

# WISCONSIN ROADMAP TO NET ZERO BY 2050

**MREA ENERGY FAIR – SUNDAY JUNE 25, 2023**

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# THANK YOU MREA FOR ENERGY FAIR DIALOG OPPORTUNITIES!

- **Yesterday: Rise Up! Live Podcast**
  - ... study technical results
- **Right Now: Zero Carbon by 2050 – A Path for Wisconsin workshop**
  - ... policy implementation
- **Sunday 10:30am (Main Stage): Rise Up! Live Panel Discussion** on clean energy issues
  - Stop by RENEW's table for more info!



# OUR ROADMAP FOR TODAY'S WORKSHOP

- How the study came to be
- Overview of modeling results
- Planning and policies needed for zero carbon transmission
- Q&A



# HOW WI ZERO CARBON STUDY CAME TO BE





# MODELING APPROACH

## Scenarios Investigated

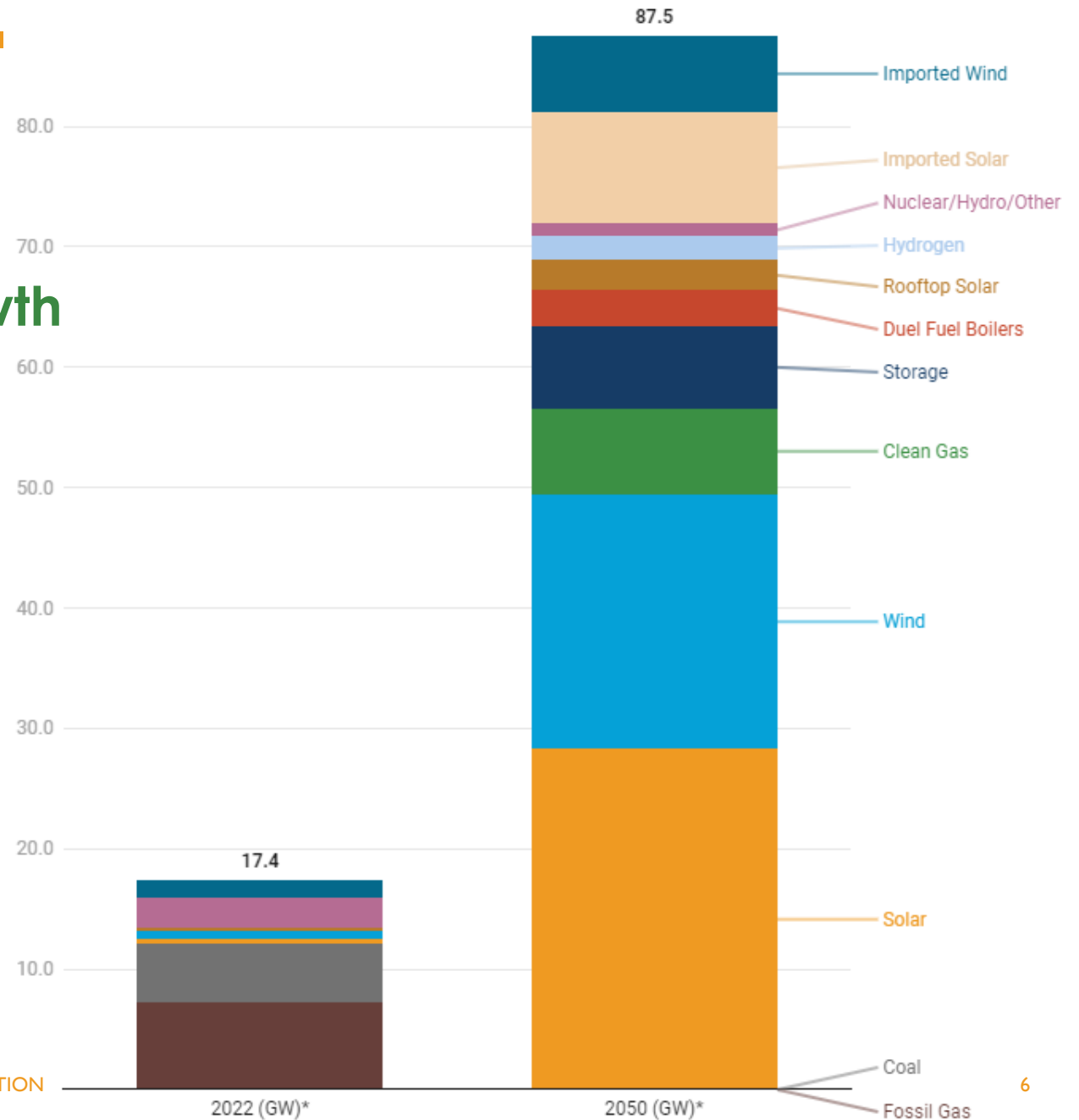
Scenario	Description	What are we investigating?
<b>Baseline</b>	No electricity or emissions policy, the way we consume energy remains similar to today	Setting a useful point of comparison to other scenarios
<b>100% Clean Electricity</b>	Reaching 100% clean electricity but no economy-wide emissions policy	What is the cost and impact on emissions of taking action only in electricity?
<b>NET ZERO SCENARIOS</b>	<b>Net Zero Economy-Wide</b> 100% clean electricity and economy-wide emissions policy. Aggressive electrification and efficiency of demand side energy consumption	With all resource options on the table, what is a least cost path to net zero in 2050 and what does the investment strategy look like?
	<b>No Transmission Expansion</b> Transmission paths to other states cannot be expanded to access more out of state energy	How impactful is transmission expansion on overall costs and in state investments?
	<b>Accelerated Clean Electricity</b> Economy-wide emissions target and pushing to 100% clean electricity by 2040	How much more would it cost to push to 100% clean electricity faster?
	<b>Delayed Action</b> Delayed demand-side transformation, 15 years slower than Net Zero Economy-Wide	How important is pushing demand-side transformation on overall costs?
	<b>Limited Coal and Gas</b> No new gas, and coal retired by 2030	If near-term policy retired coal and prevented new gas investments what would be the impact?



