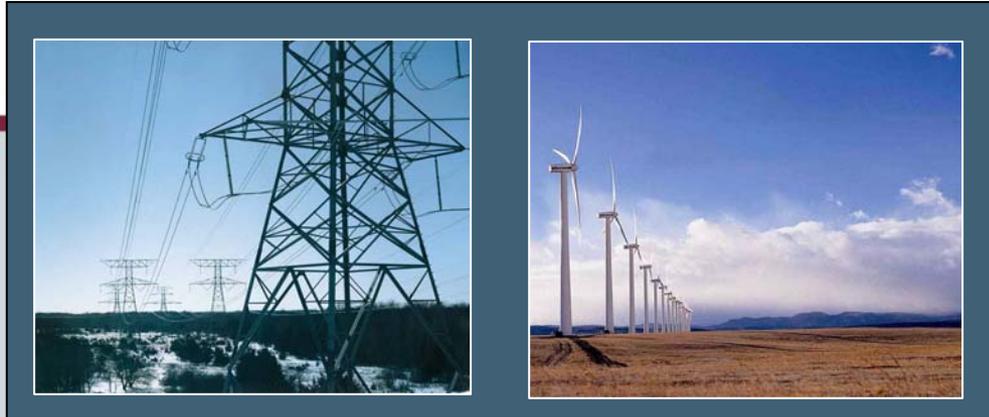


# Looking to the Future

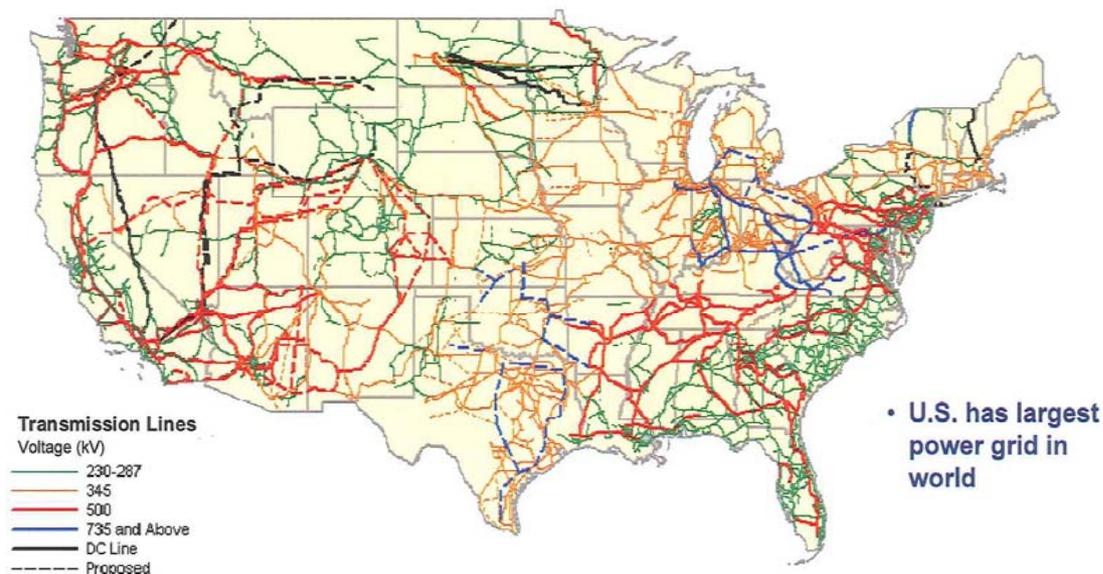


**June 22 - Colorado Public Utilities Commission**

**Teresa Mogensen**  
**Xcel Energy**

# Today's US Transmission Grid

- ❑ Key network infrastructure vital to the nation's economy
- ❑ A nationwide 164,000-mile, highly-integrated network of transmission lines and control facilities, interconnecting over 750,000 MW of generating capacity to millions of customers in all regions, and 3000 utilities



