

# 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

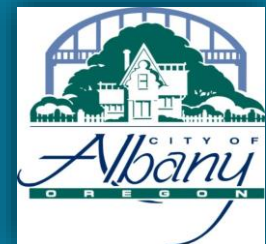
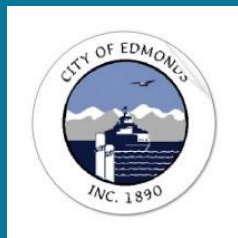


**New Energy Cities:** Partnership with Northwest cities to reduce carbon emissions by accelerating climate- smart, clean energy solutions:

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







# 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."



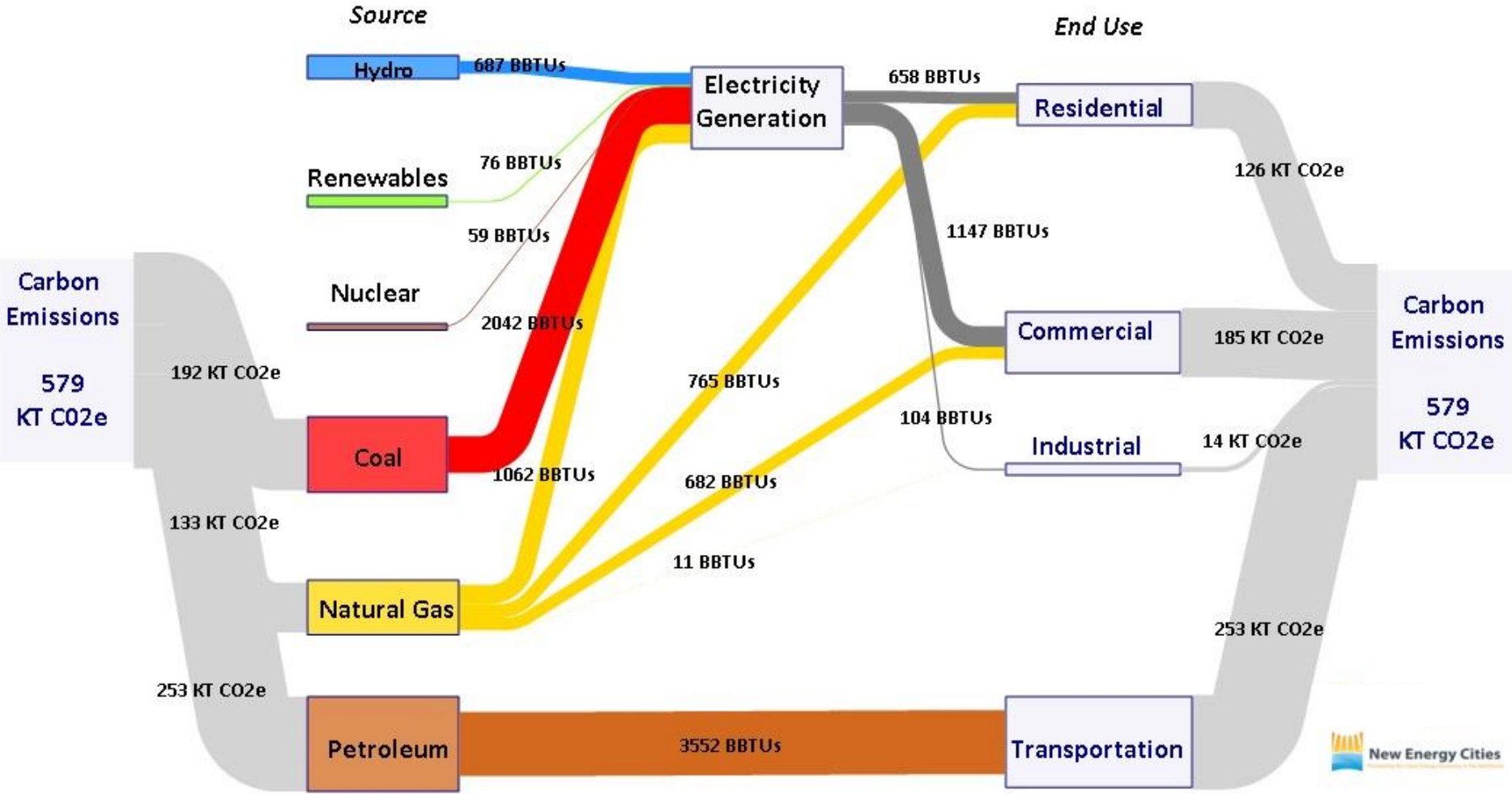
# Key Data Sources for Energy Map & Carbon Wedge Analysis