EVOLVED  
ENERGY  
RESEARCH

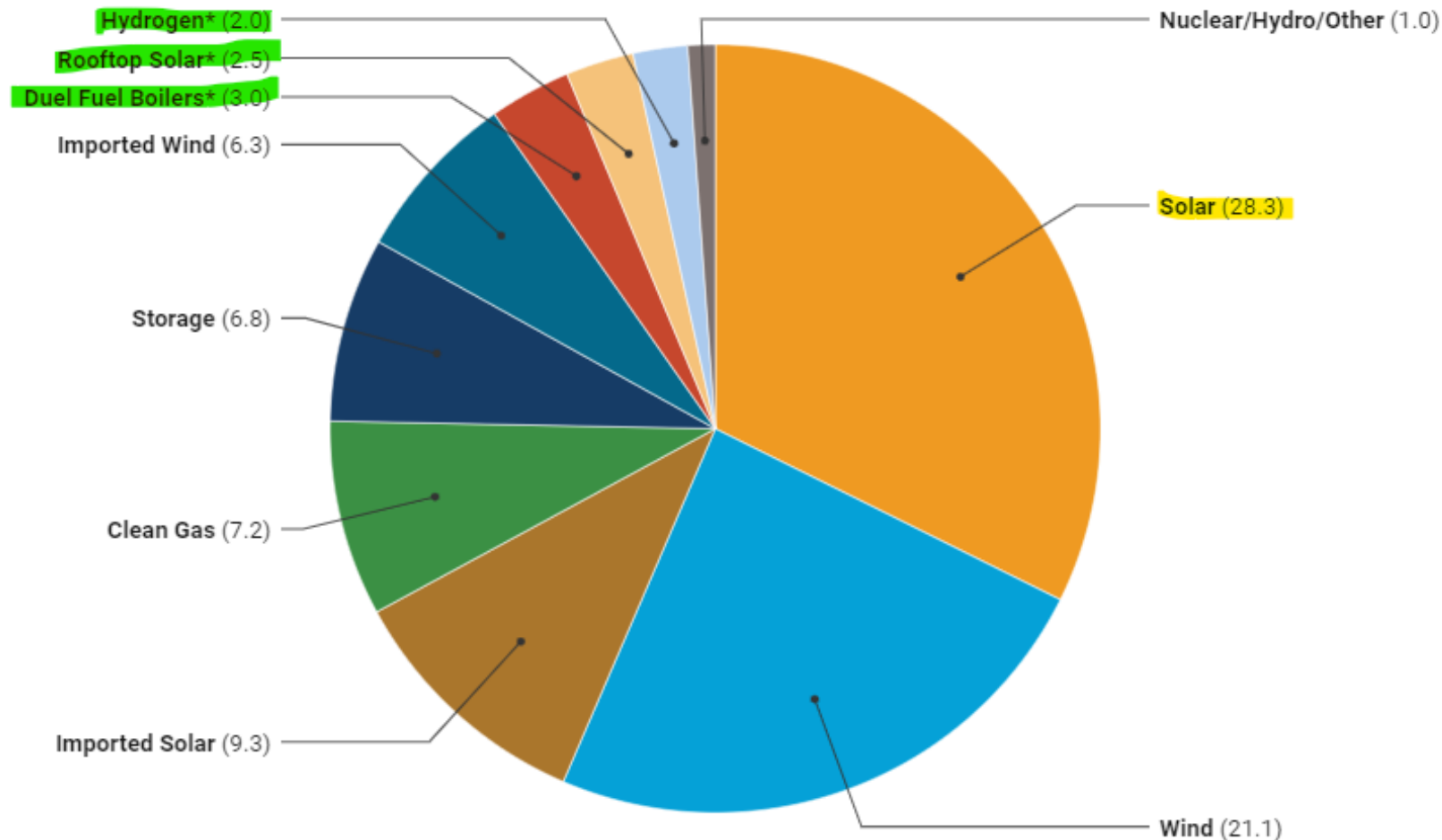
## SNAPSHOT OF RESULTS

- Electrification of most uses across sectors leads to dramatic load growth
  - 166% load growth 2022-2050
- Requires unprecedented resource development
  - About 4x as much gen capacity compared to today
  - Much additional transmission;
    - 6 GW interties each from MN, IA, IL



# A DIVERSE CLEAN PORTFOLIO FOR WISCONSIN BY 2050

## NETZERO ECONOMY WIDE CAPACITY BY 2050 (IN GW)



# COSTS & BENEFITS AT A GLANCE

Net Present Value of Investments	Health & Economic Benefits
Total direct investment costs: <b>\$111.1 billion</b> <ul style="list-style-type: none"><li>• Utility investments (Gen, Transmission, Batteries, etc.)</li><li>• Consumer investments (EVs, heat pumps, etc.)</li></ul>	<b>\$2 to \$4.4 billion in avoided healthcare costs</b> in 2050, <b>28 to 63 fewer deaths per million people</b> from air pollution by 2050
Total direct benefits (avoided fuel): <b>\$110.6 billion</b> <ul style="list-style-type: none"><li>• Utility avoided fuels (coal, fossil gas)</li><li>• Consumer avoided fuels (gasoline, fossil gas)</li></ul>	<b>3% growth in WI GSP</b> by 2050, Adding \$16 billion to WI's economy <b>68,000 additional WI jobs</b> <b>Lower energy costs</b> for WI residents



# PREVIEW OF WISCONSIN POLICIES NEEDED FOR ZERO CARBON TRANSITION

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## ASSOCIATED POLICY

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Require independent economic analyses of each coal power plant to understand optimal retirement dates.

Pass legislation requiring a formal Integrated Resource Planning process developed by the PSC.

Complete revisions of PSC Admin Code 119 (Interconnection Rules) and develop a Performance Incentive Mechanism to support interconnection requests.

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## POLICIES NEEDED CONTINUED...

### ASSOCIATED POLICY

Clarify, in ongoing or future dockets, that **third-party financing of renewable resources** is allowed under Wisconsin law, and require uniform **standardized contracts** for Qualifying Facilities.

Create and implement **consistent net metering tariffs** across utilities that support the integration of customer sited renewable resources. The PSC should also clarify **eligibility for 'submetering'** that allows owners of multifamily buildings to install clean energy resources for the benefit of all renters within those buildings.

The state legislature should also pass **Community Solar legislation** and codify the legality of third-party charging of EVs.

