Beyond Carrots and Sticks: Potential New Drivers for Energy Efficiency Resources

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MINNESOTA PUBLIC UTILITIES COMMISSION

PRESENTED AT

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ON ENERGY EFFICIENCY AS A RESOURCE
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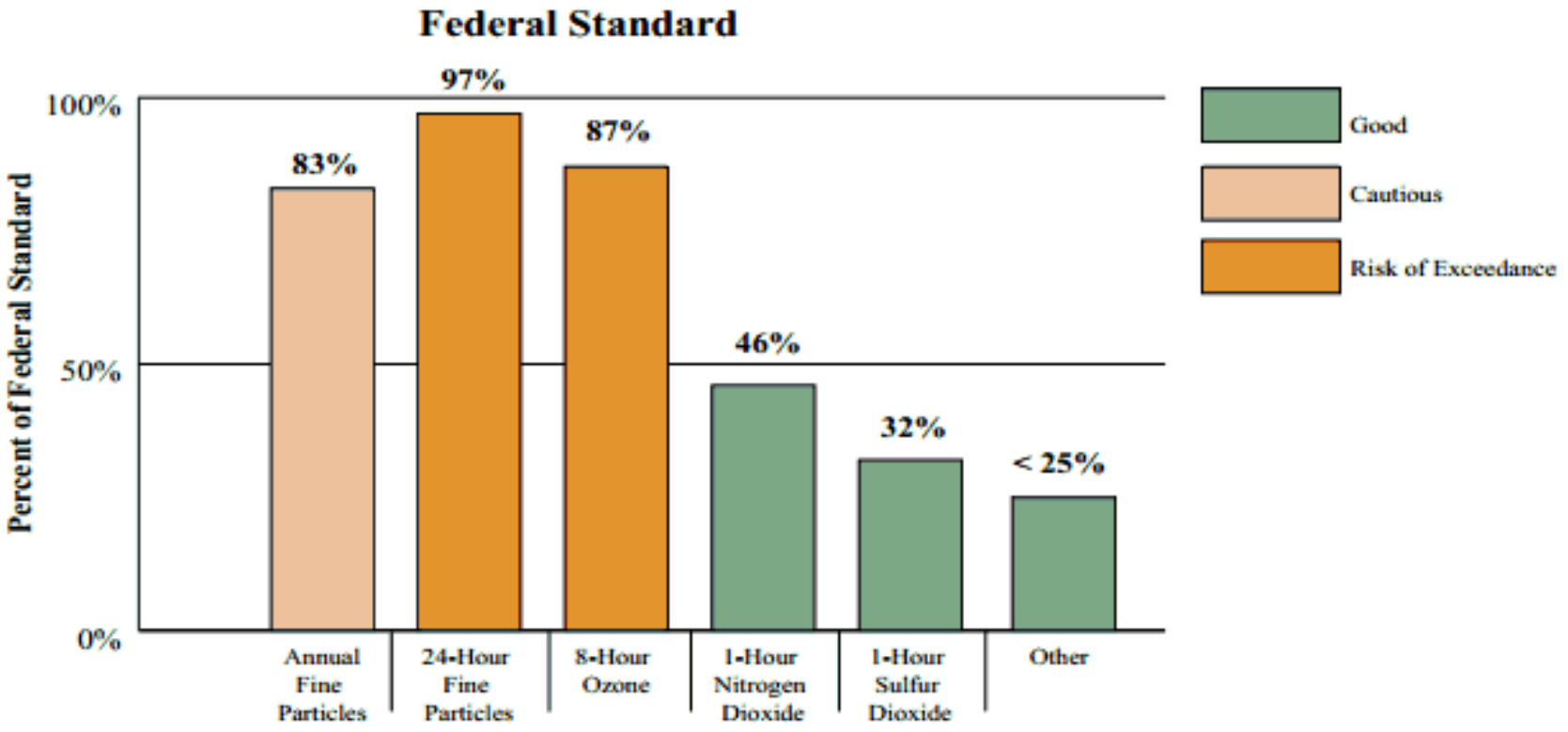
Topics to Cover

