





City-Led Clean Energy Innovation

Eileen V. Quigley February 15, 2018















Agenda

- Why are Cities Important?
- History of City Action on Climate
- What Cities Are Doing to Mitigate Emissions
- City Toolkit

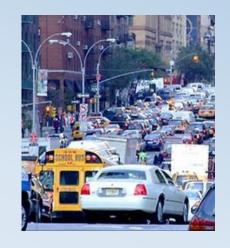






Why City Climate & Clean Energy Action?

- Cities account for 70% of global emissions
- Half the world and 80% of Americans in cities
- Paris Agreement December 2015
- Federal inaction









Brief Chronology of City Climate Action

U.N. Earth Summit Rio

1992

Cities Engage in Earnest

2005

U.N. COP 13 Bali

2007

U.N. COP-15 Copenhagen

2009

Global Covenant

2014

U.N. COP 21 Paris

2015







effort create a

treaty to stabilize GHG



Seattle **Mayor Greg Nickels**

launches effort in wake of U.S. failure to adopt Kyoto Protocol

London Mayor Ken Livingston

convened 18 cities to share strategies

C40 Climate Leadership Group

First Summit held in NYC: Mayor Bloomberg addresses COP



High hopes for U.S.

But recession and Waxman Markey failure

NYC Mayor Michael **Bloomberg**

Special Envoy for Cities & Climate Change

Paris Mayor Anne Hidalgo Convened first

Climate Summit for Local Leaders



Commitments



Compacts, Covenants





644 cities, representing
486,295,756 people worldwide and
6.71% of the total global population, have committed to the Compact of Mayors.

7,443 cities, representing
673,713,655 people worldwide and
9.30% of the total global population, have
committed to the Global Covenant of Mayors for
Climate & Energy.



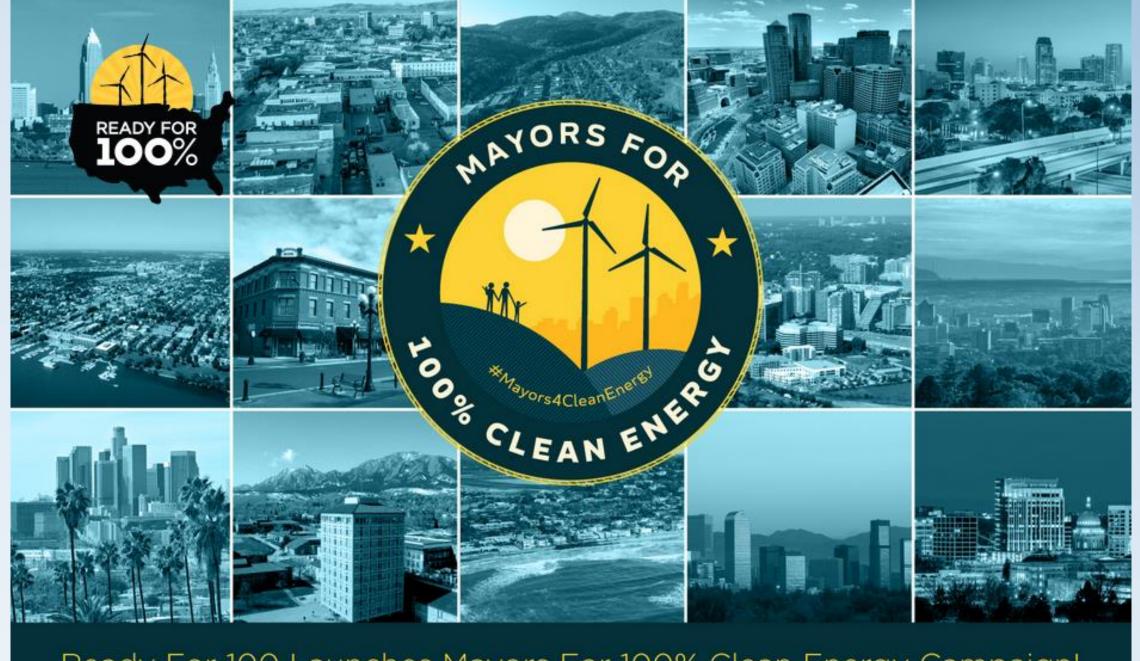


Leading City Action in U.S.