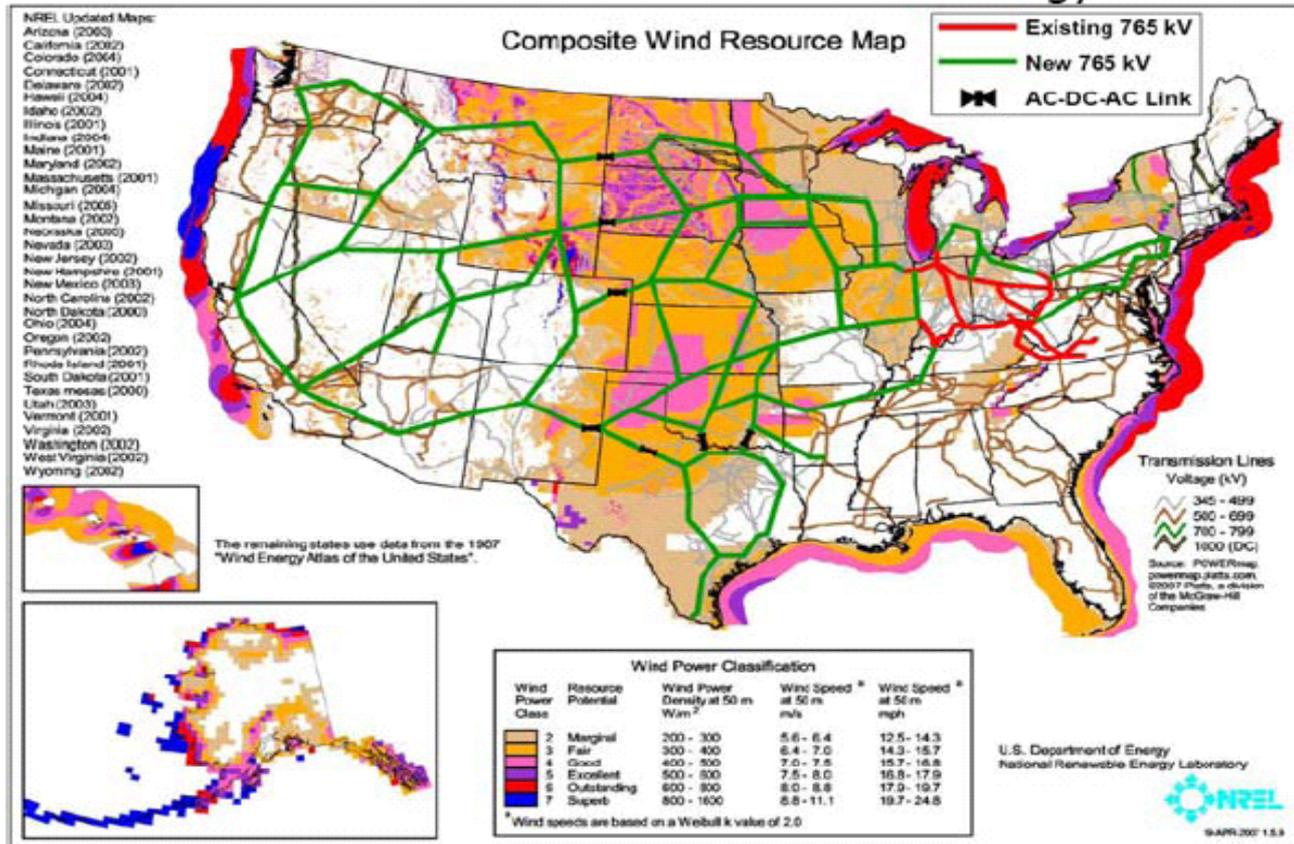
Source: Based on data from Global Energy Decisions, LLC, Velocity Suite, June 2008

# Obama Administration Thoughts re: Federal Participation

- ❑ **Official White House website has the following quote from President Obama's Weekly Address:**
- ❑ **To accelerate the creation of a clean energy economy, we will double our capacity to generate alternative sources of energy like wind, solar, and biofuels over the next three years. We'll begin to build a new electricity grid that lay down more than 3,000 miles of transmission lines to convey this new energy from coast to coast. We'll save taxpayers \$2 billion a year by making 75% of federal buildings more energy efficient, and save the average working family \$350 on their energy bills by weatherizing 2.5 million homes.**