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

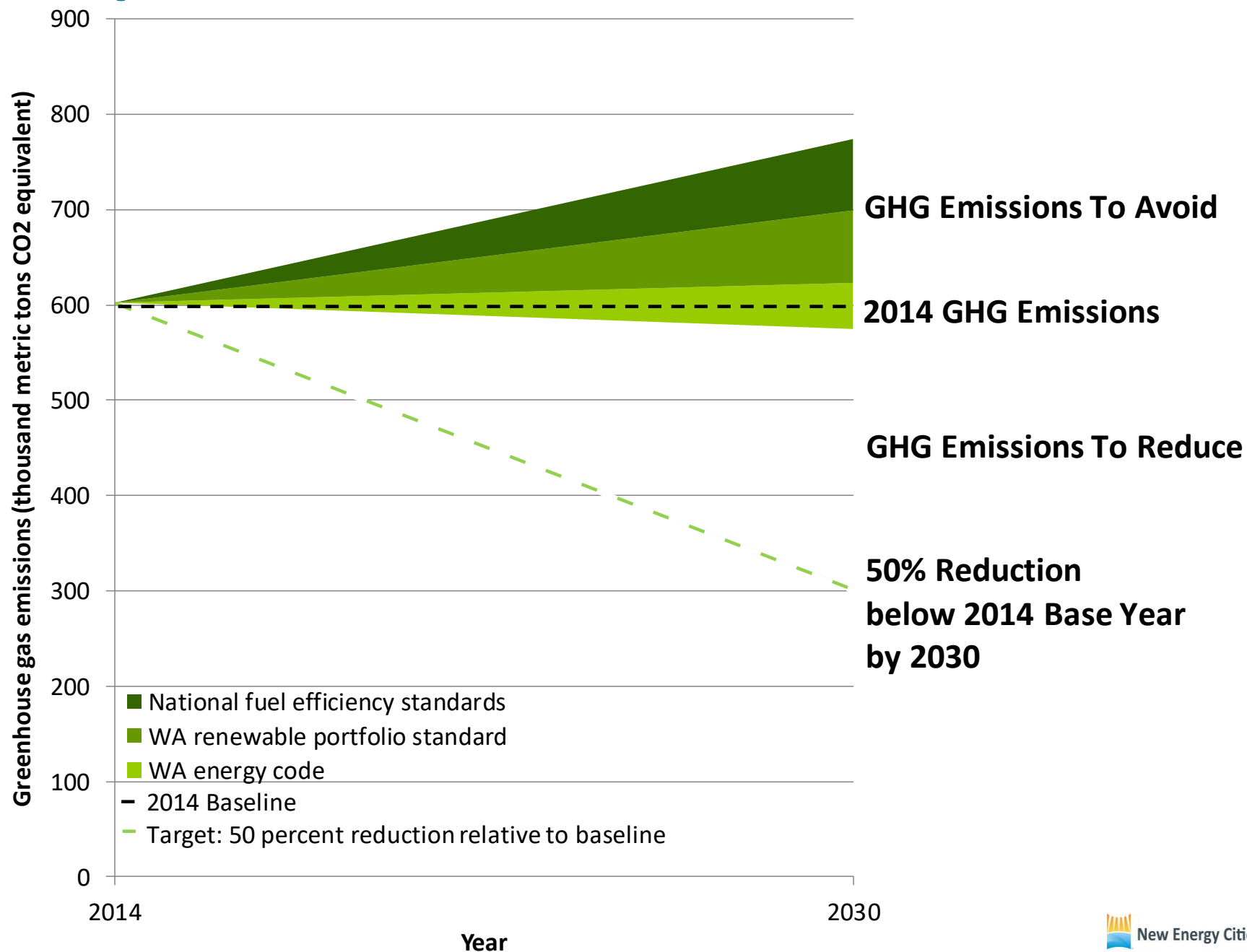


# Olympia 2014 Energy and Carbon Footprint

Estimated Olympia Energy Flow 2014