- Achieve deep reductions (80-100% from 1990 by 2050)
- Reimagine & reinvent cities for a clean energy future



Ready For 100 Launches Mayors For 100% Clean Energy Campaign!

What Can Cities Do to Mitigate Emissions











Energy Efficiency











Cleaning the Grid











Getting off Oil







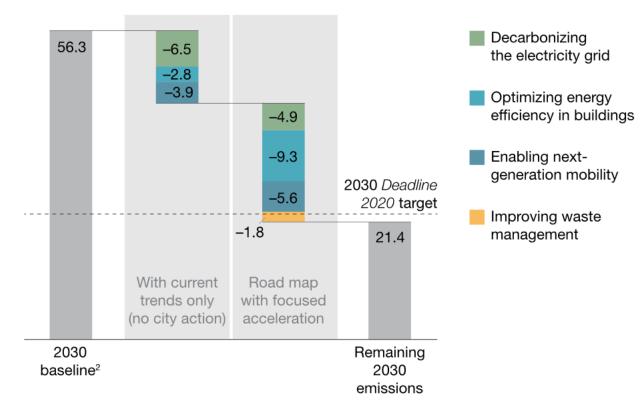


Four Action Areas

Cities that use a strategic approach targeting 12 opportunities could achieve their 2030 emissions targets.

Emissions in 2030,1

metric tons of CO₂ equivalent (annual), average of six illustrative city types



¹Figures may not sum, because of rounding.

²Assumes technologies and policies remain fixed from 2015.









New Energy Cities

Small- and medium-sized Northwest cities accelerating carbon emission reduction:

- ✓ Ambitious goal-setting
- √ Carbon math
- ✓ Reduction strategies
- ✓ Buildings, transportation, energy supply

