# New Energy Cities

# City of Olympia

# Staff Presentation

January 17, 2017

Climate Solutions
PRACTICAL SOLUTIONS TO GLOBAL WARMING

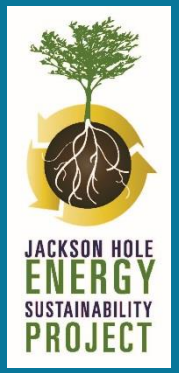
# Agenda

- New Energy Cities/Stockholm Environment Institute
- Olympia Energy Map
- Olympia Carbon Wedge Analysis
- Q & A

# Climate Solutions


**New Energy Cities:** Partnership with Northwest cities to reduce carbon emissions by accelerating climate- smart, clean energy solutions:

- Ambitious goal-setting
- Carbon math
- Strategies to achieve carbon reduction goals
- Programs to reduce GHG in buildings, transportation, energy supply


JACKSON HOLE
ENERGY
SUSTAINABILITY
PROJECT


TOWN OF JACKSON
WYOMING

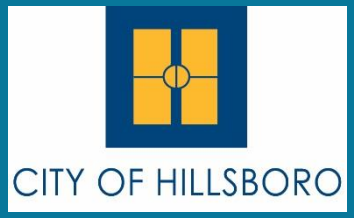

BOISE
CITY OF TREES


CLARK COUNTY, WASHINGTON


CITY OF
SHORELINE


SunValley


THURSTON
ENERGY
YOUR
PATHWAY
TO SAVINGS


CITY OF HILLSBORO


CITY OF KIRKLAND
WASHINGTON


VANCOUVER
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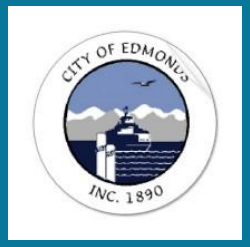
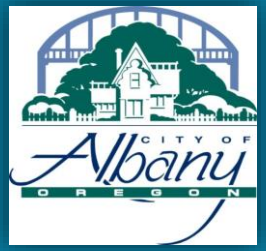

