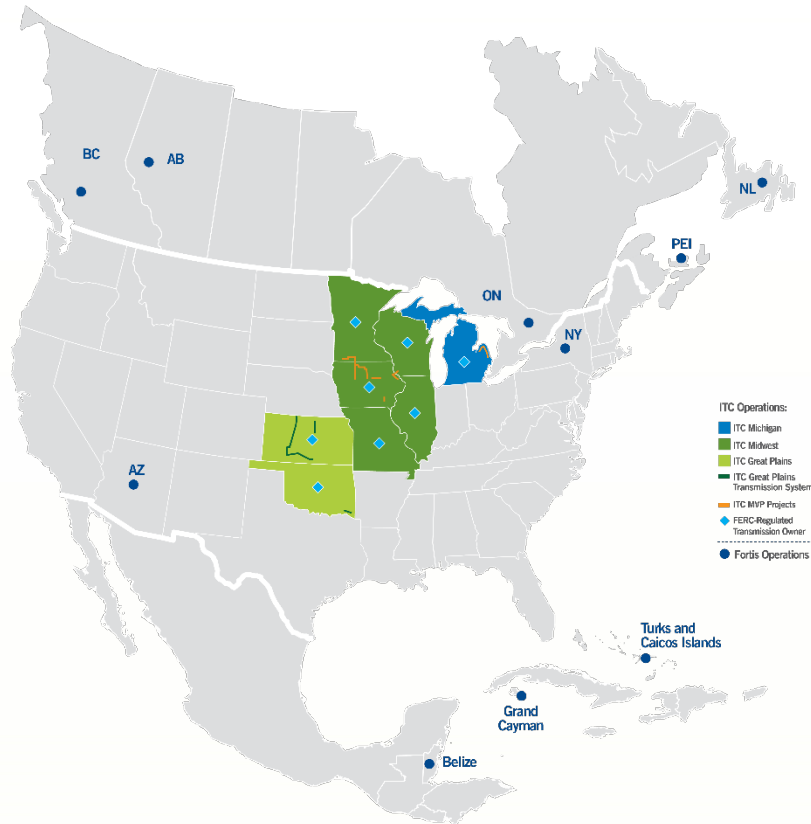


CONNECTING

Energy Infrastructure

Planning for Public Policy Needs
John Kopinski, Principal Eng, Regional Planning

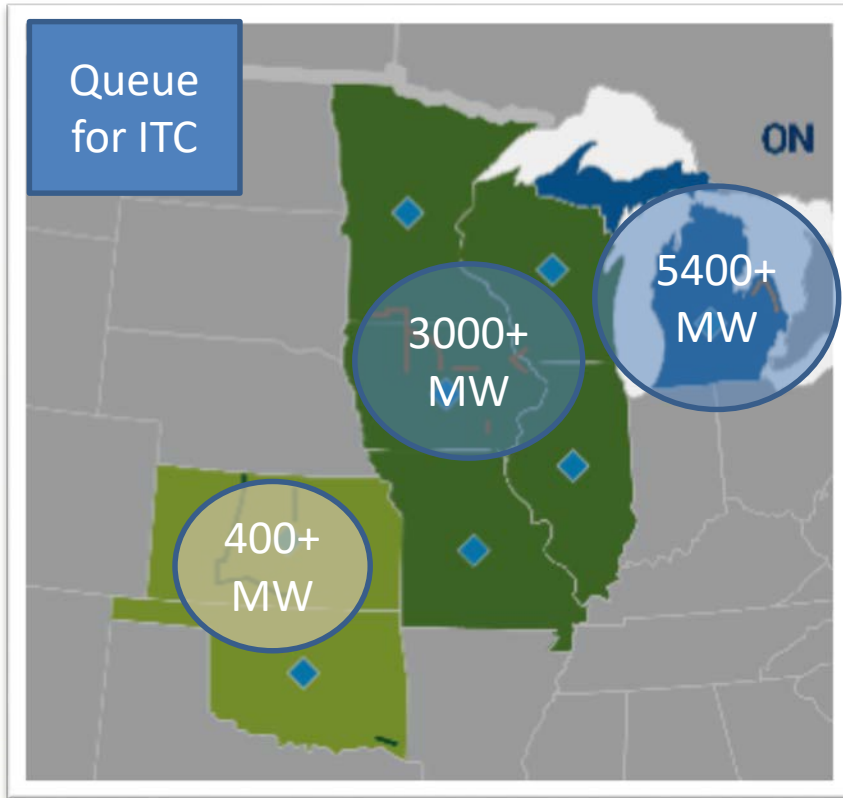
ITC Today



\$7.5B Invested In
Infrastructure Since 2003

- 4 Subsidiaries in 8 states
- 15,800 Circuit miles transmission
- 90,000 sq mile service territory
- 700 Employees
- Member of 4 RTOs:
 - MISO, SPP, PJM, NYISO
- A Fortis company