2009-2017























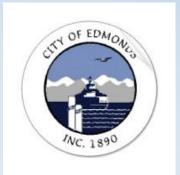




















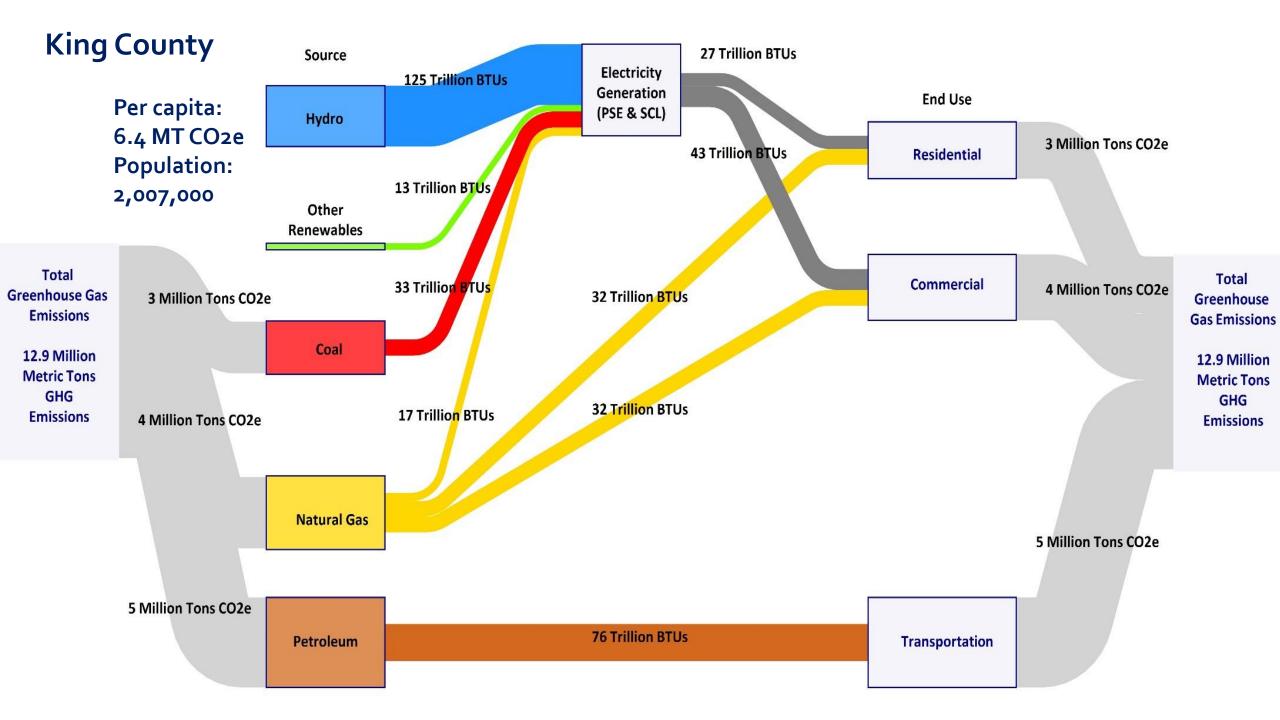
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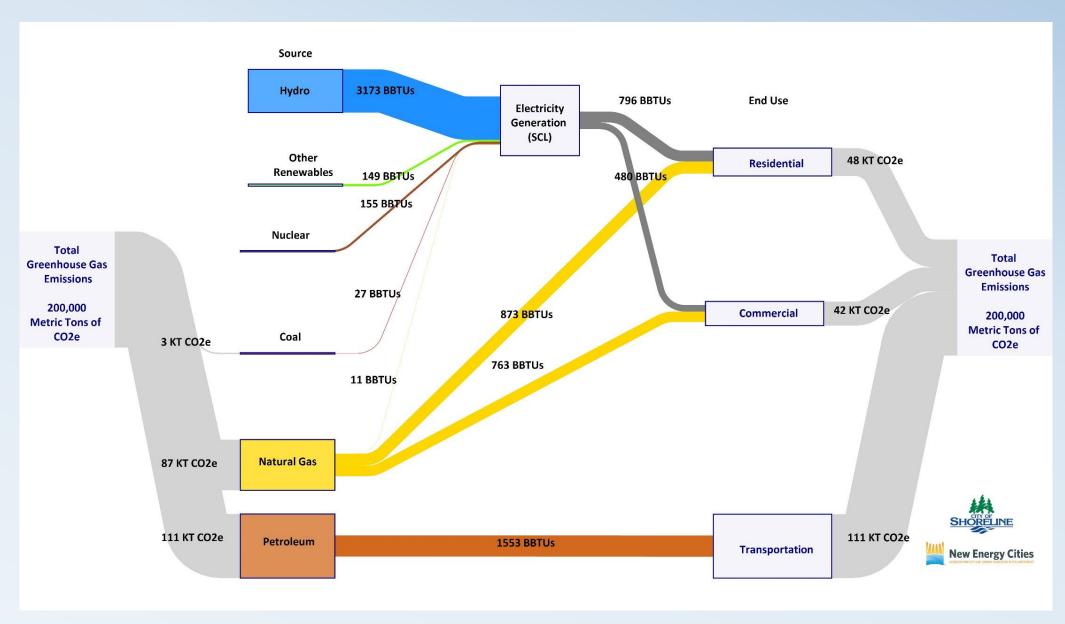
SHORELINE

Data Sources Energy Map & Carbon Wedge Analysis

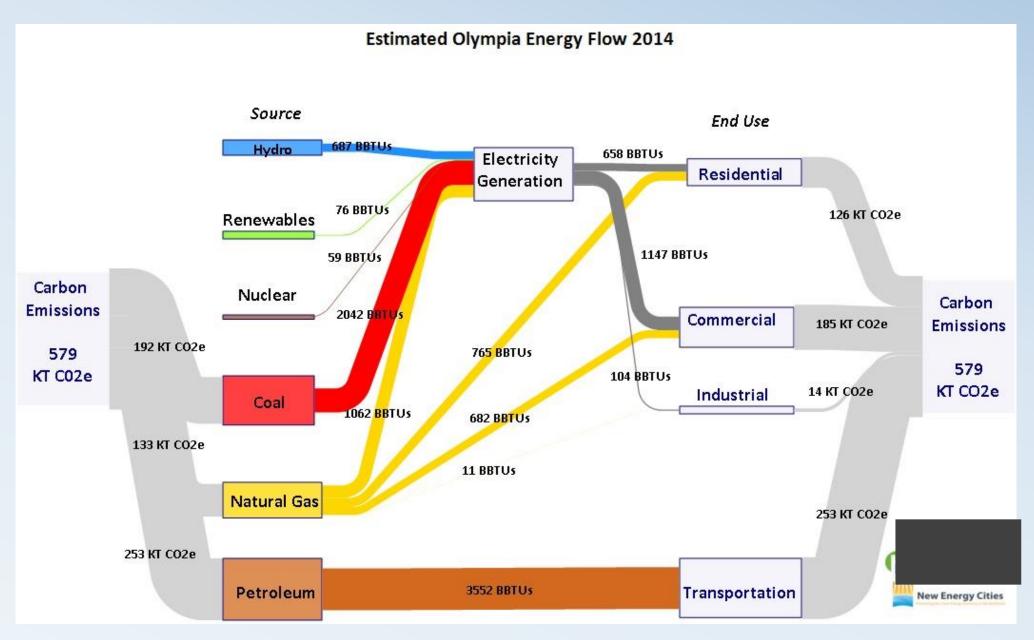
Category	Measure/Assumption	Sources
Transportation	Vehicle miles traveled	Local Metropolitan Planning Organizations (e.g., PSRC; TRPC, etc.,)
Commercial, Residential, Industrial Buildings	Electricity consumption Natural gas consumption	Utilities (e.g., Seattle City Light Puget Sound Energy)
Population growth	Projected population growth	City/County/Regional Planning Departments