CITY OF EDMONDS
INC. 1890


CITY OF
SPOKANE


EVERETT


Olympia


RE POWER
BAINBRIDGE


CITY OF
Albany
OREGON


KING COUNTY-Cities
CLIMATE COLLABORATION


CITY OF Salem
AT YOUR SERVICE


CITY OF
ISSAQUAH


SEAL OF TUKWILA WASHINGTON
1908


City of
Wenatchee


Beaverton
OREGON

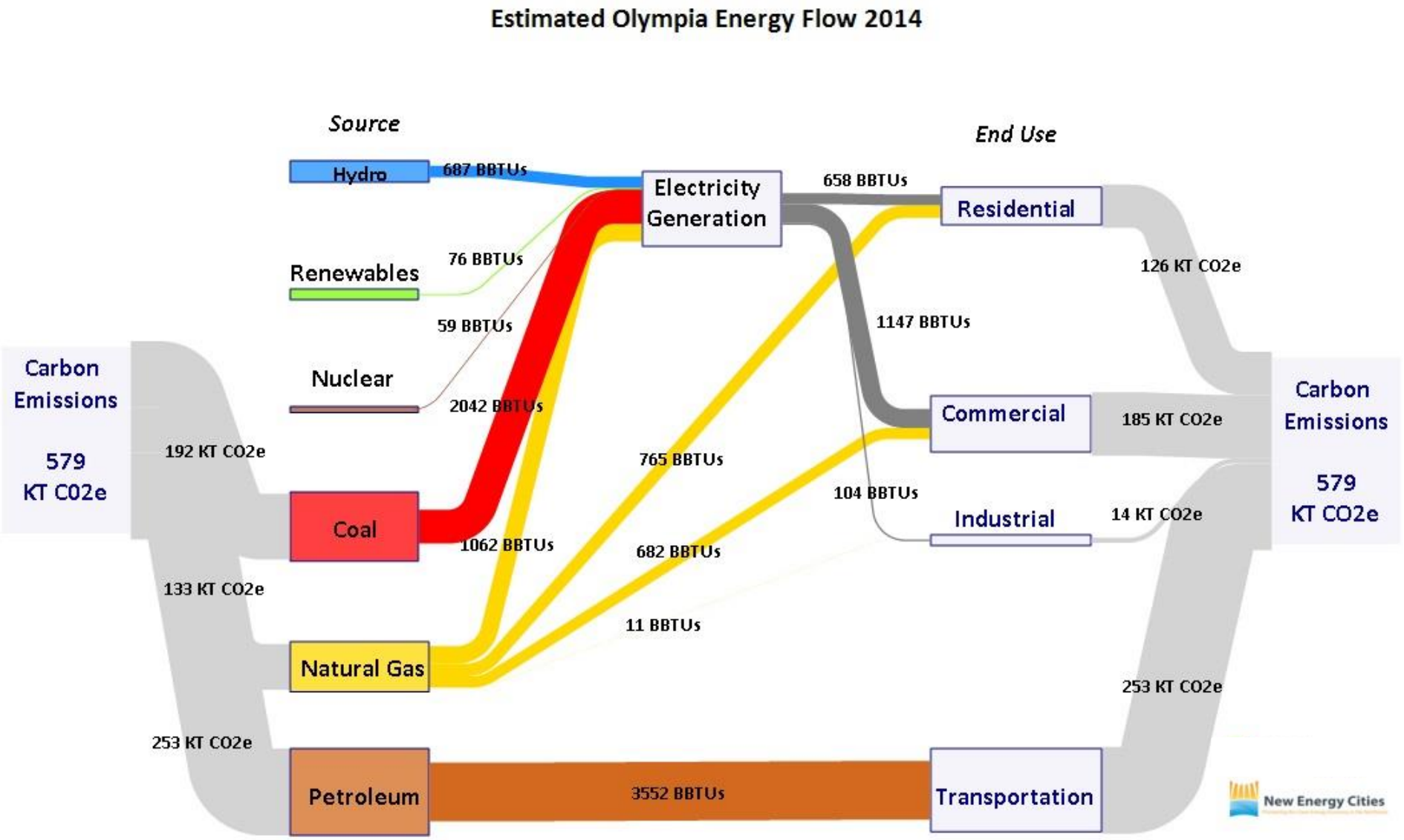
# Why pursue carbon reduction?

- Climate imperative & economic benefits
- Washington State Emission Reduction Goals
  - ✓ By 2020, reduce to 1990 levels
  - ✓ By 2035, reduce to 25% below 1990 levels
  - ✓ By 2050, reduce to 50% below 1990 levels
- Compliance with City of Olympia's Comprehensive Plan Policy 8.1
  - ✓ "Participate with local and state partners in the development of a regional climate action plan aimed at reducing greenhouse gases by 25 percent of 1990 levels by 2020, 45 percent of 1990 levels by 2035 and 80 percent of 1990 levels by 2050."