- Minnesota – Lay of the Land
- Two Visions of Energy Efficiency as an Environmental Improvement Strategy
- A Path Forward

Treading Close to the Line

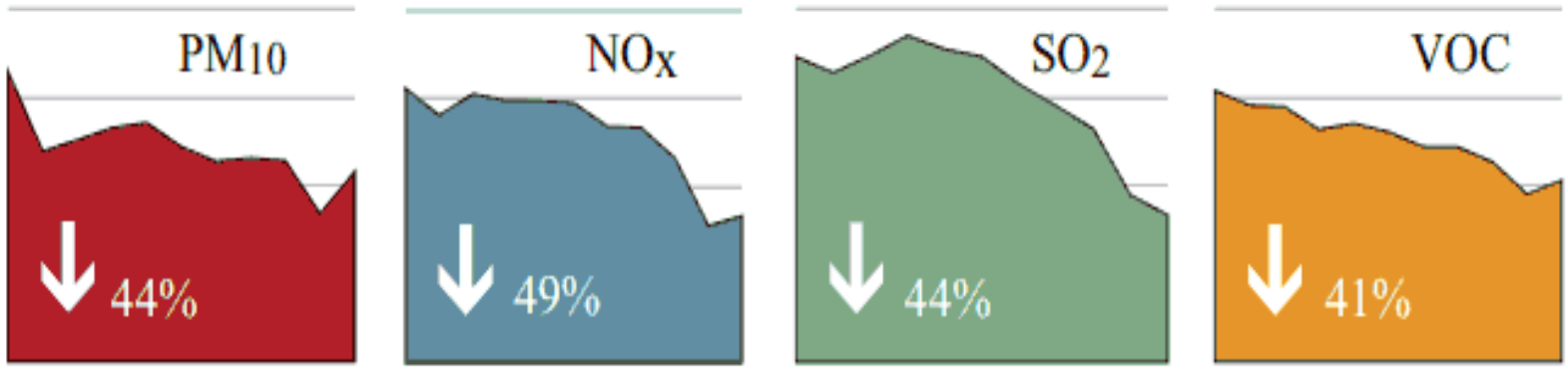
Chart 1: Minnesota's 2011 Ambient Air Pollutant Concentrations in Relation to Federal Standards[6]



