



# PROMOD Generation Portfolios

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# **PROMOD generation portfolio assumptions/drivers and potential modifications**

- MISO 2024 PROMOD Generation
- ATC Futures Matrix assumptions vs. MISO assumptions
- Generation portfolio differences
- Generation portfolio modifications





# MISO 2024 PROMOD Generation

	Reference	20% Wind	Environmental	Regulatory Limitation
CC	0	0	0	2,400
CT Gas	9,600	12,000	6,000	13,200
Nuclear	0	0	6,000	0
ST Coal	15,600	8,400	3,600	10,800
15% Capacity Credit for Wind	1,950	7,050	1,950	1,950
<b>Total Gen Added (MISO &amp; MRO)</b>	<b>27,150</b>	<b>27,450</b>	<b>17,550</b>	<b>28,350</b>
Wind	13,000	47,000	13,000	13,000

- 2024 MISO Environmental Future generation is ~10,000 MW lower than the Reference and other Futures



# ATC Futures vs. MISO Futures

- ATC alignment with MISO Futures
  - MISO Environmental
    - CO<sub>2</sub> Tax = \$25/ton, Mercury = PowerBase +25%
  - MISO Reference
    - CO<sub>2</sub> Tax = \$0, Mercury = PowerBase
  - ATC Robust Economy
    - CO<sub>2</sub> Tax = \$25/ton, Mercury = PowerBase +25%
    - Initially planned to use MISO Reference generation portfolio as a starting point
  - ATC High Retirements
    - CO<sub>2</sub> Tax = \$25/ton, Mercury = PowerBase +25%
    - Initially planned to use MISO Reference generation portfolio as a starting point



# ATC Futures vs. MISO Futures

- ATC Robust Economy Changes
  - Change Environmental Regulations from Mid to Low
    - CO<sub>2</sub> Tax = \$0/ton, Mercury = PowerBase
  - Keep MISO Outside Generation Portfolio as Reference
- ATC High Retirements Changes
  - Keep Environmental Regulations as Mid
    - CO<sub>2</sub> Tax = \$25/ton, Mercury = PowerBase + 25%
  - Change MISO Outside Generation Portfolio from Reference to Environmental
- *Open to discussion*



# Generation Portfolio Differences

- **MISO MTEP09 Growth Rates**
  - MISO wide peak load = 1.47%; energy = 1.52%
  - MISO West peak load = 1.52%; energy = 1.68%
  - Eastern Interconnect peak load = 1.76%; energy = 1.54%
- **ATC Futures Growth Rates**
  - Inside/Outside ATC peak load range = 0.5% - 3.0%
  - Inside/Outside ATC energy range = 0.5% - 3.0%
- **Some generation portfolio modifications are necessary**

