AB 32 Challenge

Reduction Required (175 MMT)

2020 AB32 Target

Business As Usual

Million Metric Tons per Year (CO₂ Equivalent)

Precourt Institute for Energy Efficiency
Scoping Plan Incentives

CO₂e Reductions (MMTonne)

Cap and Trade

Complementary Measures (Light Duty Vehicle Standards, Electricity/Gas Energy Efficiency, Renewables, Low carbon fuel standard, regional targets, others)

Not Covered by Cap and Trade (High GWP Gases)
Auctioning Allowances

- Create stronger incentives than giving allowances away based on historical emissions
- Help deal with budgetary problem
  - 400 million metric tonnes
  - Say, $50 per tonne
  - $20 Billion revenues
- Avoid general tax increases, increases that would have perverse incentives on labor supply and/or capital formation
US Energy Consumption By Fuel

Fuel

Petroleum
Coal
Natural Gas
Nuclear
Hydroelectric
Biomass
Geothermal
Solar/PV
Wind

Consumption (Quads)

2005
2006
2007

Petroleum: 40
Coal: 23
Natural Gas: 23
Nuclear: 8.1
Hydroelectric: 2.7
Biomass: 0.3
Geothermal: 0.06
Solar/PV: 0.07
Wind: 0.08

2006
Coal: 22
Natural Gas: 23
Nuclear: 8.2
Hydroelectric: 2.9
Biomass: 0.3
Geothermal: 0.07
Solar/PV: 0.18
Wind: 0.32

2007
Coal: 22
Natural Gas: 24
Nuclear: 8.4
Hydroelectric: 2.5
Biomass: 0.3
Geothermal: 0.18
Solar/PV: 0.26
Wind: 0.32
Energy Efficiency Compared to CO$_2$-Free Energy Supply

- A 30% reduction in all energy intensity implies that 25.5 quads of fossil fuels are not used, reducing CO$_2$ emissions by 25.5%.

- A 60-fold increase in wind plus solar can displace about 25 quads of fossil fuels.

- A factor of five increase in nuclear power can displace 30 quads of fossil fuels.

- 1 billion tons per year of cellulosic conversion of biomass can displace 5 quads of gasoline.