Point Source Emissions Declining

- Electric Power sector NOx and SO2 ↓ 58% and 54%

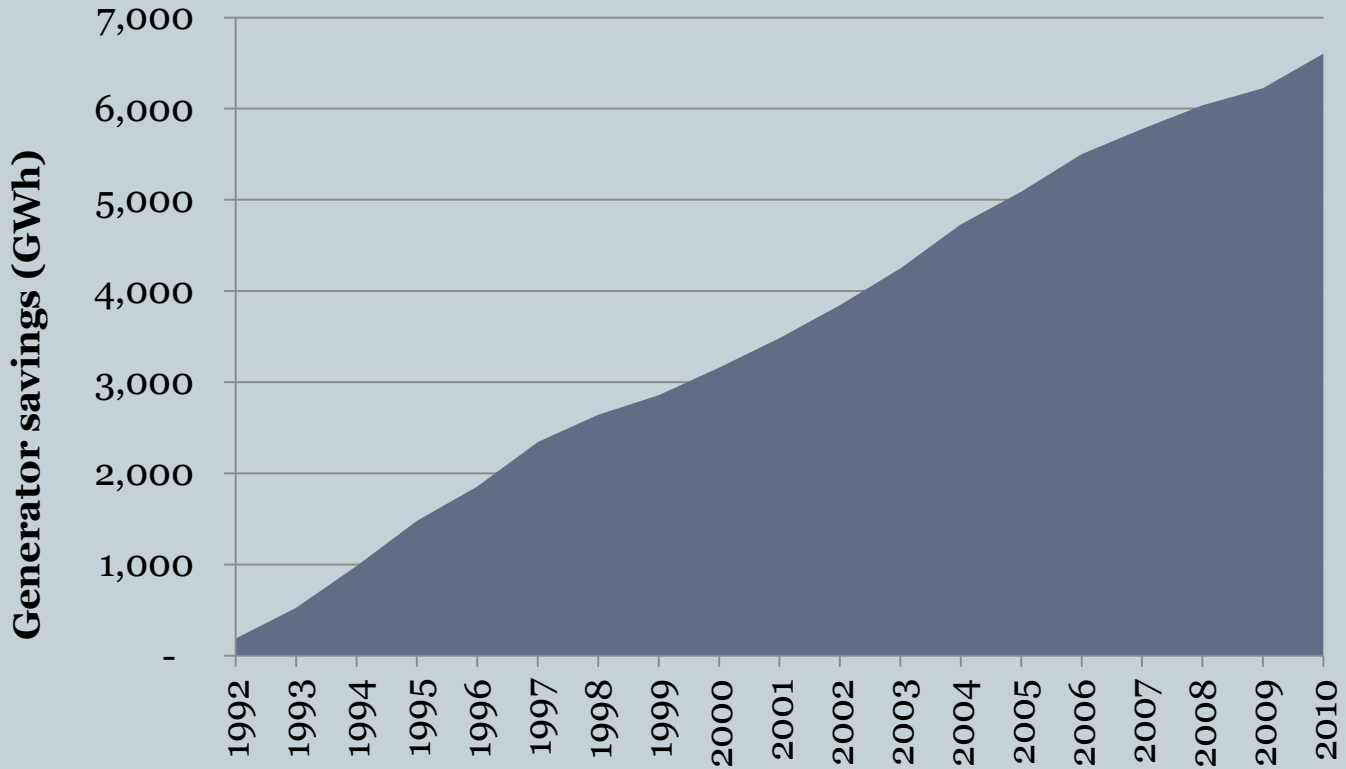
Chart 5: Point Source Pollutants Declines (2000-2010)[28]