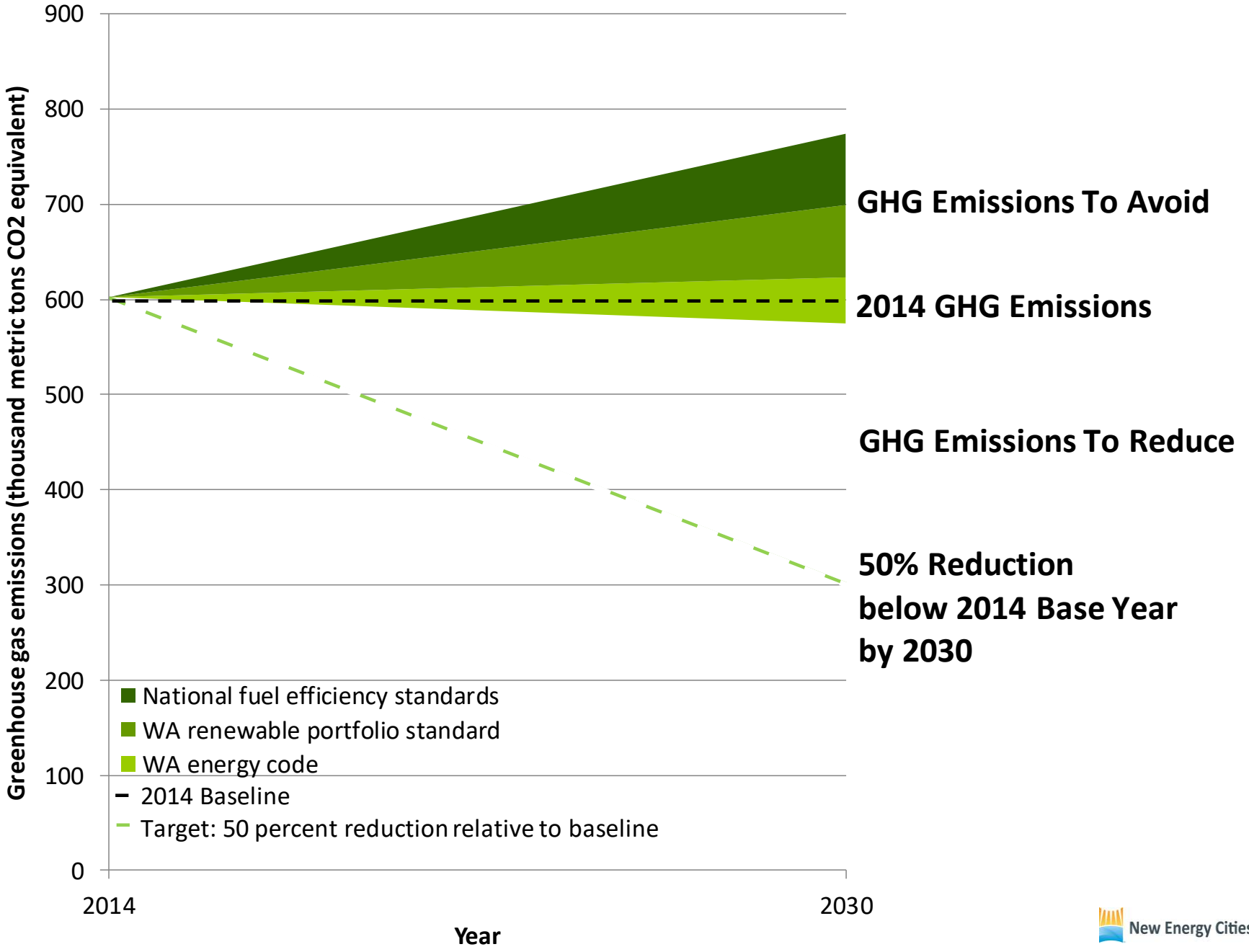
# Key Data Sources for Energy Map & Carbon Wedge Analysis

| Category | Measure/Assumption | Sources |
|---|---|---|
| Transportation | Vehicle miles traveled | Thurston Regional Planning Council |
| Commercial, residential, industrial | Electricity consumption<br>Natural gas consumption | Puget Sound Energy |
| Population growth | Projected population growth | City of Olympia |

