

# What's Next in Minnesota energy policy?

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Great Plains Institute

## Germany's Energy Transition: Lessons Learned and Next Steps

A Joint Meeting of the  
Minnesota Environmental Quality Board and  
the Minnesota Public Utilities Commission

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# Outline

- **‘State of play’ on energy/climate.**
- **What Germany has taught me.**
- **Opportunities and implications for MN’s energy policy.**



# PARIS CLIMATE AGREEMENT

“Intended Nationally Determined Contributions”

**United States:** Reduce GHGs by 26%-28% below 2005 levels in 2025.

**Brazil:** Reduce GHGs by 37% below 2005 levels in 2025 and 43% below 2005 levels in 2030

**EU:** Reduce greenhouse gas emissions by at least 40% below 1990 levels in 2030

**China:**

- Peak carbon dioxide emissions around 2030 and make best efforts to peak earlier
- Lower carbon dioxide emissions per unit of GDP by 60% to 65% from 2005 levels
- Source 20% of energy from low-carbon sources by 2030



# Most Aggressive State/Provincial Renewables Policies:

- California: 50% by 2030
- New York: 50% by 2030
- Oregon: 50% by 2040
- Vermont: 75% target by 2032
- Hawaii: 100% by 2045
- Alberta: 30% by 2030
- Saskatchewan 50% by 2030



Source: UtilityDive

**Canada has announced phase out of coal by 2030.** Austria, Britain, Denmark, France, & the Netherlands also accelerating coal phase out. *Source:* [NY Times](#).



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# 60% of US energy executives:

- Say growth of renewable energy is a top disruptive trend and
- Expect 50% renewables by 2045, or sooner.
- 94% believe volatility in commodity pricing + regulatory changes will require "**significant changes to their business models**" within five years.



Source: KPMG Global Energy Institute [2016 Energy Business Outlook](#)



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# Lessons from Germany

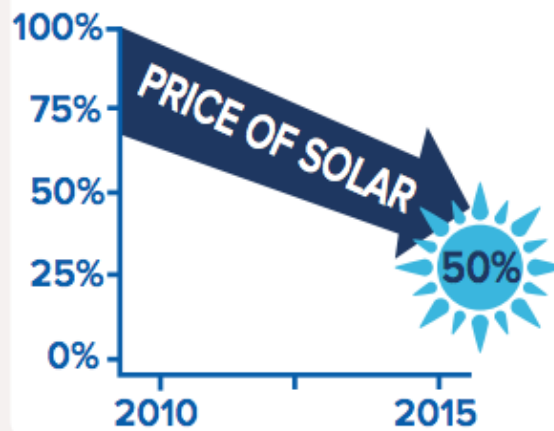
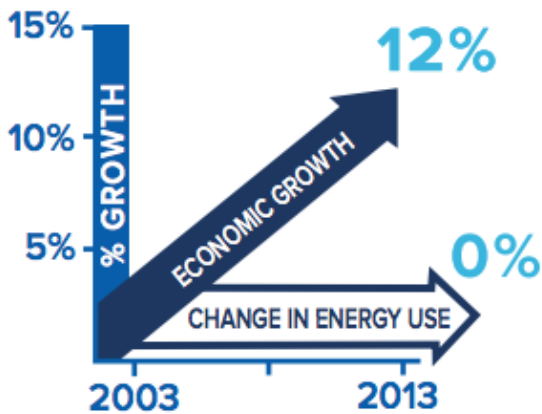
1. The value of a broadly-shared long-term goal.
2. The importance of being clear which goals are most important (e.g., more renewables Vs. reducing GHGs).
3. The energy transition is 1<sup>st</sup> an economic development strategy.



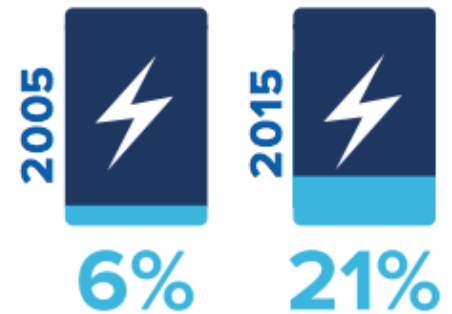
# MINNESOTA'S

## 2025 ENERGY ACTION PLAN

Stakeholder-Driven Strategies for Success



### % ELECTRICITY FROM RENEWABLES



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# Minnesota's 2025 Energy Action Plan



**LOCAL PLANNING & ACTION** Coordinated energy and resilience planning, adopting best practices



**TRANSPORTATION**  
Electric vehicles  
and alternative-  
fuel vehicles



**ENERGY SUPPLY & GRID  
MODERNIZATION**  
Smart meters and smart  
inverters, storage, updated  
pricing and programs



**EFFICIENT BUILDINGS &  
INTEGRATED ENERGY SYSTEMS**  
Low-energy design,  
efficient operations,  
thermal energy integration



**INDUSTRIAL & AGRICULTURAL  
PROCESSES**  
Advanced biofuels,  
business leadership  
on energy



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# THANK YOU!

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