



# TRANSMISSION INFRASTRUCTURE PROGRAM

Arizona Corporation Commission  
2010 BTA Workshop  
June 2010





# TOPICS

- TIP Program
- Proposed Projects
- Sonoran-Mojave Renewable Transmission Project Proposal



# TIP PROGRAM

Implement Section 402 of the American Recovery and Reinvestment Act

Borrowing authority of \$3.25 billion

Identify, prioritize and participate in the study, facilitation, financing, planning, operating, maintaining, and construction of new or upgraded transmission facilities



# TIP PROGRAM



Projects must...

Have one terminus within area served by Western

Deliver, or facilitate the delivery of, power generated by renewable energy resources to be constructed or reasonably expected to be constructed

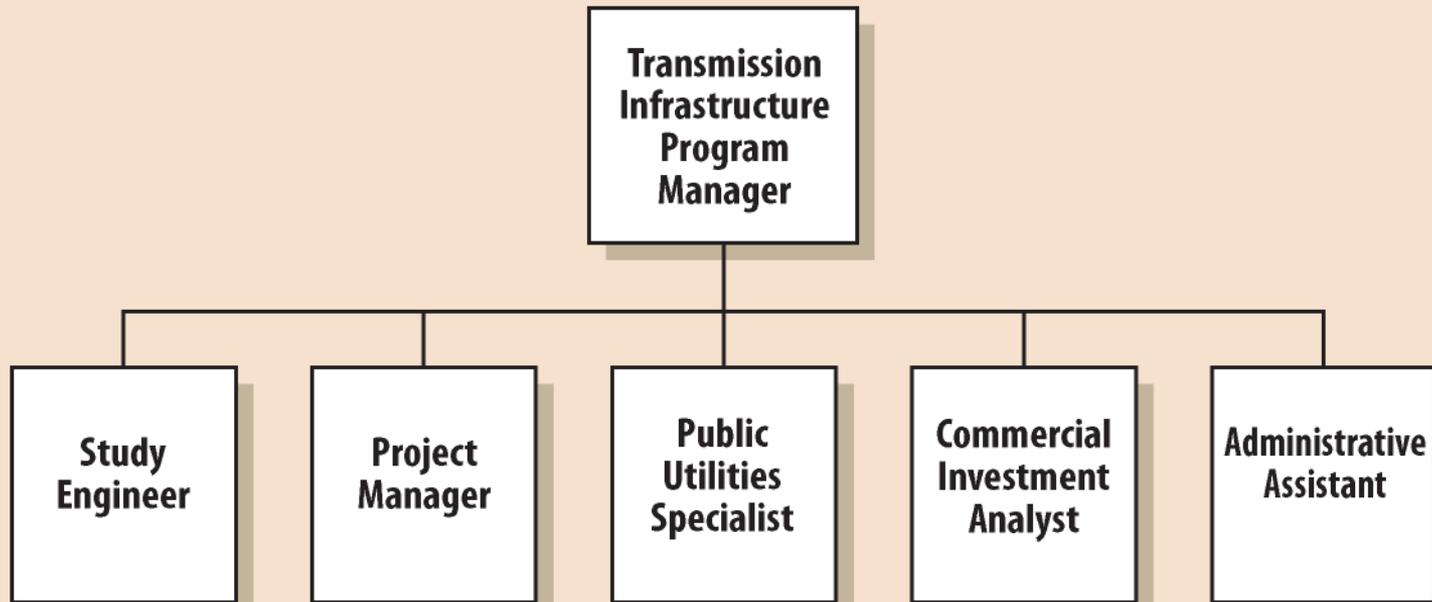


# “PROGRAM” PRINCIPLES

- Uses Project revenue as the only source of revenue for:
  - Repayment of loan for project
  - Payment of ancillary service and O&M expenses
- Maintain controls for accounting and repayment - projects under this authority are separate and distinct
- Ensure project beneficiaries repay project cost
- Encourage broad-based participation



# TIP PROGRAM OFFICE





# “PROJECT” PRINCIPLES

- Must be in the Public Interest
- Must not impair system reliability or statutory obligation
- Have reasonable expectation of repayment of principal and interest of Treasury loan and associated project costs on a stand alone basis – costs cannot be integrated into existing projects
- Use a public process to set rates for new facilities
- Must independently obtain and arrange for the delivery of generation-related ancillary services