# Olympia 2014 Energy and Carbon Footprint



# Impact of Federal and State Policies

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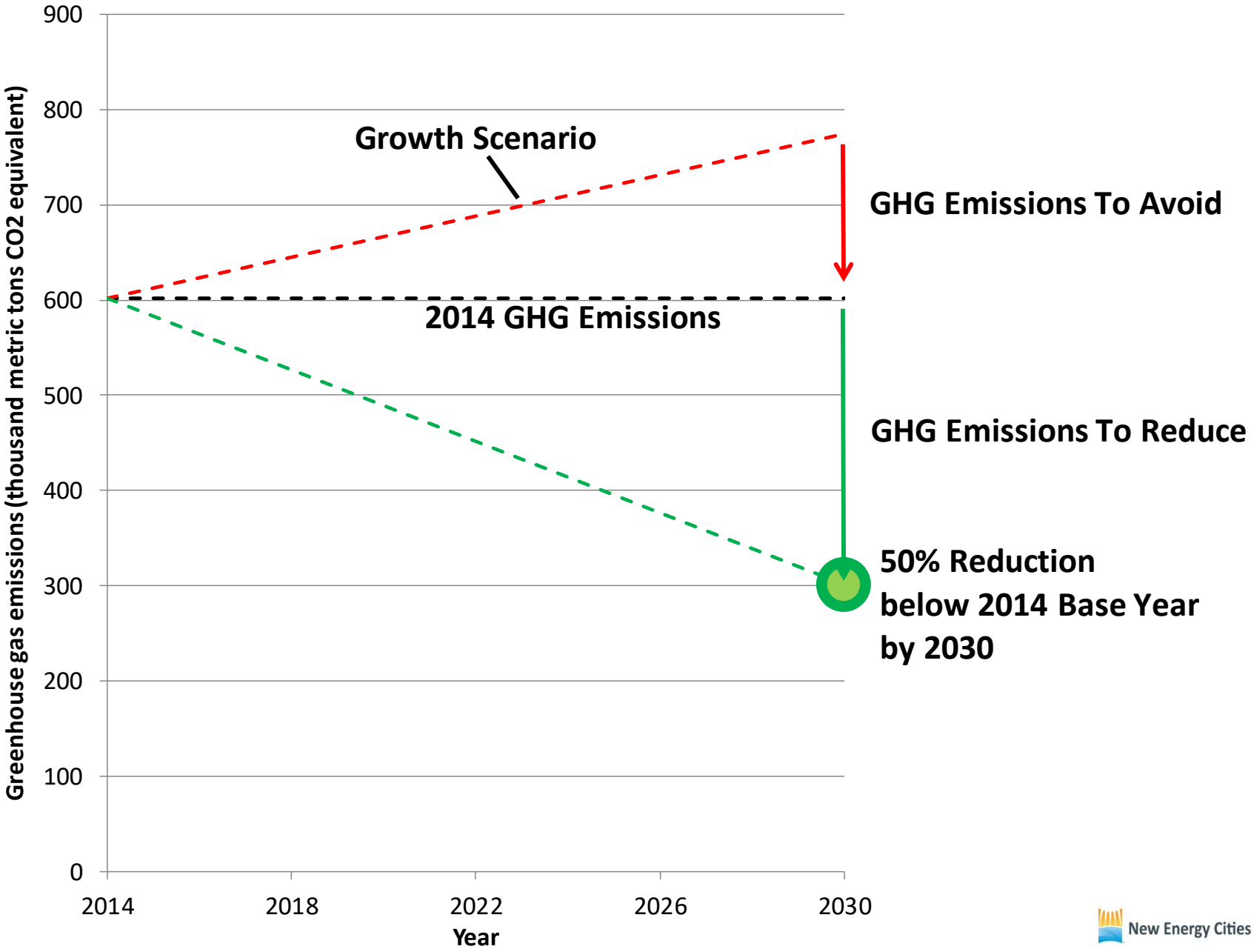
# 50 x 2030: What Will It Take?