# A National EHV Overlay Proposal

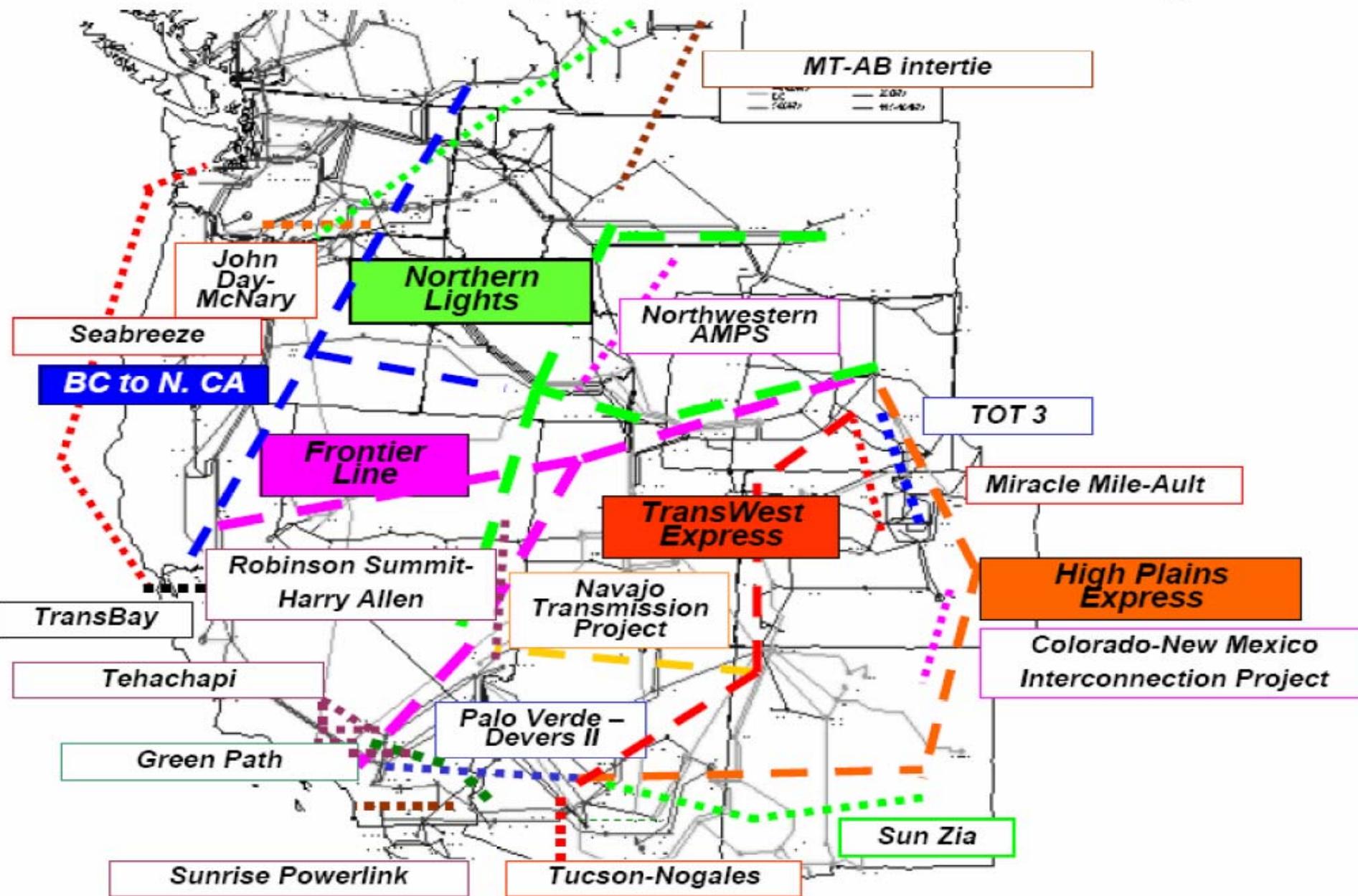
Technically Feasible, Conceptual Extra High-Voltage Transmission Plan to Accommodate 400 GW of Wind Energy



Source: U.S. DOE 20% Wind Report, May 2008, page 12, showing conceptual transmission plan prepared by AEP Transmission and AWEA.