# PROJECT EVALUATION CRITERIA

- Facilitate delivery of renewable energy to market
- Public interest
- No adverse impact to system reliability
- Project will generate enough revenue to repay costs
- At least one terminus in Western's territory
- Economic benefits, including jobs
- Satisfies Western's OATT
- Technically feasible
- Partners' financial stability and capability
- Project readiness
- Participation in region-wide and/or interconnection-wide transmission planning



# PROPOSED PROJECTS

## Proposed:

- 200+ Proposed Projects submitted to date
- Door still open to more project submittals

## Contracted:

- **Montana-Alberta Tie Limited Project**
  - new transmission for 300-600 MW of wind
  - \$161 million TIP funding, \$213 million project
  - Broke ground, November 2009



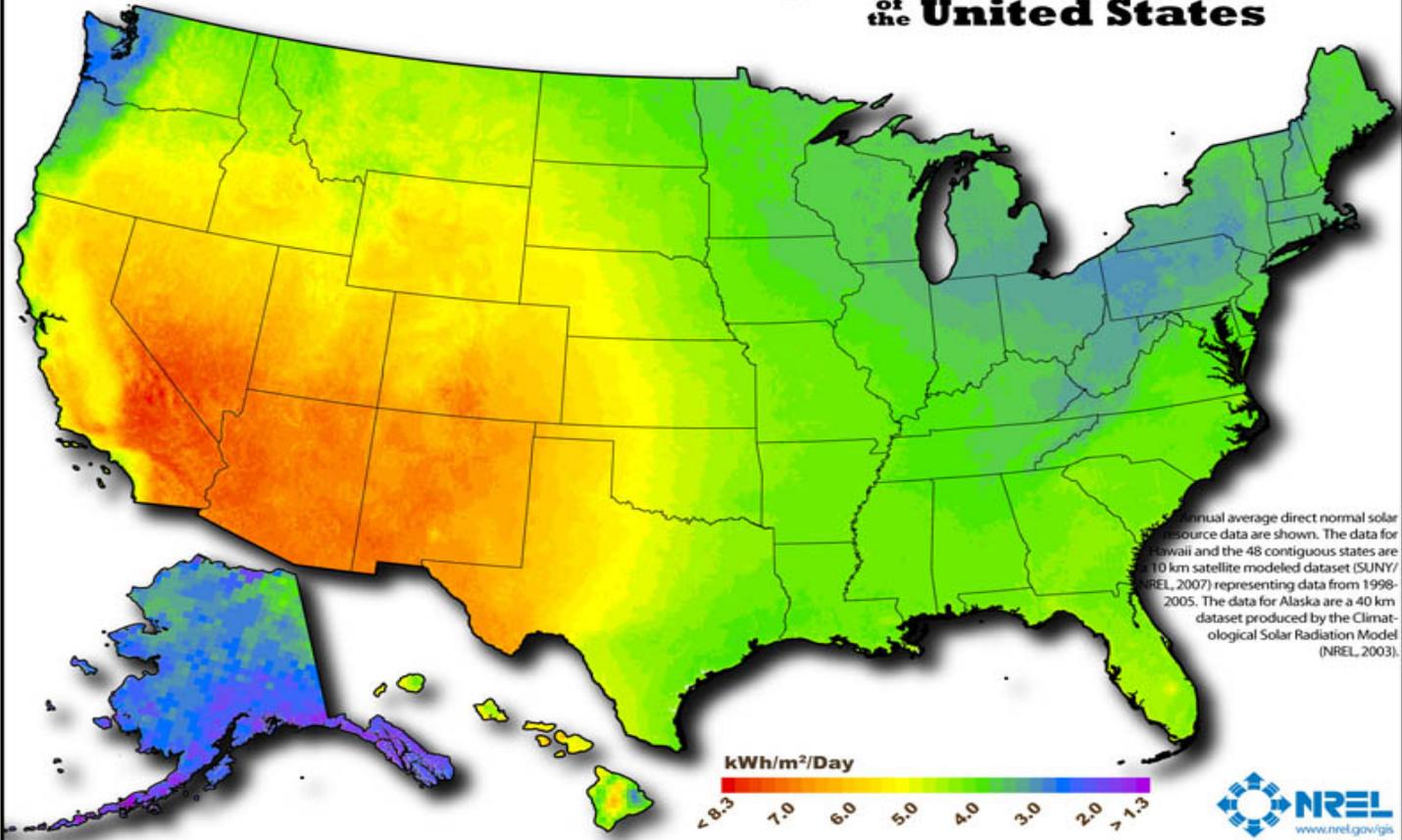
# SOME PROPOSALS UNDER DISCUSSION

- Sonoran-Mojave Desert Renewables Transmission Project (SMRT)
- TransWest Express Project (TWE)
- Southwest Intertie Project North (SWIP-North), including Southern Nevada Intertie Project (SNIP)
- SunZia Southwest Transmission Project
- NV Energy Transmission Line Project
- Canada– Pacific NW -Northern California (CNC) Project
- Wyoming Wind Collector System
- Southwest South Dakota Wind Collector and Transmission Study