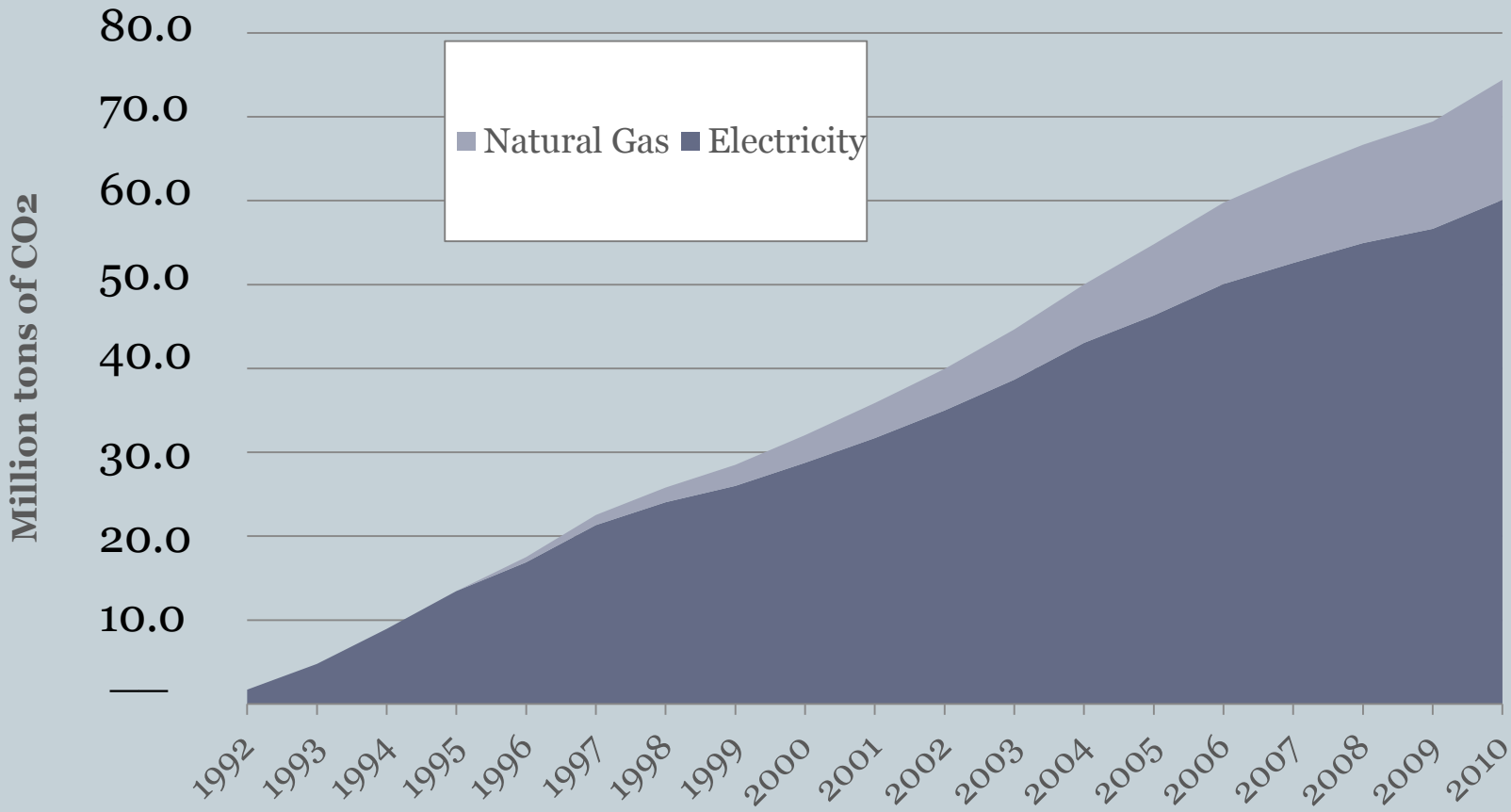
For the period 2000-2010, percent decrease in total emissions for specific pollutants *Minnesota PointSource Criteria Pollutant Inventory*

