

# Governor's Commission on Climate Change

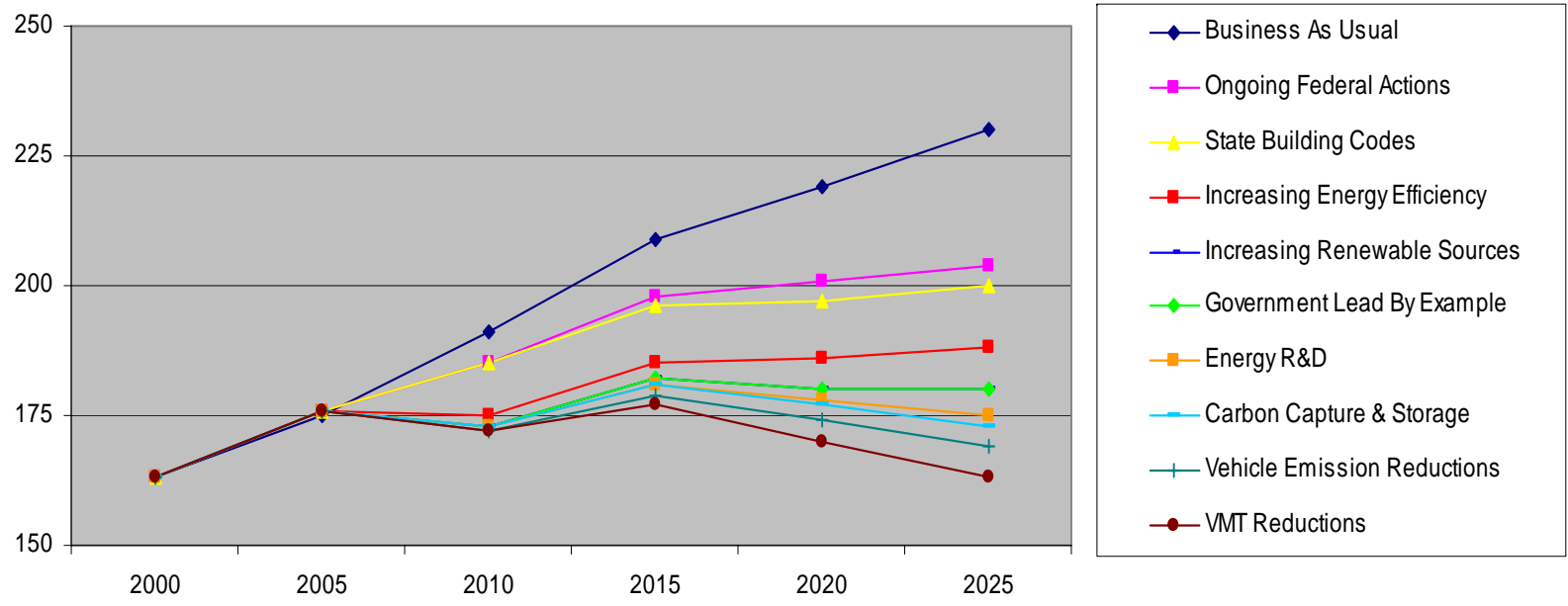
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## Greenhouse Gas Emission Reduction Calculations

November 13, 2008



### Million Metric Tons Carbon Dioxide Emissions Reduction Strategies



Recommended strategies will reach the Executive Order's goal of reducing GHG emissions by 30% below the business as usual projection







# Reductions – Increase energy efficiency and conservation

- **Recommendations**

- # 22 – Equalize incentives for utility conservation & efficiency investments
- # 33 – Encourage investment in advanced metering infrastructure
- # 42 – Provide capital fund for efficiency & local delivery
- # 43 – Phase in commercial LEED standards
- # 39 – Increase Weatherization Program funding

- **Calculation Methodology**

- Meet Virginia Energy Plan goals of 10% electricity, 7% natural gas, 10% fuel oil savings

- **Savings**

- 2015                      11 MMT CO<sub>2</sub>e
- 2025                      12 MMT CO<sub>2</sub>e



# Reductions – Increase renewable resources

- **Recommendations**
  - # 12 – Increase waste to energy
  - # 29 – Meet renewable portfolio standard
  - # 32 – Net metering incentives
  - # 25 – Increase green tariff purchases
- **Calculation Methodology**
  - Meet RPS standards (12% base line by 2022)
  - Net metering incentives – grow to 1% of demand/consumption
  - Green tariff purchases to 5% by 2025
- **Savings**
  - 2015                                      3 MMT CO<sub>2</sub>e
  - 2025                                      8 MMT CO<sub>2</sub>e



# Reductions – Government lead by example

- **Recommendations**

- # 44 – All new/renovated buildings to be LEED
- # 104 – State & local fleet CAFE by 2015
- # 115 – B15 diesel requirement for state vehicles & school buses  
(Note: school buses not calculated)

- **Calculation methodology**

- LEED state buildings at 22% reduction
- CAFE at 27% reduction
- 100% E-10 state gasoline purchases at 1.8% GHG reduction
- 100% B-15 state diesel purchases at 7.5% GHG reduction

- **Savings**

- 2015            less than 1 MMT CO<sub>2</sub>e
- 2025            less than 1 MMT CO<sub>2</sub>e



# Reductions – Increase energy R&D

- **Recommendations**
  - # 113 – Provide long-term, sustainable clean tech R&D funding
  - # 112 – Create a pool of research funds for alternate fuel & battery research
- **Calculation methodology**
  - R&D leads to implementing new technologies
  - Back loaded savings to 2%
- **Savings**
  - 2015                                      2 MMT CO<sub>2</sub>e
  - 2025                                      5 MMT CO<sub>2</sub>e





# Reduction – Carbon capture & storage

- **Recommendations**
  - # 27 – CCS research & begin implementation
- **Calculation Methodology**
  - Sequester 25% Virginia City plant CO<sub>2</sub> by 2020
  - Sequester 50% Virginia City plant CO<sub>2</sub> by 2025
- **Savings**
  - 2015                                      0 MMT CO<sub>2</sub>e
  - 2025                                      2 MMT CO<sub>2</sub>e



# Reduction – Reduce tailpipe emissions

- **Recommendations**
  - # 105 – Incentives to speed fleet turnover
  - # 111 – Assist development of alternative fueling infrastructure
  - # 109 – Old diesel retrofit/retirement program
  - # 110 – Increase speed limit enforcement
  - # 114 – Anti-idling policies and systems
  - # 108 – Advance use of EchoDrivingUSA practices
- **Calculation Methodology**
  - EchoDrivingUSA calculates 15% gasoline reduction of gasoline use
  - Savings calculated only for light duty vehicles
- **Savings**

– 2015	2 MMT CO <sub>2</sub> e
– 2025	4 MMT CO <sub>2</sub> e



# Reduction – Reduce vehicle miles traveled

- **Recommendations**

- # 123 – Coordinate transportation & land use in the Statewide Transportation Plan
- # 133 – Expand telework
- # 119 – Increase transit & rail funding
- # 137 – Target transportation funding to built-up and UDAs
- # 117 – Expand HOT/HOV network
- # 140 – Expand Pay As You Drive insurance

- **Calculation Methodology**

- GHG reduction from 10% VMT reduction

- **Savings**

- 2015                      2 MMT CO<sub>2</sub>e
- 2025                      6 MMT CO<sub>2</sub>e