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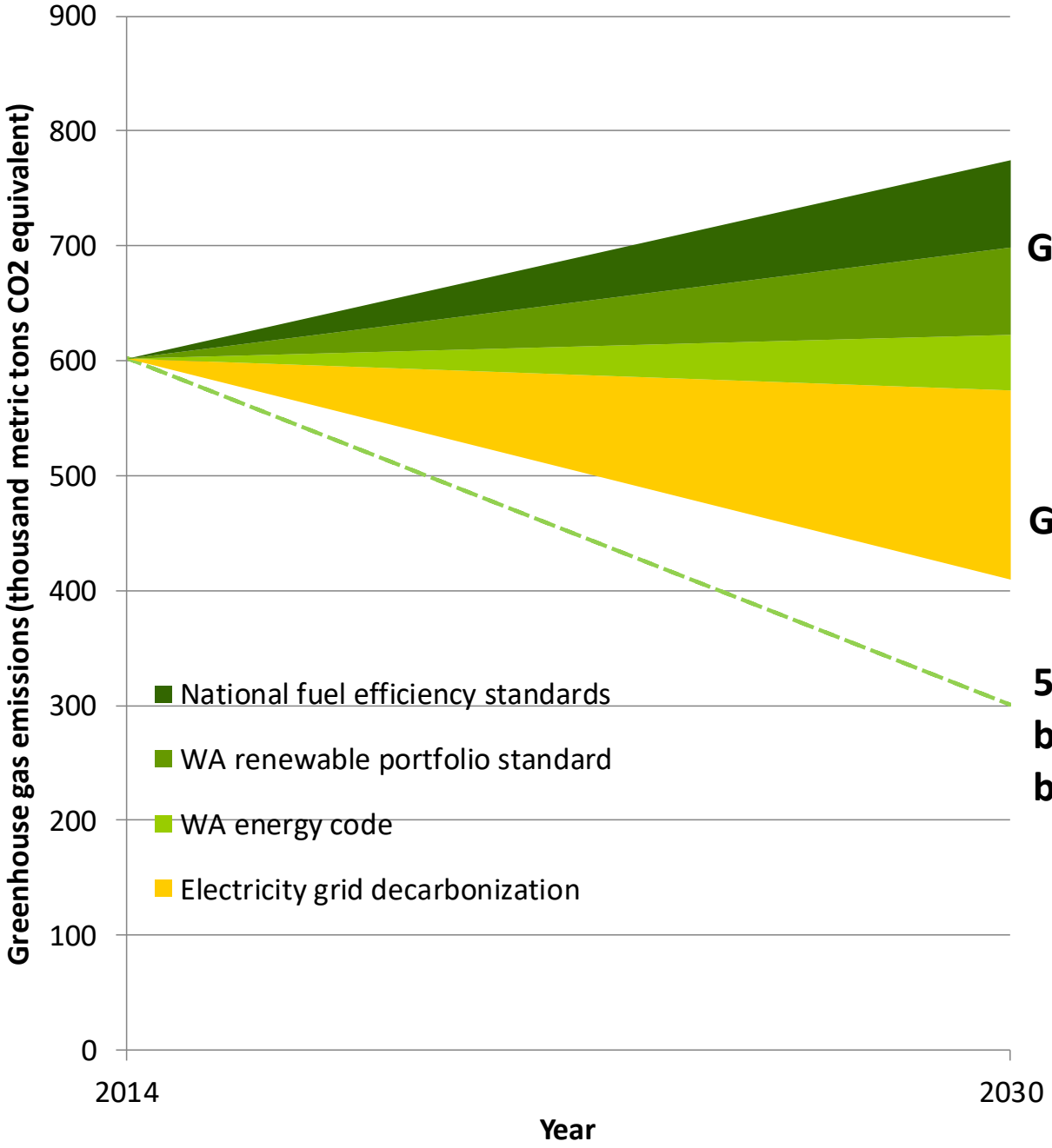
# Summary of Assumptions

- 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 high-efficiency electric heat pumps
  - ✓ 25% reduction in building energy use beyond 2030 state energy code