Pass legislation that **doubles the funding for the statewide Focus on Energy program.**



# POLICIES OF FOCUS FOR TODAY

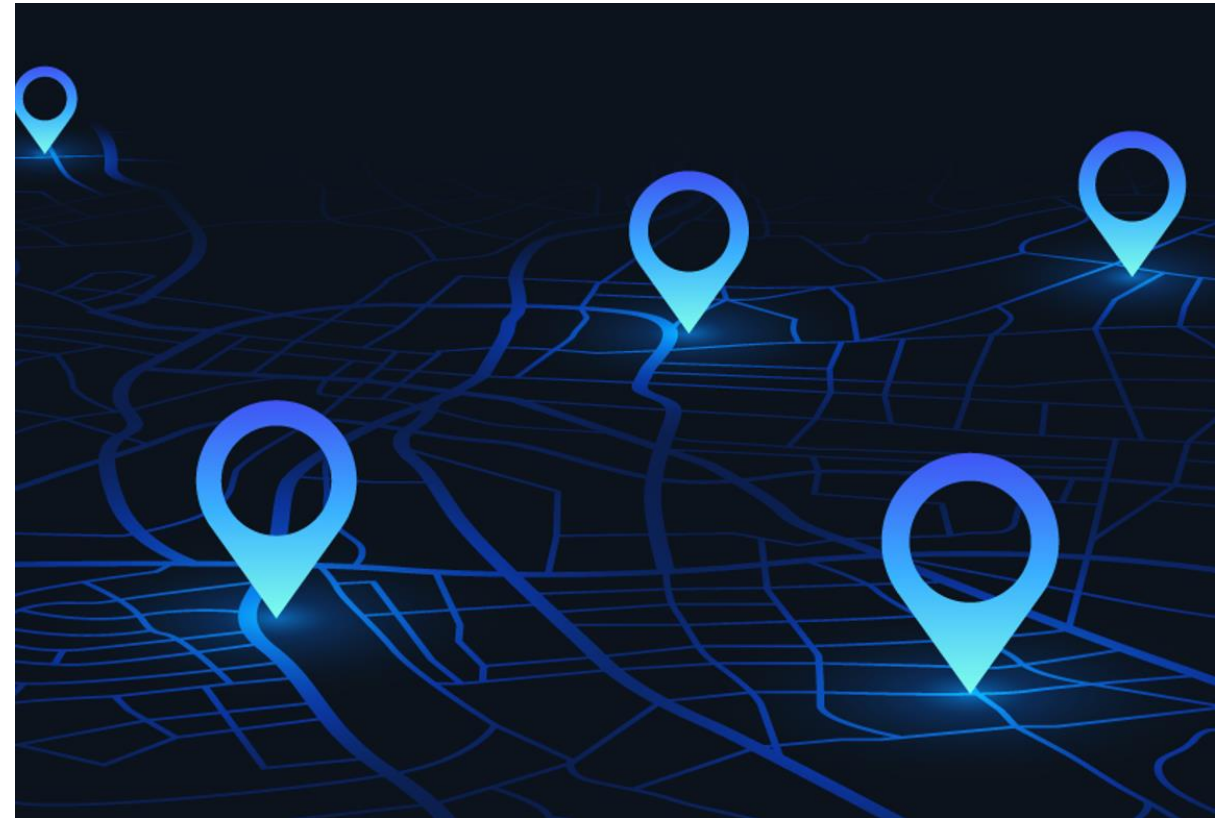
- Integrated Resource Planning (IRP)
- Community Solar
- Third-party Financing
- Net Metering





# INTEGRATED RESOURCE PLAN (IRP)

- State utility planning for many regulated states: neighbors...
  - Minnesota
  - Michigan
- Look at utility plans holistically, w/ stakeholder input
- Wisconsin now has Strategic Energy Assessment (SEA)
- IRP was part of Gov. Evers budget proposal



# COMMUNITY SOLAR

- Small solar project within a community
- Multiple people & biz can participate
- Subscribe, pay developer, receive bill credits





# COMMUNITY SOLAR PROPOSED LEGISLATION

- Assembly Bill 258
- Senate Bill 226
- Only 5 Investor Owned Utilities
- Each project limited to 5 MW
- Option for those can't put solar on rooftop



# THIRD PARTY FINANCING BASICS

- Also called Third Party Ownership
- Lease for rooftop solar
- 'Pay as you save' contract
- Perfect for...
  - Low-to-Middle Income
  - Non-profit & local gov
  - Places of worship & small biz



# WISCONSIN THIRD PARTY STATUS

- Clearly allowed in IL, MI, IA
- Wisconsin utilities denying interconnections
- Legislative inaction
- PSC 'case-by-case' decision
- Likely to go to WI Supreme Court?