Cumulative Savings from EE Programs

- Total Savings: 68,000 GWh



Over 70 Million Tons of CO2 Savings from EE Programs



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GREAT NORTHERN RAILWAY
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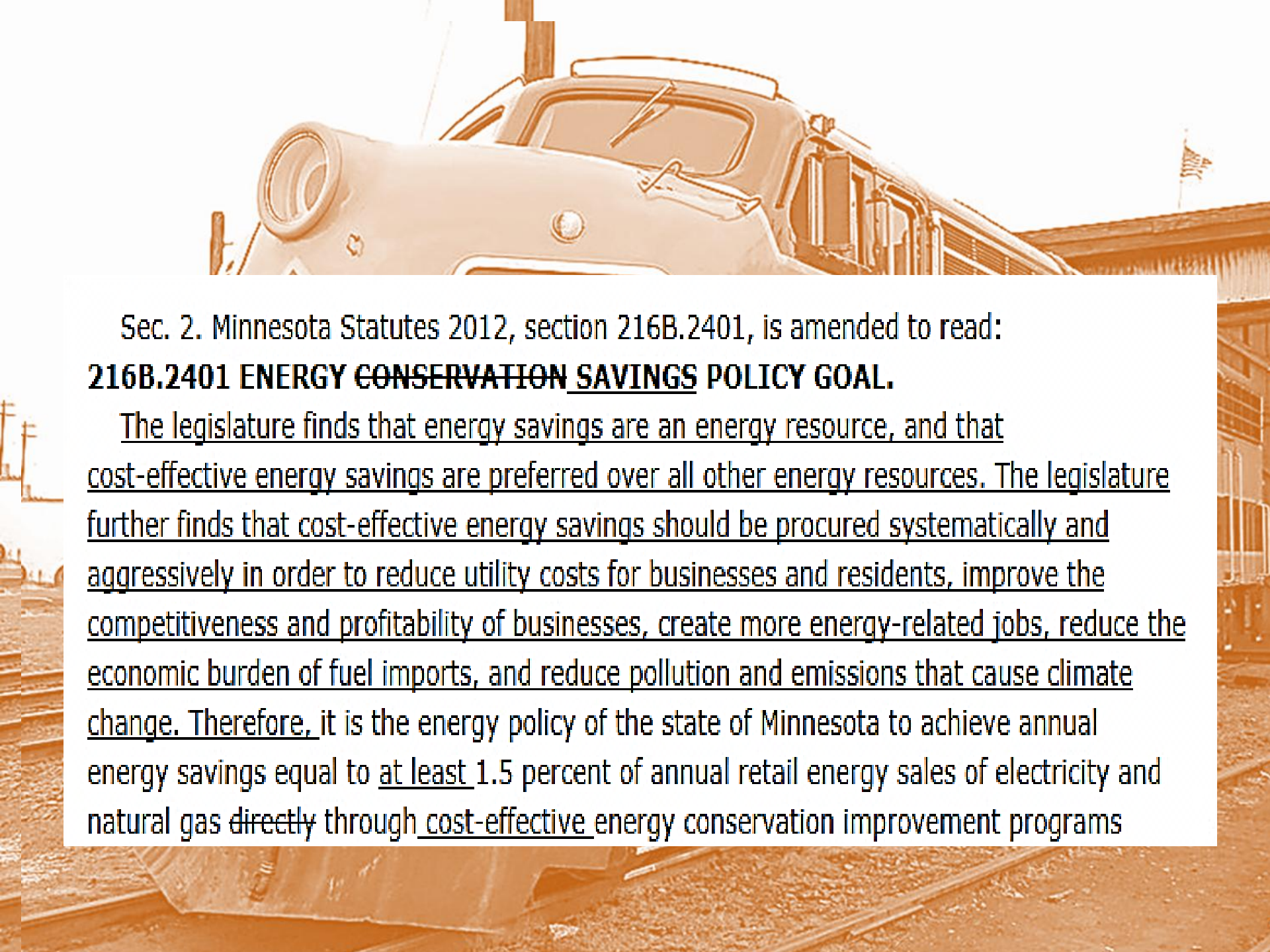
GREAT NORTHERN