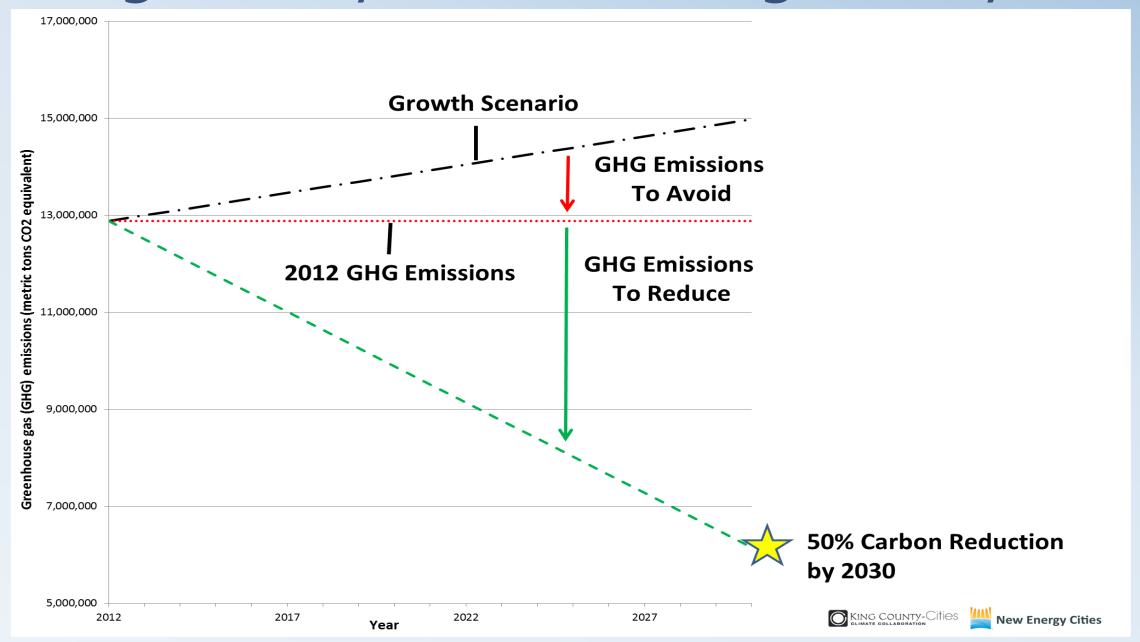
Shoreline Energy Map 2012

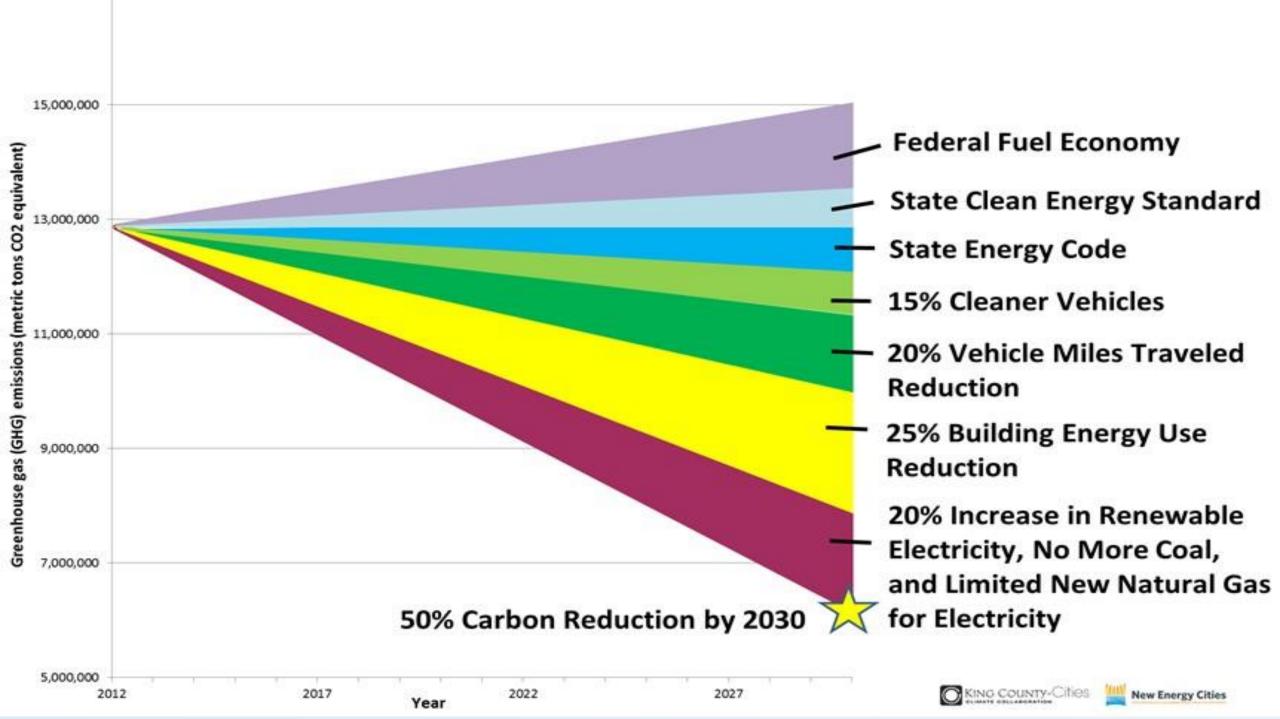


Olympia Energy Map 2014

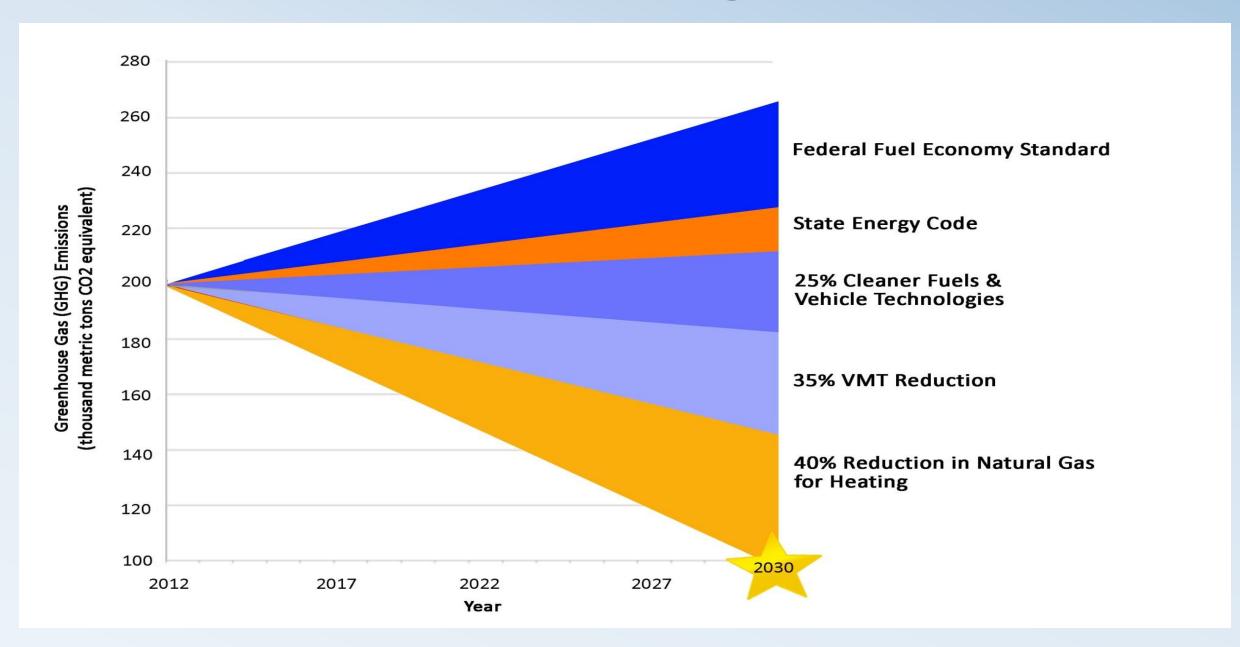


King County Carbon Wedge Analysis

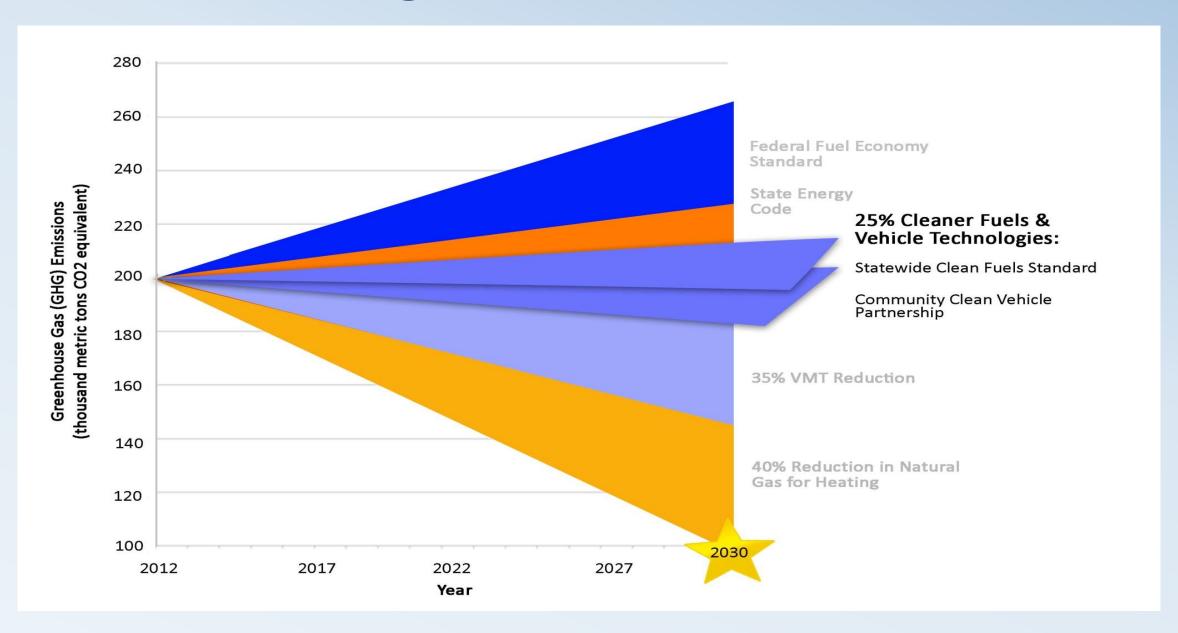




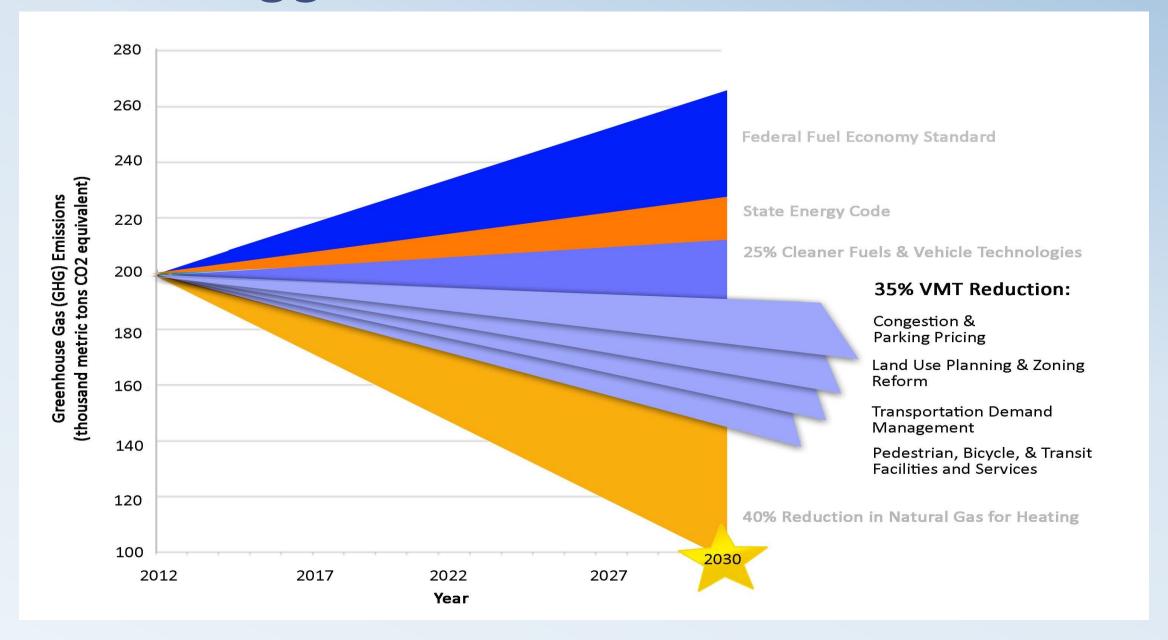
Shoreline Carbon Wedge Analysis



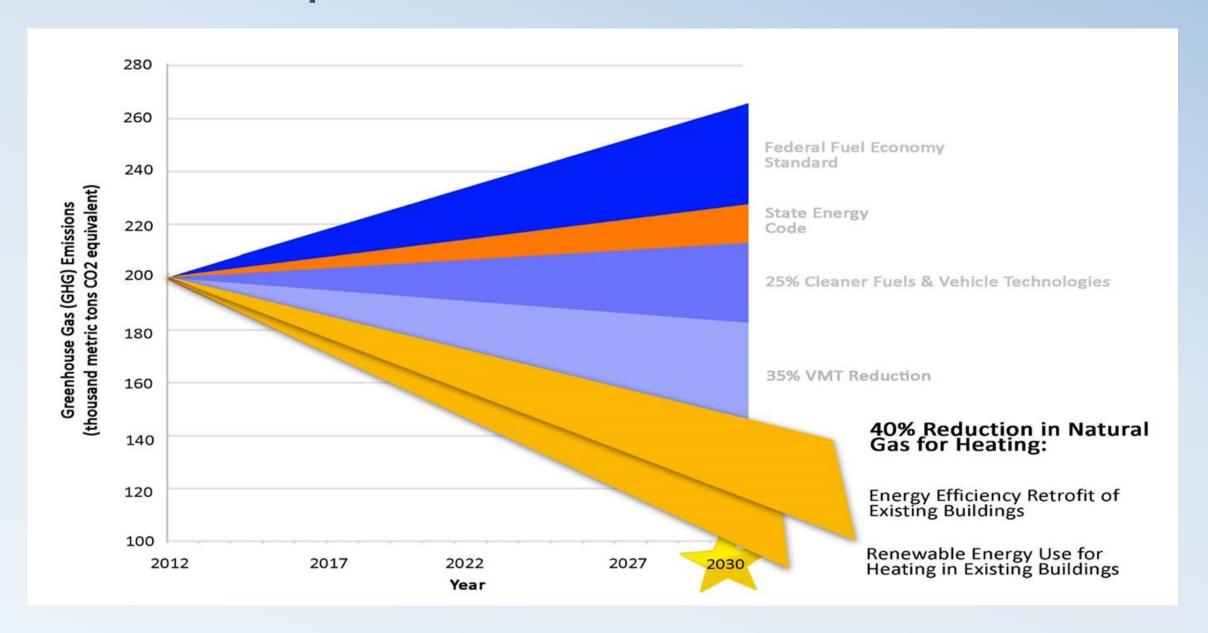
Shoreline 25% Cleaner Fuels



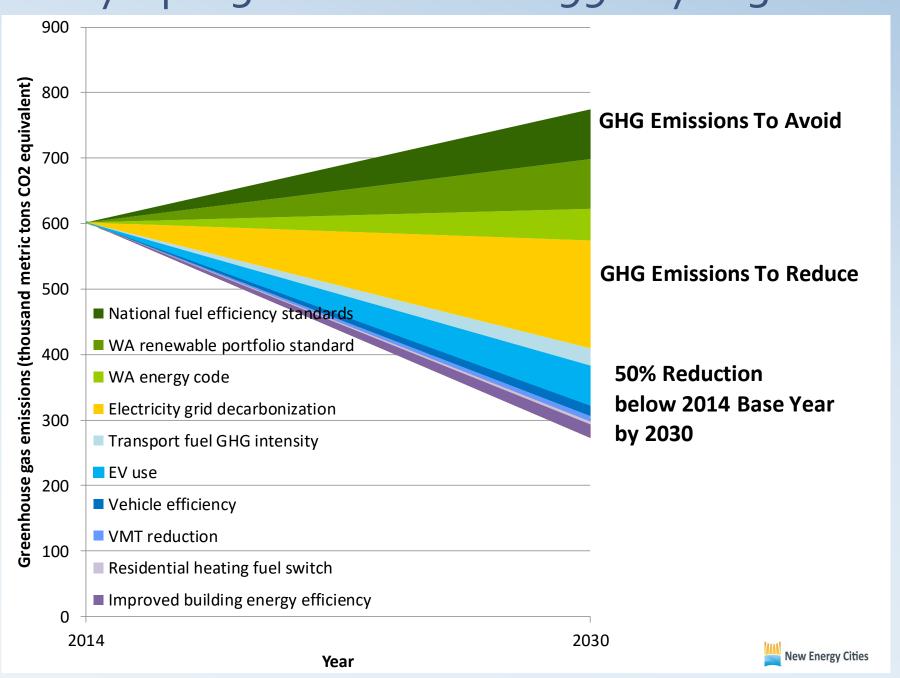
Shoreline 35% Reduction in VMT



Shoreline 40% Reduction in Natural Gas



Olympia 50% Reduction 1990 by 2030



Olympia Local Strategy Assumptions

- Electricity decarbonization
 - ✓ Shift from 27% (baseline projection) to 2% of electricity demand met by coal in 2030