# Electric Grid Potential Target




**GHG Emissions To Avoid**

**GHG Emissions To Reduce**

**50% Reduction below 2014 Base Year by 2030**

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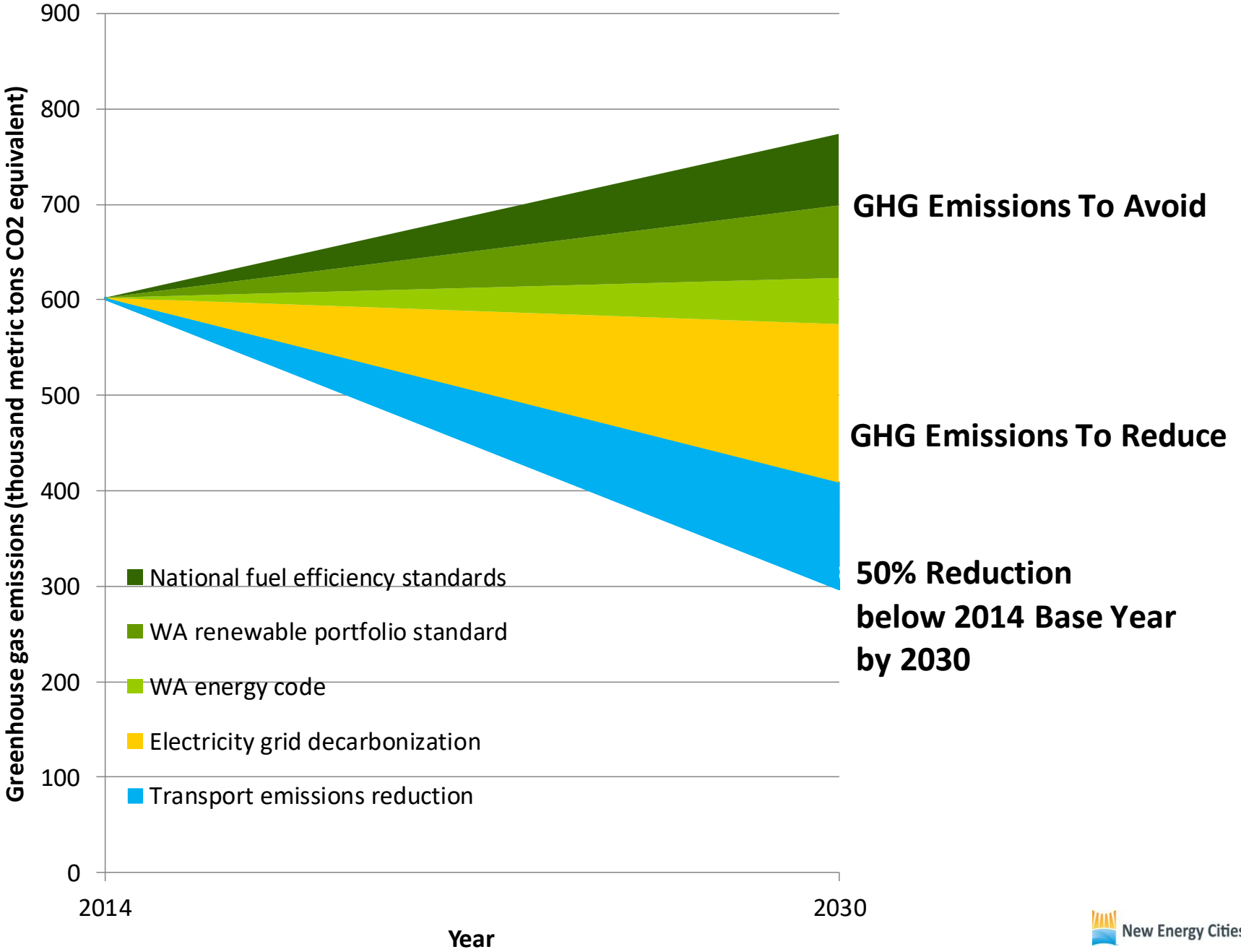
# Transport Emissions Potential Reduction