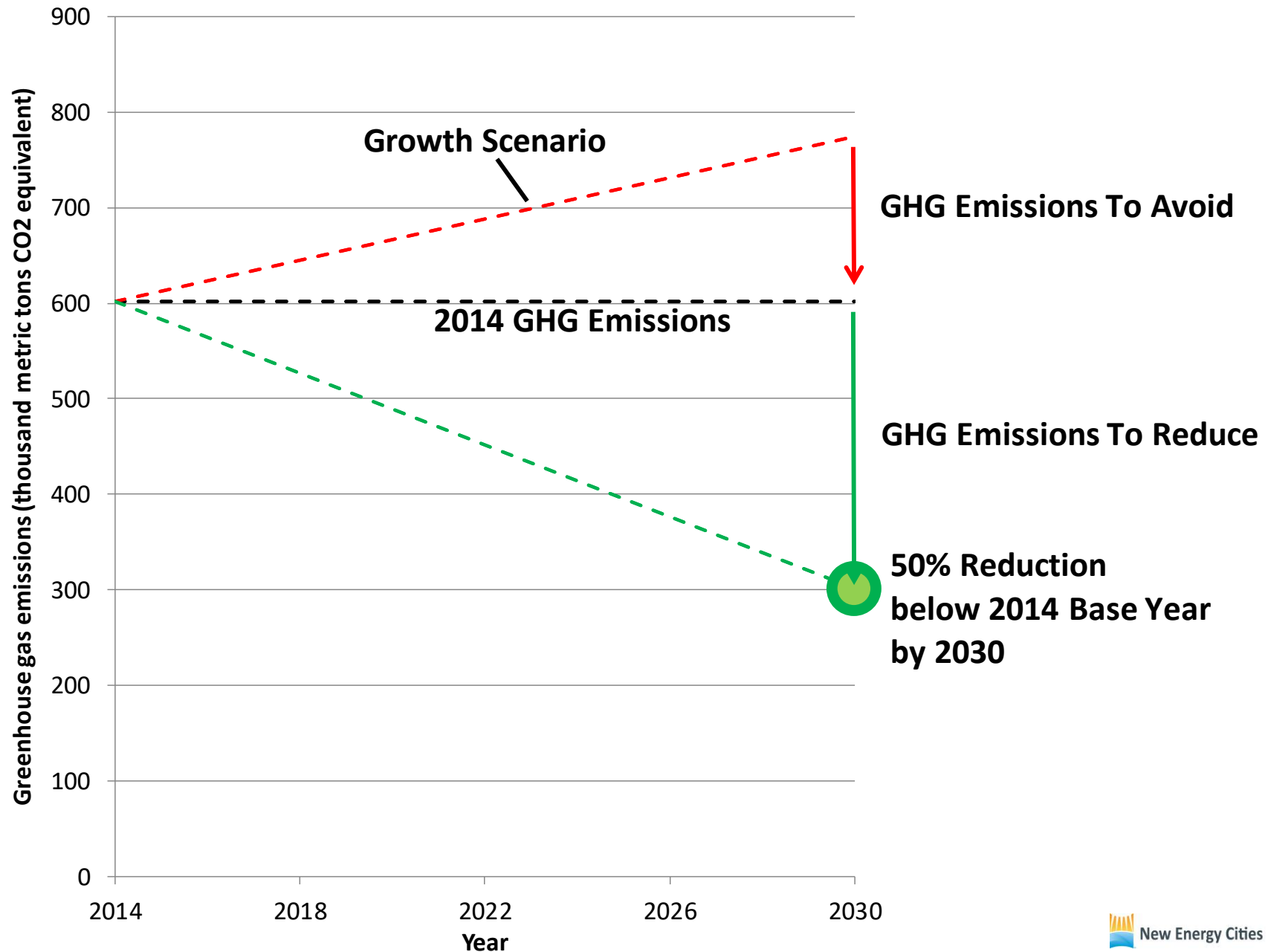


# Impact of Federal and State Policies





# 50 x 2030: What Will It Take?

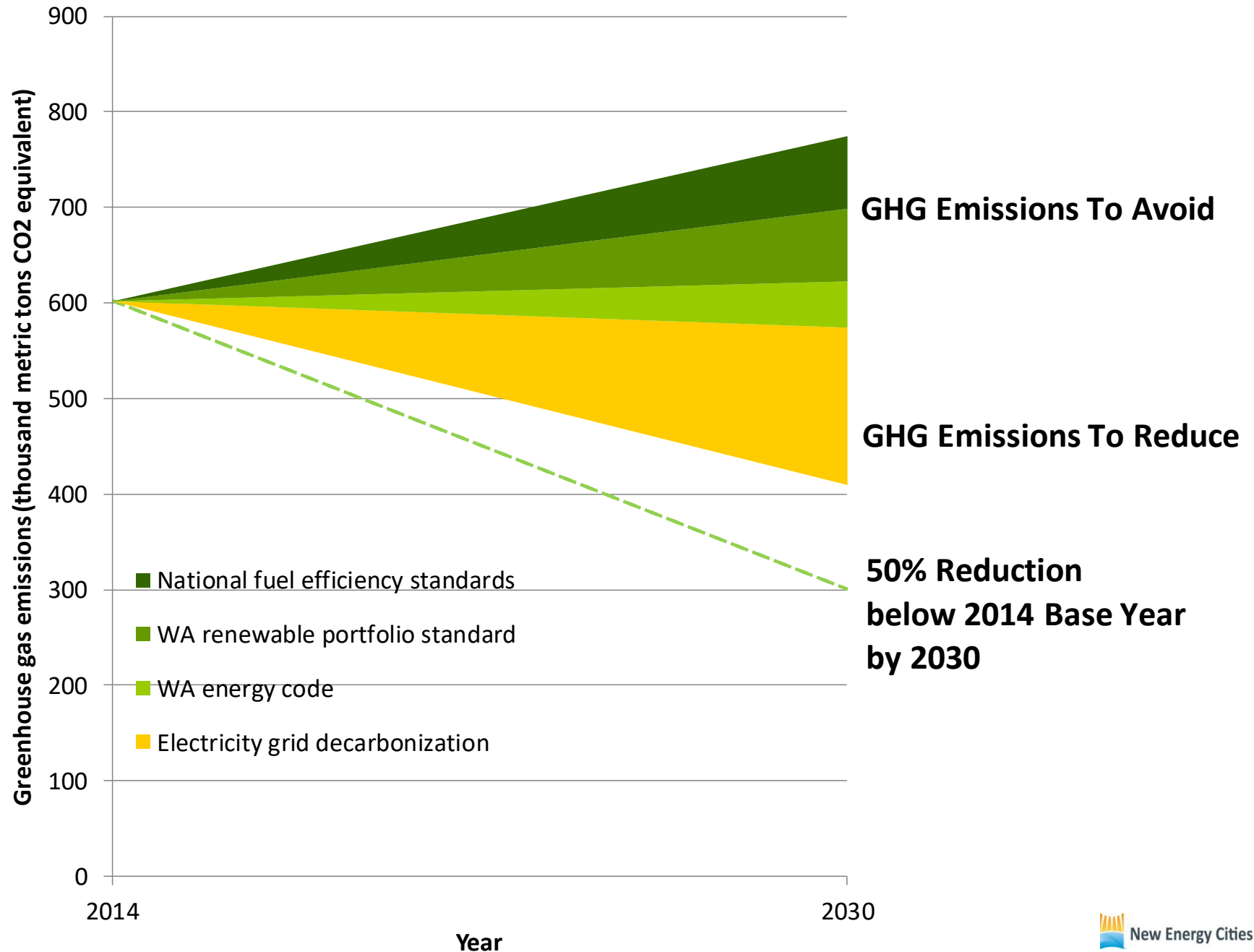


# Summary of Assumptions

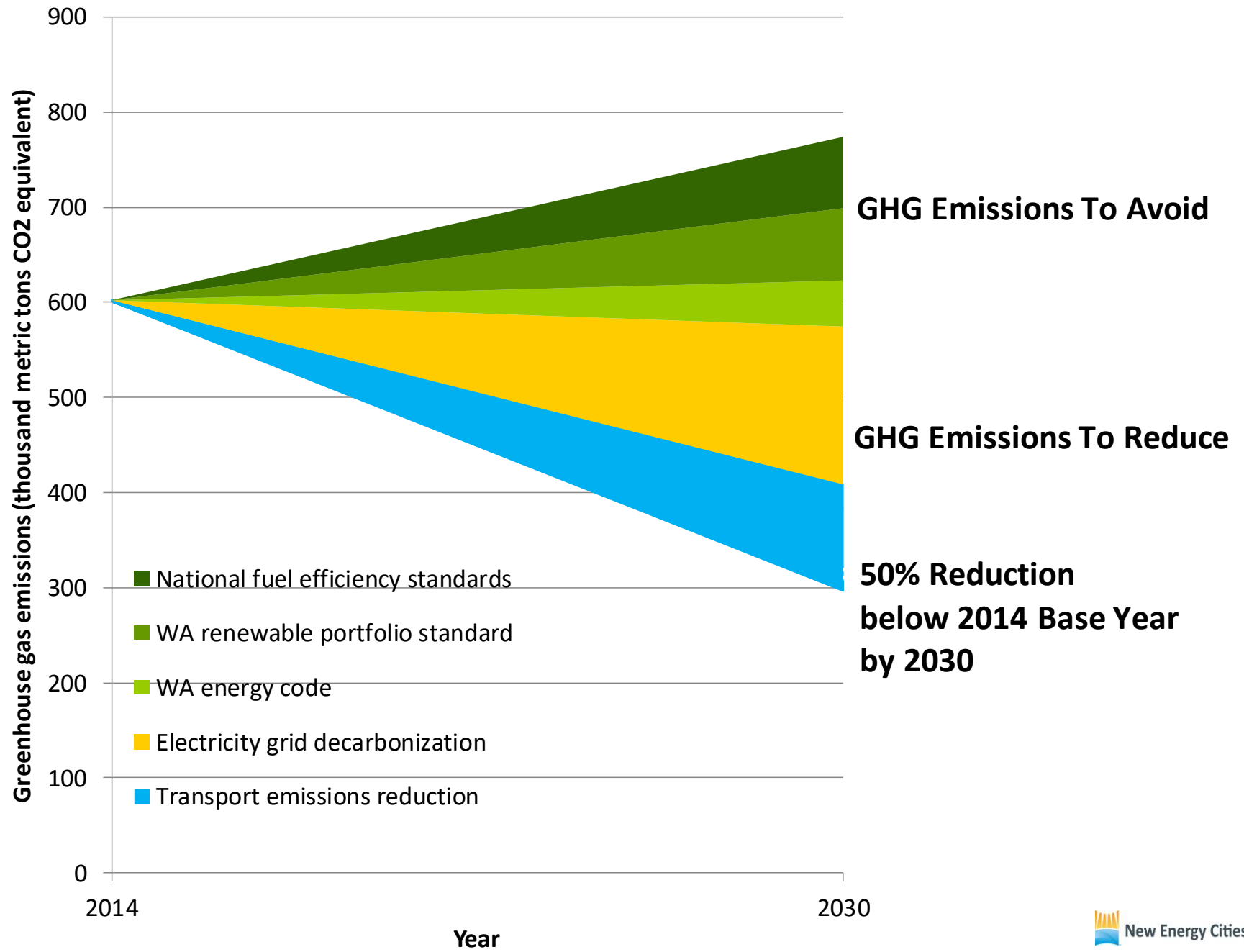
- Electricity decarbonization
  - ✓ Shift from 27% (baseline projection) to 2% of electricity demand met by coal in 2030
  - ✓ Renewables substitute for reduced coal generation
- Transport emissions reduction mechanisms
  - ✓ 10% reduction in transport fuel GHG intensity
  - ✓ 30% of all vehicles in 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