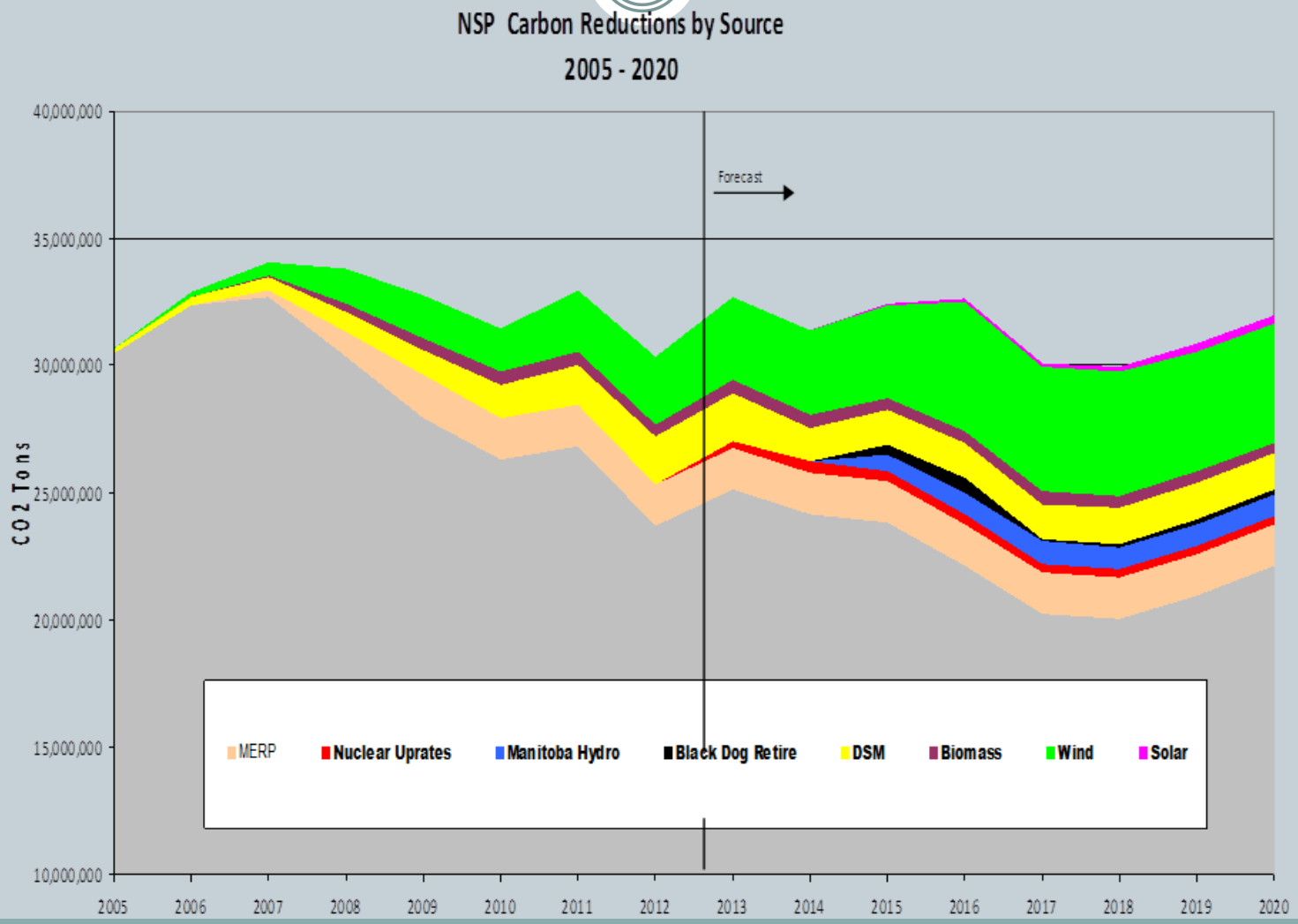


Sec. 2. Minnesota Statutes 2012, section 216B.2401, is amended to read:

216B.2401 ENERGY ~~CONSERVATION~~ SAVINGS POLICY GOAL.

The legislature finds that energy savings are an energy resource, and that cost-effective energy savings are preferred over all other energy resources. The legislature further finds that cost-effective energy savings should be procured systematically and aggressively in order to reduce utility costs for businesses and residents, improve the competitiveness and profitability of businesses, create more energy-related jobs, reduce the economic burden of fuel imports, and reduce pollution and emissions that cause climate change. Therefore, it is the energy policy of the state of Minnesota to achieve annual energy savings equal to at least 1.5 percent of annual retail energy sales of electricity and natural gas ~~directly~~ through cost-effective energy conservation improvement programs

