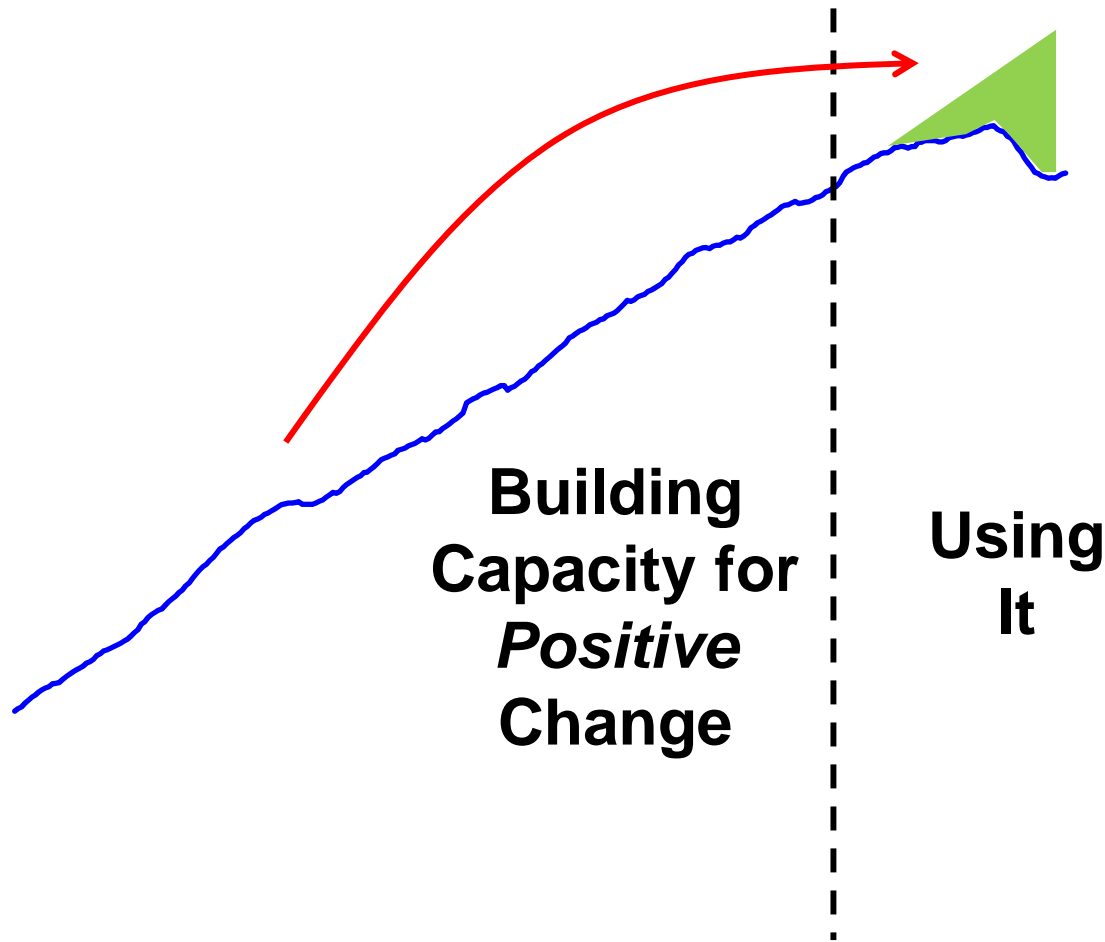
Incremental Change vs. Shock-Response



Resilient Cities & Transition Towns



Resilient Cities & Transition Towns



**Building
Capacity for
Positive
Change**

**Using
It**

Resilient Cities & Transition Towns





VANCOUVER 2020 A BRIGHT GREEN FUTURE

AN ACTION PLAN FOR BECOMING THE WORLD'S GREENEST CITY BY 2020





- **Reference Scenario:** Oil Depletion Rates, Sea Level, Migration, Economy....
- **Current Policy: Addressing Emissions *and* Oil Dependence?**
- **'Stress Tests'** (Price, Shortage, Recession, Rationing)
- **Capacity Building with Community Transition Groups**

Local Futures, Resilient Cities

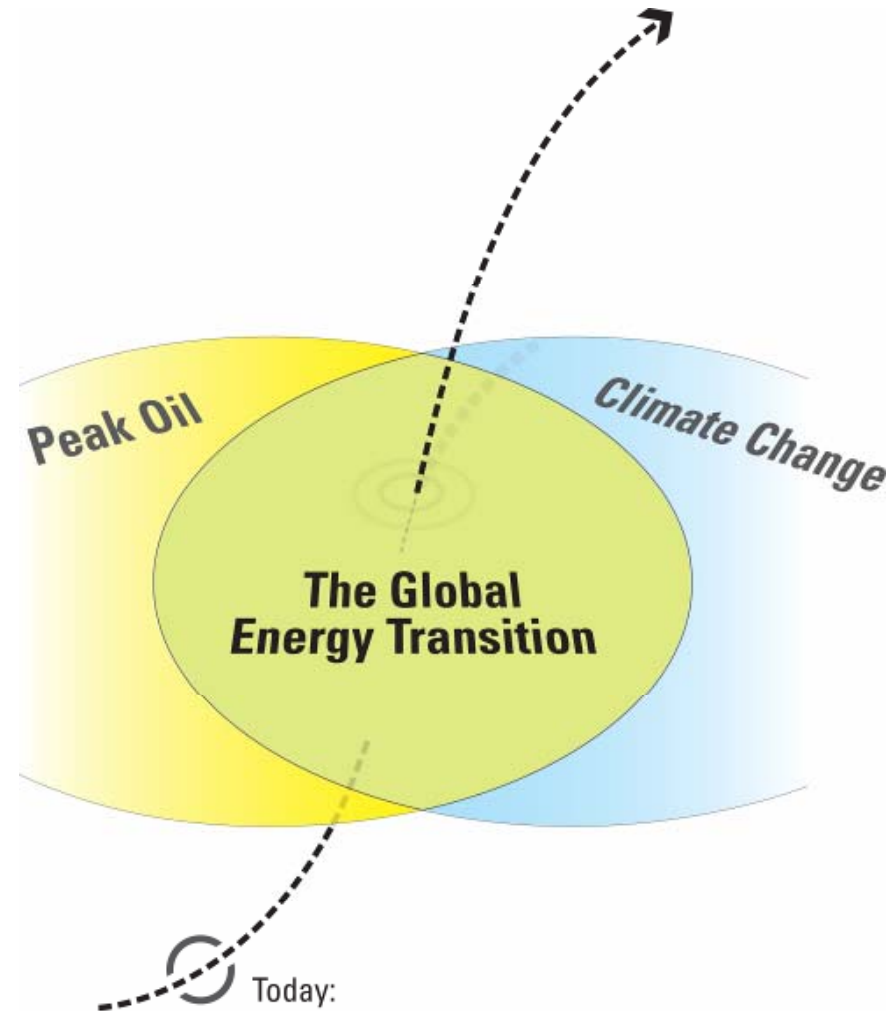
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