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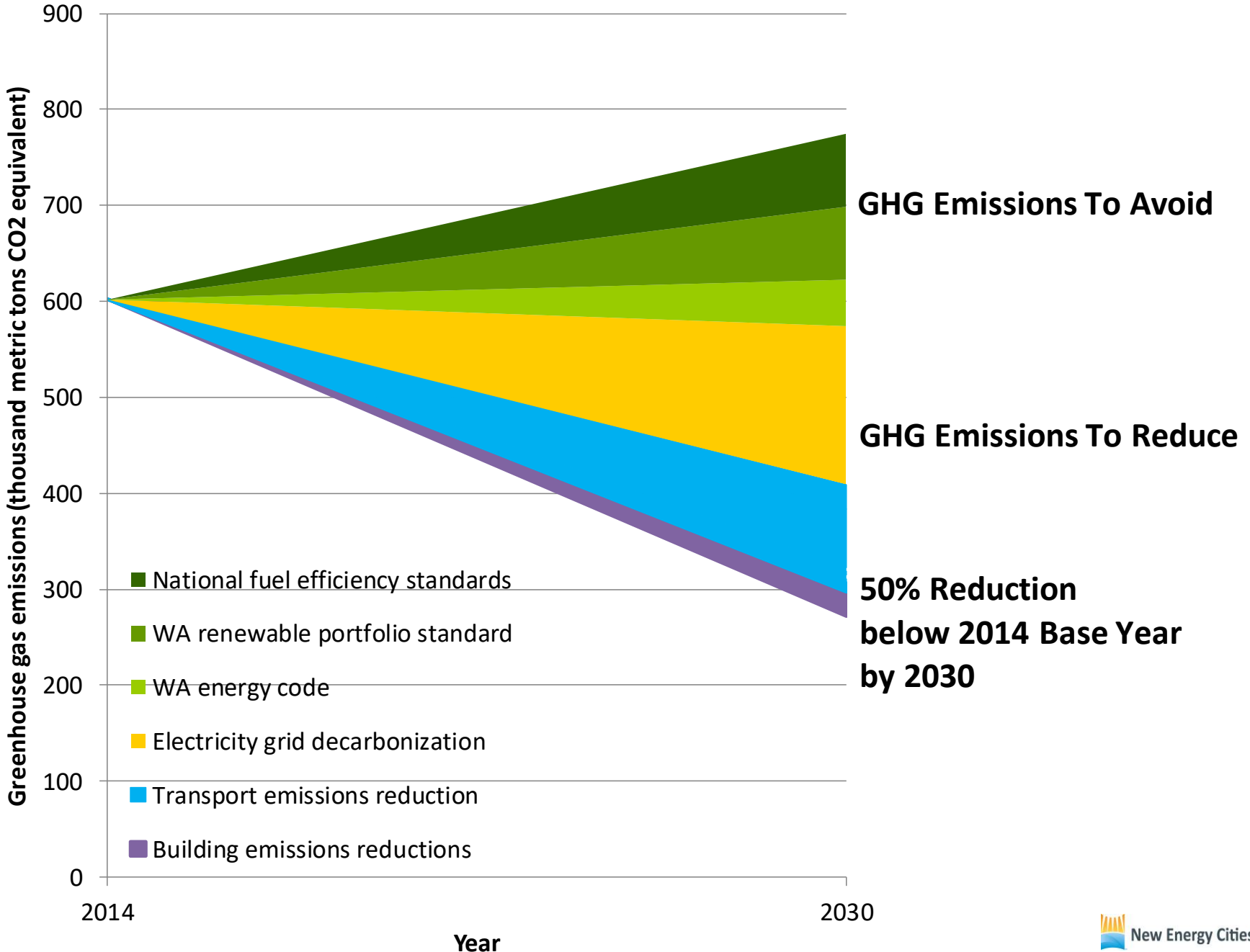
# Building Emissions Potential Reductions