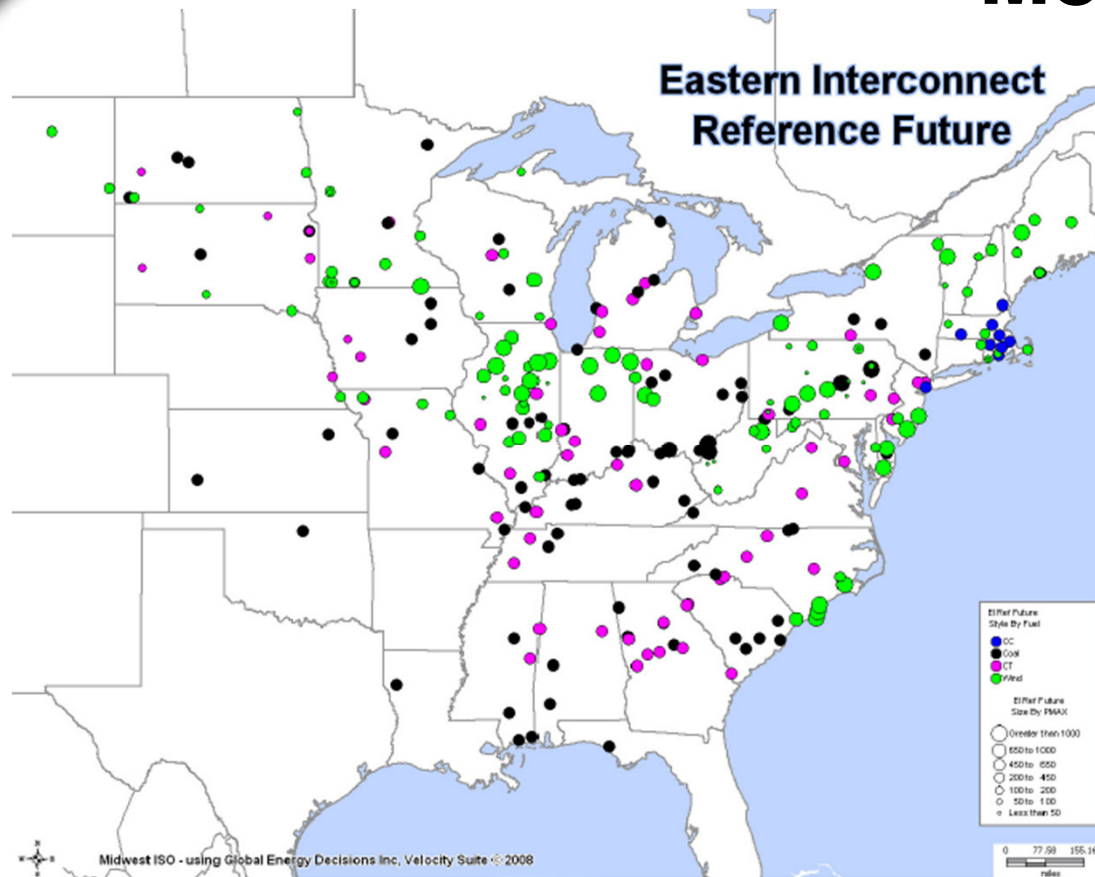


# Generation Portfolio Modifications

- Step 1 – Calculate generation differences and portfolio makeup
- Step 2 – Analyze the list of MISO units and determine best candidate units for inclusion
- Step 3 – Use analysis techniques to create a balanced portfolio which meets the projected demand



# Generation Portfolio Modifications



2024 MISO Reference Future candidate expansion generation  
as taken from June '08 Step 3 JCSP Presentation

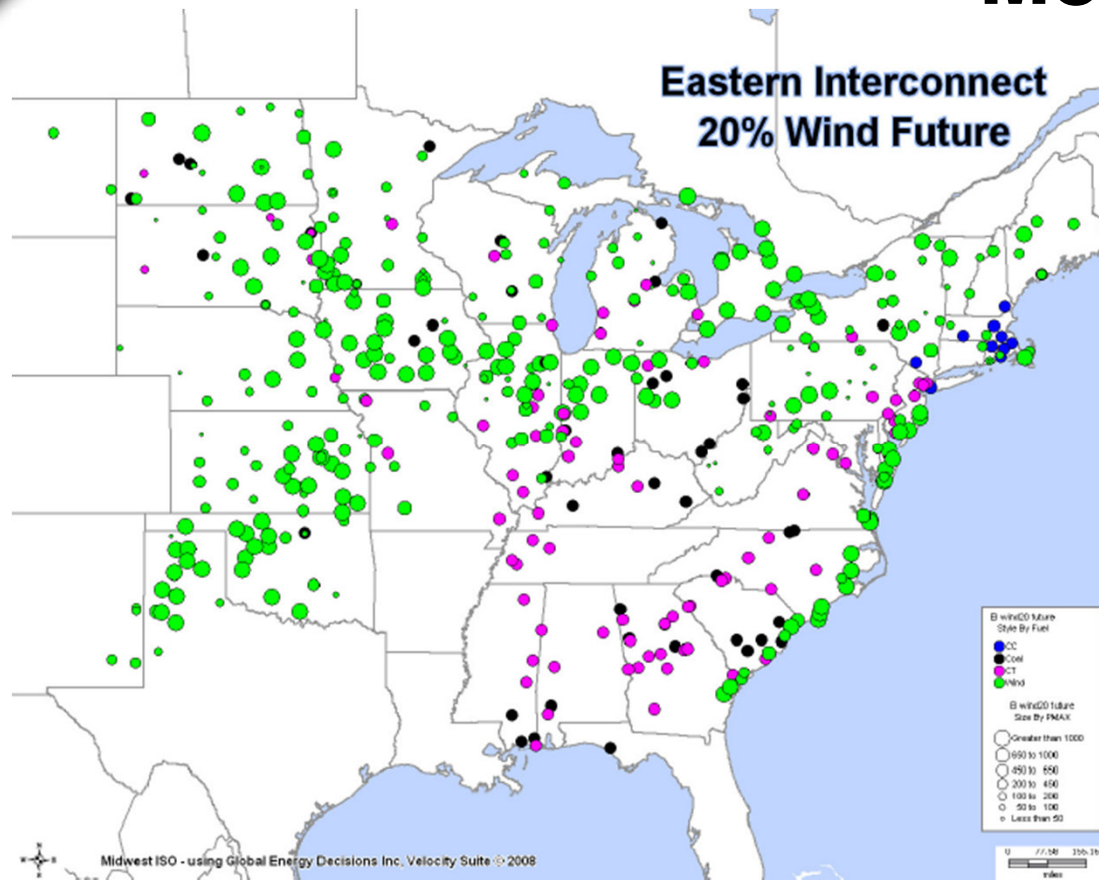
JCSP – Joint Coordinated System Plan

([http://www.midwestiso.org/publish/Folder/5d42c1\\_1165e2e15f2\\_-7efc0a48324a](http://www.midwestiso.org/publish/Folder/5d42c1_1165e2e15f2_-7efc0a48324a))





# Generation Portfolio Modifications



2024 MISO 20% Wind Future candidate expansion generation as taken from June '08 Step 3 JCSP Presentation

JCSP – Joint Coordinated System Plan

([http://www.midwestiso.org/publish/Folder/5d42c1\\_1165e2e15f2\\_-7efc0a48324a](http://www.midwestiso.org/publish/Folder/5d42c1_1165e2e15f2_-7efc0a48324a))





# Questions?