 - ✓ Renewables substitute for reduced coal generation
- Transport emissions reduction mechanisms
 - ✓ 10% reduction in transport fuel GHG intensity
 - ✓ 30% of all vehicles in Olympia are electric by 2030
 - ✓ Gas-powered cars are 10% more fuel efficient in 2030 than CAFE standards
 - ✓ 5% reduction in vehicle miles traveled in 2030 relative to baseline projections
- Building emissions reduction mechanisms
 - ✓ 20% of residential buildings with natural gas heat switch to highefficiency electric heat pumps
 - ✓ 25% reduction in building energy use beyond 2030 state energy code

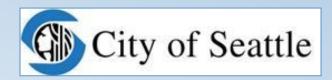








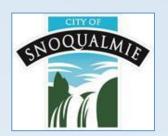














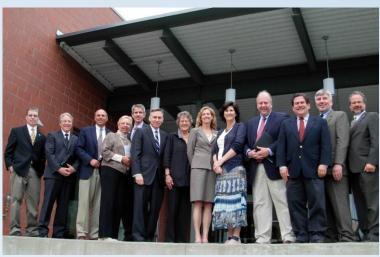








Joint County-City Climate Commitments







"Best" roles for cities

Policy architects and leaders

- Urban spatial planning
- Public transit

Critical implementers

Building code implementation and enforcement

Strategic partners

- EE information and outreach
- EV infrastructure deployment
- Distributed energy resource zoning/permitting



Key enabling actions

- Provide, or improve access to, local government financing
 - transportation infrastructure
- Strengthen local government capacities & governance structures
 - building code enforcement
- Align policies and eliminate conflicts
 - enable local autonomy (e.g., for congestion charges)



Next Stage for City Action

- Align and coordinate between local and state governments
- Build metro-scale coalitions of cities and counties
- Use local governments' aggregate buying power to influence markets
- Establish forums/mechanisms for cities and private sector to coordinate outside of conventional procurement processes

Summary

- Great deal of appetite & action at local level
- Cities need to know their energy landscape and then focus efforts where they can be impactful
- At a time when cities and regions really have to up their game; field is exceptionally dynamic







Thank you

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Transitioning from Fossil Fuel to Clean Energy www.cleanenergytransition.net