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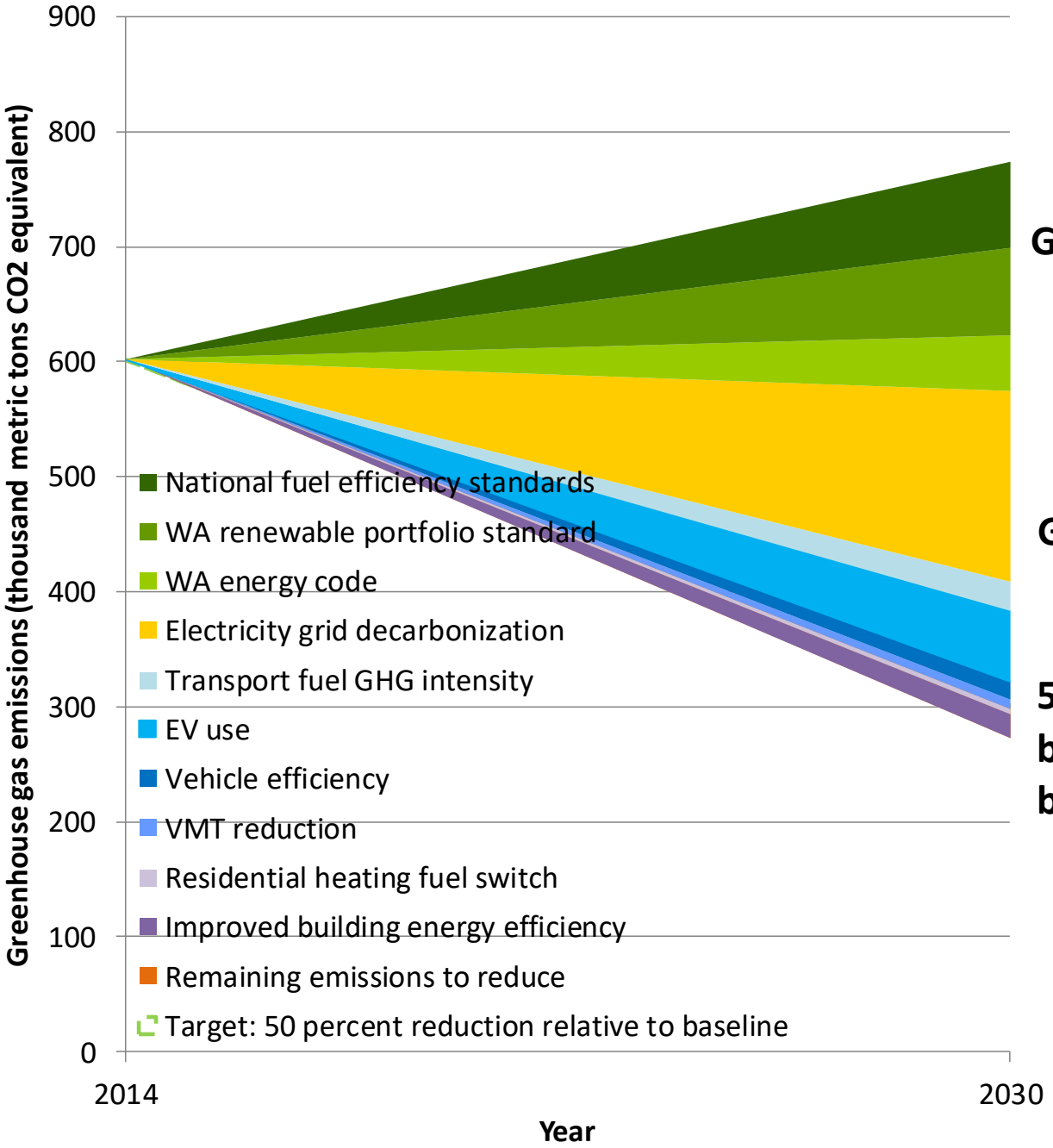
# 50 x 2030 Goal: Detailed Breakdown




**GHG Emissions To Avoid**

**GHG Emissions To Reduce**

**50% Reduction below 2014 Base Year by 2030**

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# Summary of Findings

- State, regional, and local levers of change are all essential—and available—to meet reduction goals
- Existing laws bring important reductions, but alone will not achieve the goal
- Bold action, partnerships, and proactive planning are needed to meet ambitious carbon reduction targets

# Thank you!


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