Xcel Energy's Carbon Reductions



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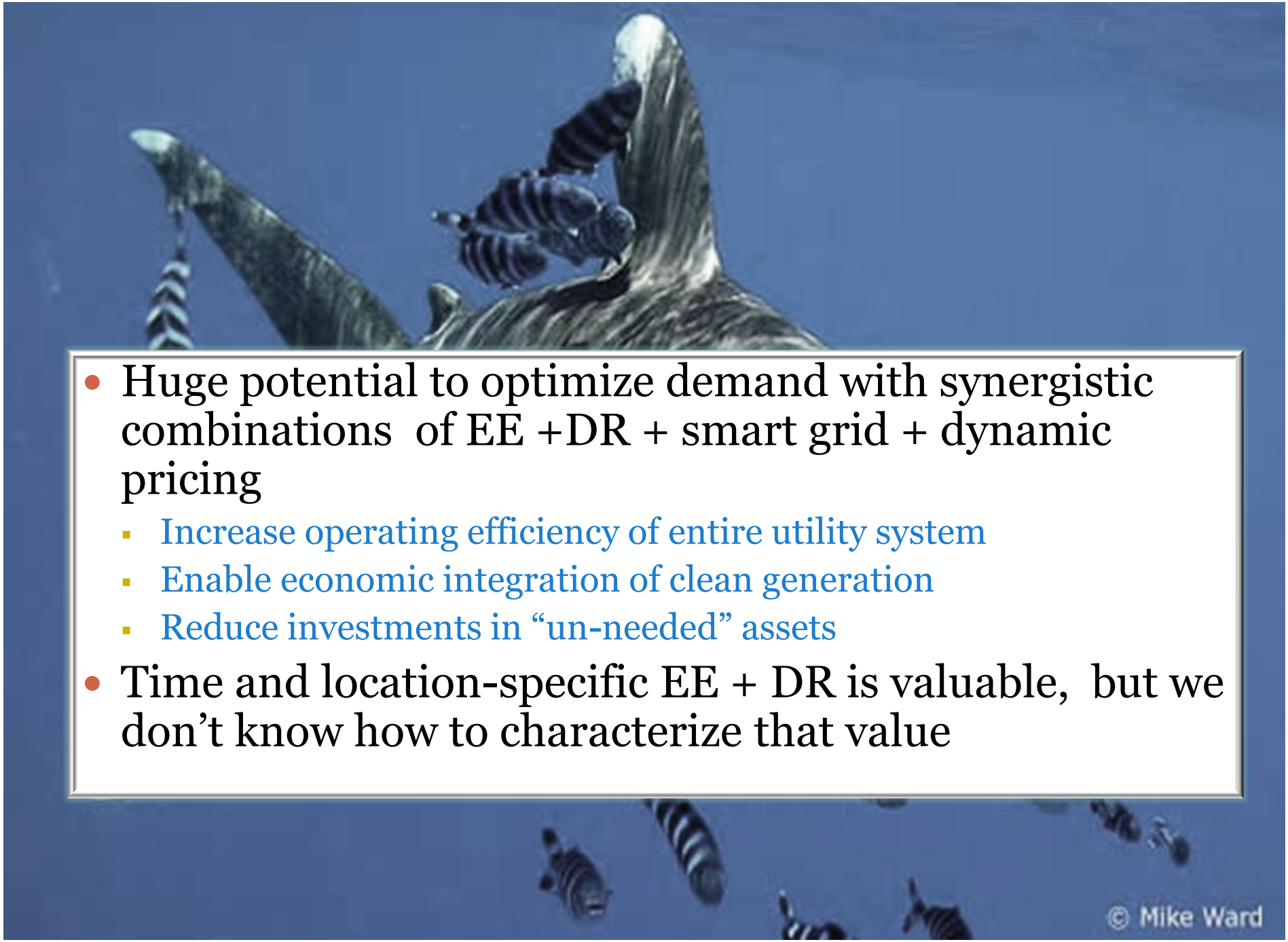
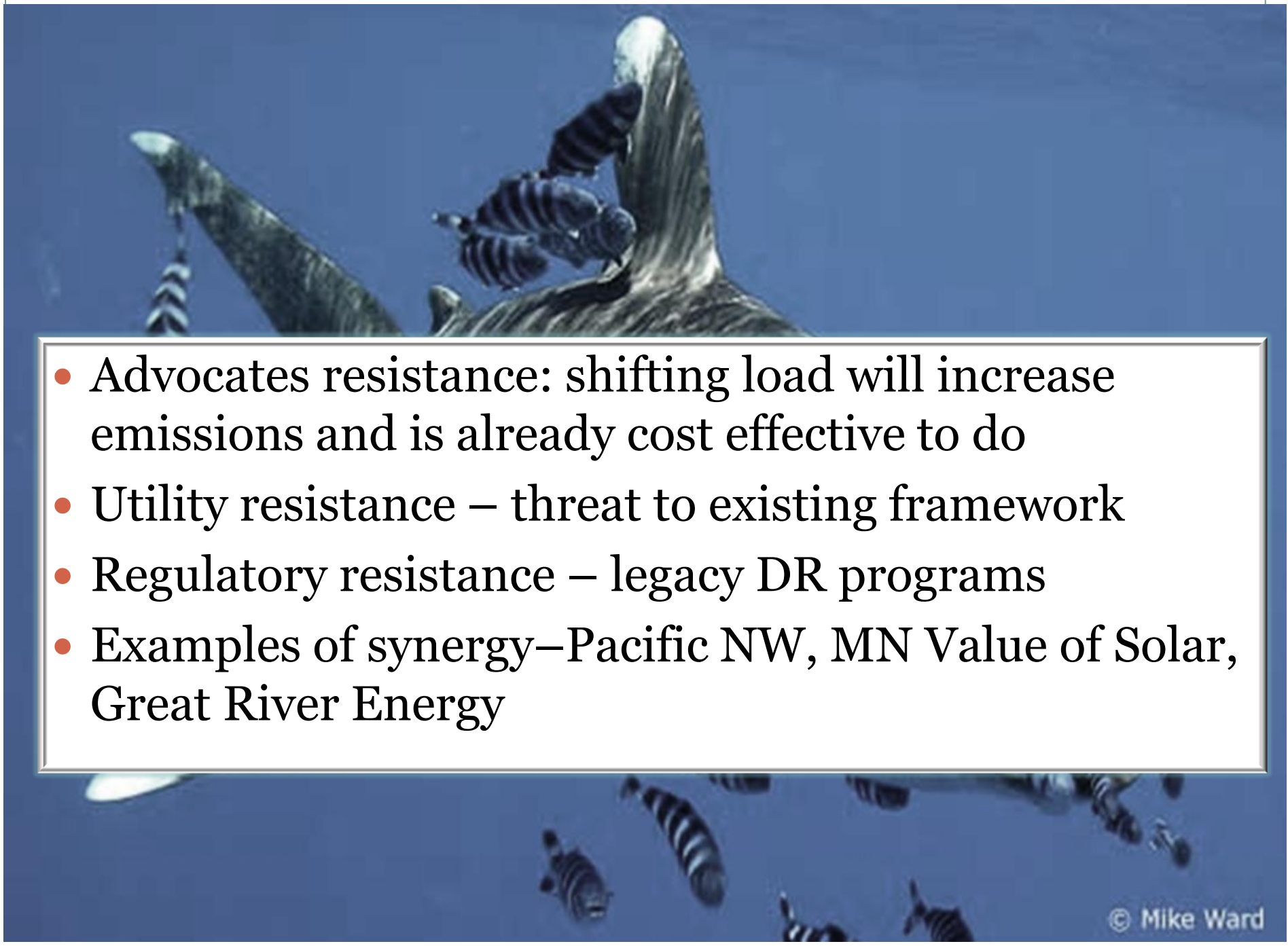


- Huge potential to optimize demand with synergistic combinations of EE +DR + smart grid + dynamic pricing
  - Increase operating efficiency of entire utility system
  - Enable economic integration of clean generation
  - Reduce investments in “un-needed” assets
- Time and location-specific EE + DR is valuable, but we don’t know how to characterize that value



- Advocates resistance: shifting load will increase emissions and is already cost effective to do
- Utility resistance – threat to existing framework
- Regulatory resistance – legacy DR programs
- Examples of synergy–Pacific NW, MN Value of Solar, Great River Energy

Pathway Forward

- Decoupling – addresses lost sales and the implications of slow sales growth
- Industrial opt-outs problematic when wealth of efficiency and DR goes untapped
- New cost/benefit models
- Robust EM&V – to verify amount, timing and location of efficiency impacts
- New economic frameworks are needed – for utilities, RTOs, customers, EE providers

Thank You

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