# Proposed Transmission Projects

(some projects have alternative routes not shown on map)



# Current FERC Authority

- ❑ **Transmission Reliability**
  - ❑ FERC implemented EAct 2005 authority over transmission reliability.
  - ❑ The new authority is to protect existing grid but not to order additions.
- ❑ **Regional Transmission Planning**
  - ❑ FERC requires regional planning by the transmission owners and operators it regulates.
- ❑ **Transmission Siting**
  - ❑ EAct 2005 gave FERC “backstop” siting authority in DOE designated areas.
  - ❑ These areas today are 1) Boston to D.C. and 2) lower Arizona to greater L.A.-San Diego.
- ❑ **Setting Transmission Rates**
  - ❑ FERC has the jurisdiction over setting transmission rates

# Pending Federal Legislation

- **Dorgan/Voinavich – (NESA) National Energy Security Act of 2009 S774 - Bill Introduced**
- **Nelson – (SMART) Sound management of America’s Resources and Technology for Energy - Draft Bill**
- **Inslee – (NCESA) National Clean Energy Superhighways Act of 2009 - Draft Bill**
- **Waxman/Markey - (ACES) American Clean Energy and Security Act of 2009 – Passed Committee**
- **Reid – (CREEDA) - Clean Renewable Energy and Economic Development Act S539 - Bill Introduced**
- **Bingaman – Siting of Interstate Electric Transmission Facilities - Draft Bill**

# Transmission Planning

- **All bills contain language regarding transmission planning**
  - From FERC having exclusive transmission planning authority to FERC having siting authority
- **Most bills refer to transmission for a “green grid” or reference to renewable energy**
- **Two major bills**
  - **Senator Bingaman** - High Priority National Grid planning for transmission 345kV and up. Not exclusive to renewable resources
  - Individual plans will be accepted by FERC but regional plans preferred. FERC would approve regional plans based on guiding planning principles. FERC would reserve the right to modify transmission plans.
  - **Representative Waxman-Markey** – Directs FERC to reform the regional planning process for new transmission lines that carry renewable energy. FERC would approve regional plans based on guiding planning principles. FERC would reserve the right to modify transmission plans.

# Bingaman Bill Senate Proposal

- **ERZ or Renewable Only Grid Planning –**
  - Transmission plans must consider the location of renewable generation or potential generation development
  - Secretary of Energy shall conduct a nationwide location-constrained resource assessment 180 days of enactment.
- **Cost Allocation**
  - Committee amendment mandates allocation of costs to beneficiaries with “measurable economic or reliability benefits”
- **Siting**
  - Streamlines siting efforts on federal lands and designate new corridors. Secretary of Interior will act as lead agency for all federal permitting. Applicants or States may appeal decisions to the President.
  - FERC backstop after State process fails - 18 months over “high-priority national transmission projects. FERC will have CPCN authority.

# Waxman-Markey House Proposal

- **Waxman-Markey –**
  - No Energy Resource Zone requirement, but policy purpose of the Act is for modernization of the transmission grid to carry renewable generation.
- **Cost Allocation**
  - Determined by FERC for Sustainable Transmission Grid
- **RPS**
  - Incremental RPS starting in 2012 at 6% going to 2025 at 25%
- **Smart Grid**
  - Provisions to facilitate the deployment of a smart grid, including measures to reduce utility peak loads through smart grid and demand response applications and to help promote smart grid capabilities in new home appliances

# Last Week's Developments

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