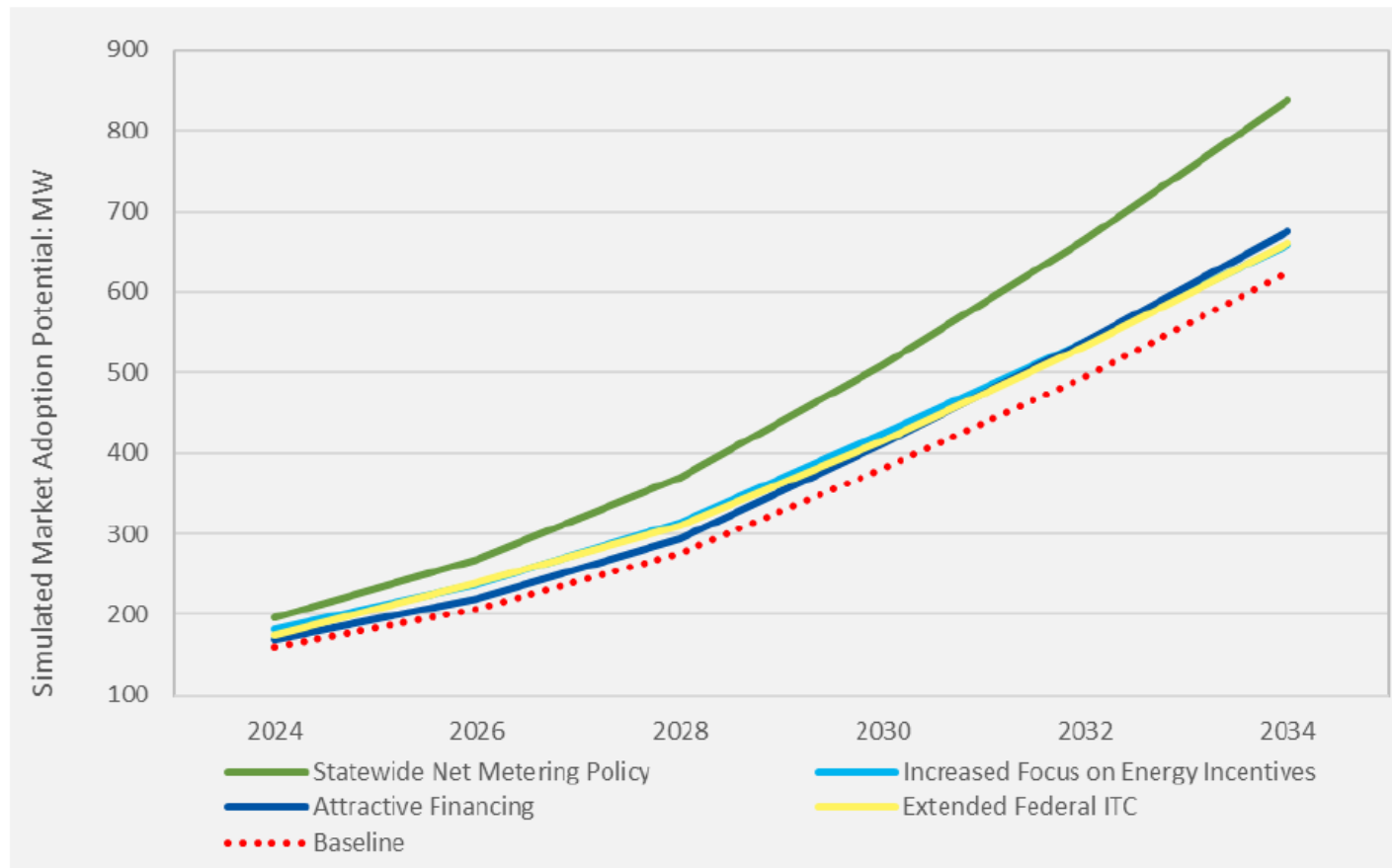
# NET METERING IN WISCONSIN

- No law, statute, or rule in Wisconsin
- PSC set utility precedent for adoption with order in 1980s
- Current 'patchwork' of utility tariffs with some form of net metering
- Cadmus 'PV Potential Study' outlined importance of net metering (next slide)



# CADMUS 2021 'ROOFTOP SOLAR POTENTIAL' STUDY

Rooftop Solar PV Potential Scenarios – MW (Nameplate)





# NET METERING CURRENT STATUS



- PSC opened generic 'parallel generation' investigation 3 years ago
- Net metering summarized, but not addressed, in investigation
- Utilities recently submitted proposals in rate cases to phase-out (MGE) or replace (Alliant) net metering
- PSC decisions this fall may set new precedent



## DISCUSSION AND Q&A