ITC Wind: MISO & SPP



Public policy enabled by transmission

- 7,100+ MW Online
- 1,700+ MW Construction
- 8800+ MW Queue

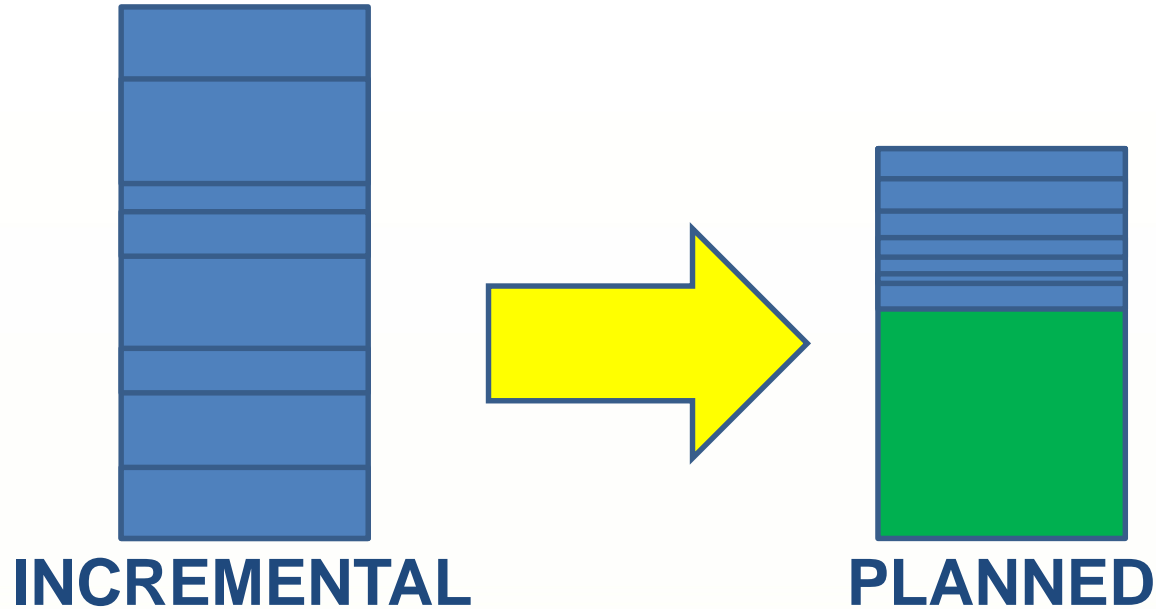
***Additional 2,100+ MW of Solar in Queues**

Planning & Public Policy – Principles

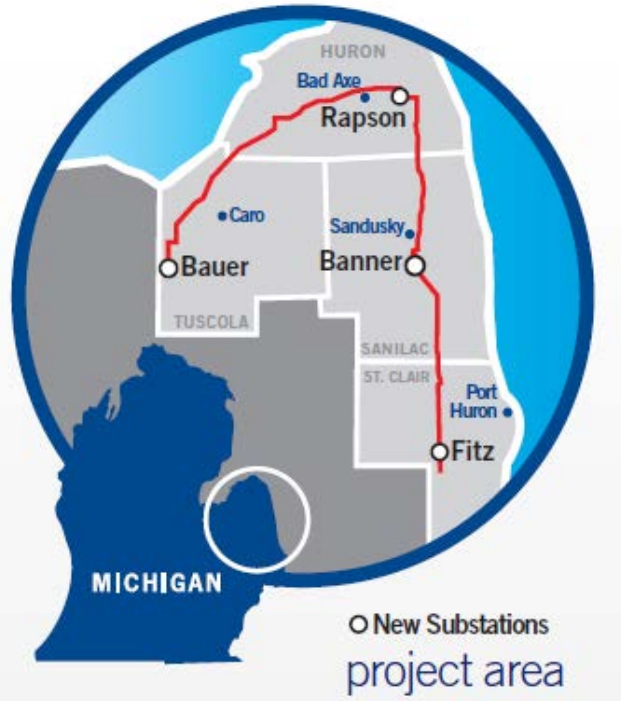
- **System reliability and safety**
- **Achieve public policy objective**
- **Cost efficient implementation**

Planning & Public Policy

Proper planning can improve overall cost efficiency



Example: ITC Thumb Loop Project



Forward-Thinking Solution for MI RPS

- High quality wind resource area of Michigan
- ~5000MW area capability for wind
- 140mi Double Circuit 345kV
- (2) New 345kV Stations - More with I/C
- Construction 2011 thru 2015 in three phases
- ~\$510 Million

Planning & Public Policy – What We Learned

Planning: “Highway” for renewable generation

- Reduced “incremental” costs - avoided transmission system “band-aids”
- Reduced risk to generation developers – better gen-tie interconnections
- More efficient land use - better quality renewable resources
- *Challenge* – concentrated deployment in certain communities

Operations: Maximum flexibility & operability

- Integrate with Pumped Storage - Ludington with ~2000MW capability
- Minimize/Eliminate transmission congestion for optimal market efficiency
- Increased transmission capability from ON to MI (previous localized issues in thumb)
- No new RAS
- Fixed legacy voltage issues – previous localized issues in thumb

Opportunities for NY: Evaluation Criteria

New Criteria to Achieve Principals

- Efficient renewable system investments – reduced total implementation cost
- Curtailment relief – maximize utilization of renewable generation
- Expedited generation expansion – accelerating towards target deadlines
- Resource adequacy – capacity market savings & improving LOLE
- Generation deactivations – defer transmission upgrades by coordinating with new generation

Established Metrics

- Production cost savings (aka APC)
- Load payment savings
- System CO₂ emission reduction savings
- Operability/Reliability

Opportunities for NY: Why Transmission?

How can transmission solutions enable public policy objectives?

The right transmission solutions they can...

- Enable renewable generation penetration (on land & offshore)
- Decrease congestion and increase transfer capability across New York
- Mitigate or eliminate renewable curtailments
- Reduce cost of achieving goals for CES and emission reductions
- Increase fuel mix and diversity and generation planning flexibility
- Reduce expensive and more complex generation investment



Thank You!

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