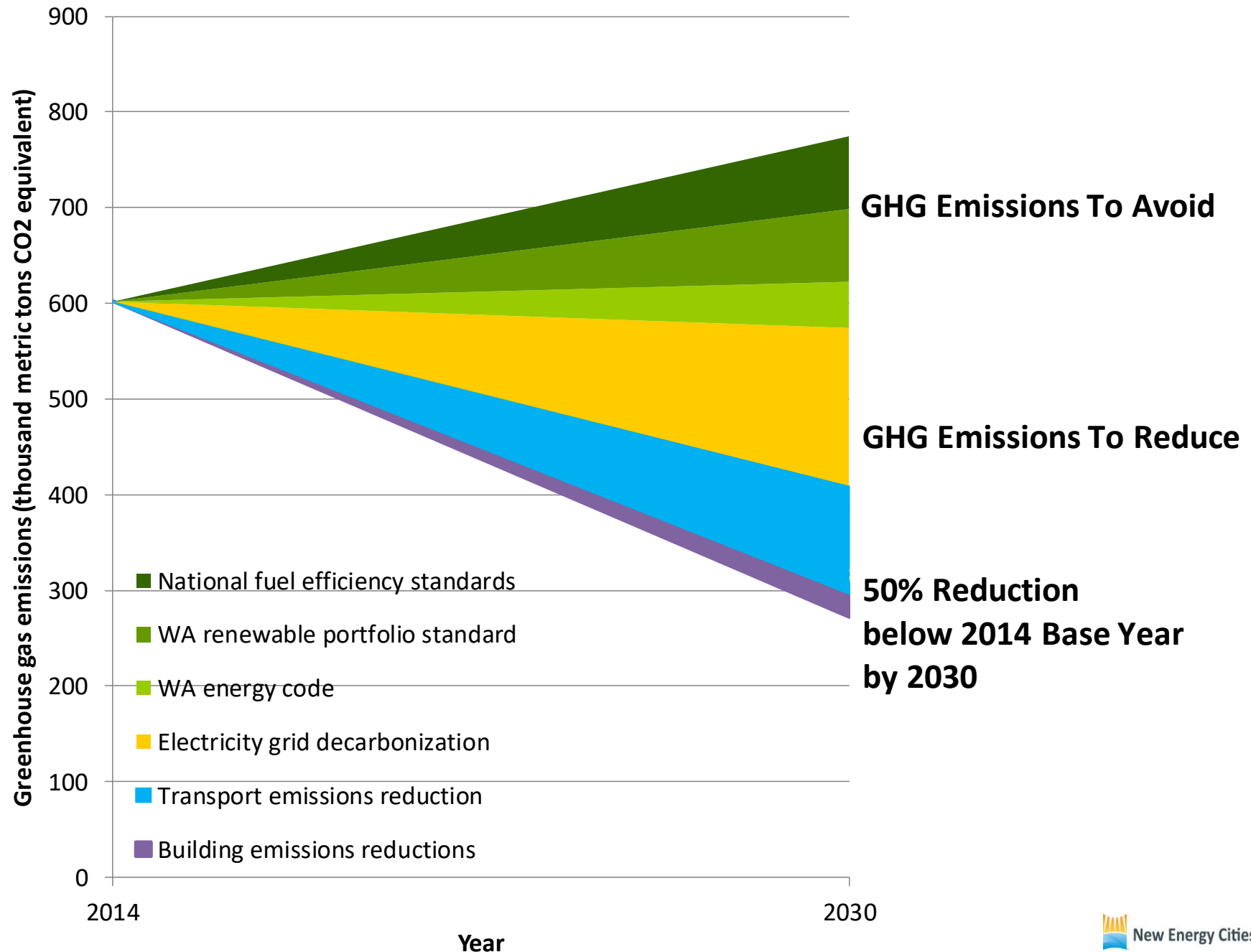
# Electric Grid Potential Target



# Transport Emissions Potential Reduction

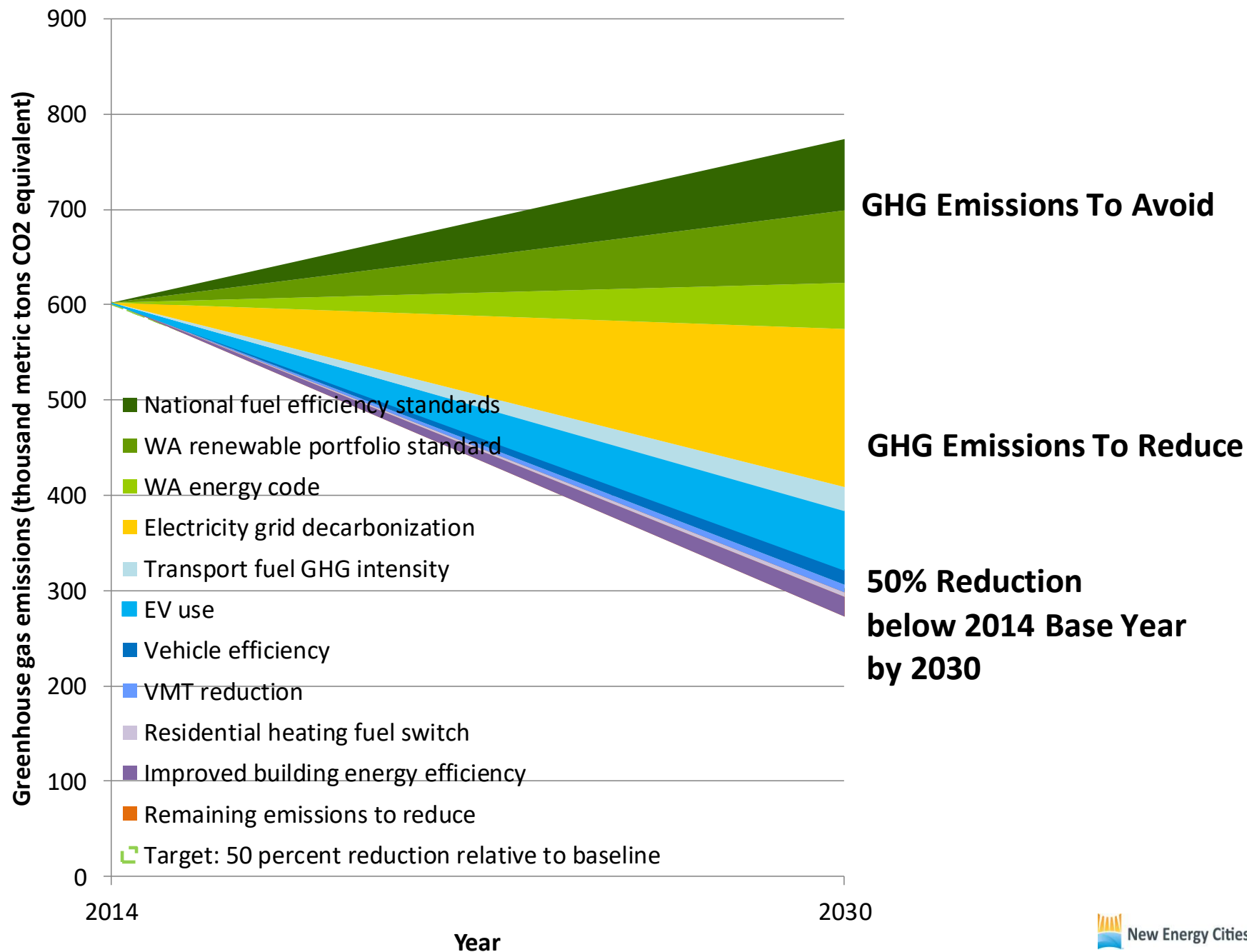


# Building Emissions Potential Reductions





# 50 x 2030 Goal: Detailed Breakdown



# 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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