# SOLAR DEVELOPMENT POTENTIAL

## Concentrating Solar Resource of the United States



Annual average direct normal solar resource data are shown. The data for Hawaii and the 48 contiguous states are from a 10 km satellite modeled dataset (SUNY/NREL, 2007) representing data from 1998-2005. The data for Alaska are a 40 km dataset produced by the Climatological Solar Radiation Model (NREL, 2003).



Author : Billy Roberts - October 20, 2008

This map was produced by the National Renewable Energy Laboratory for the U.S. Department of Energy.







# SMRT PROJECT AND STUDY AREA OVERLAPS SOLAR POTENTIAL

## 4 Elements and 1 Sensitivity

### A—Palo Verde-North Gila

- 500-kV, 100 miles

### B—Palo Verde-Blythe

- 500-kV, 110 miles

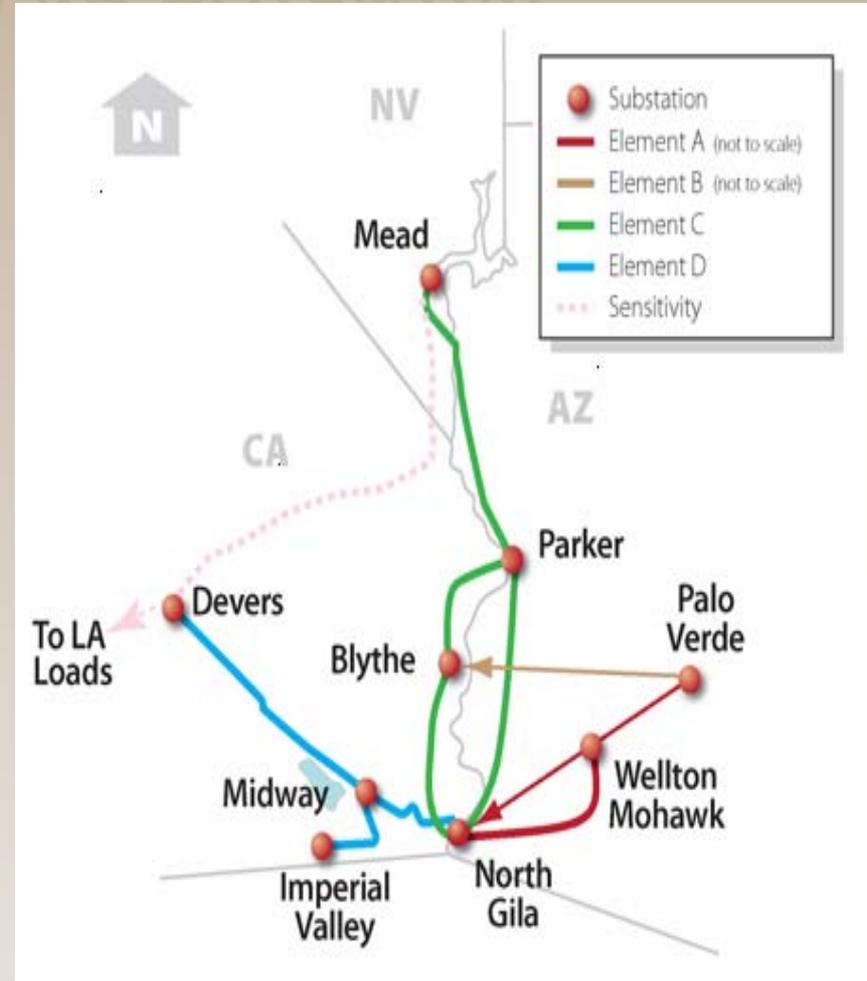
### C—

#### North of Parker

- 230/500-kV 190 miles

#### South of Parker

- 230/500-kV, 330 miles





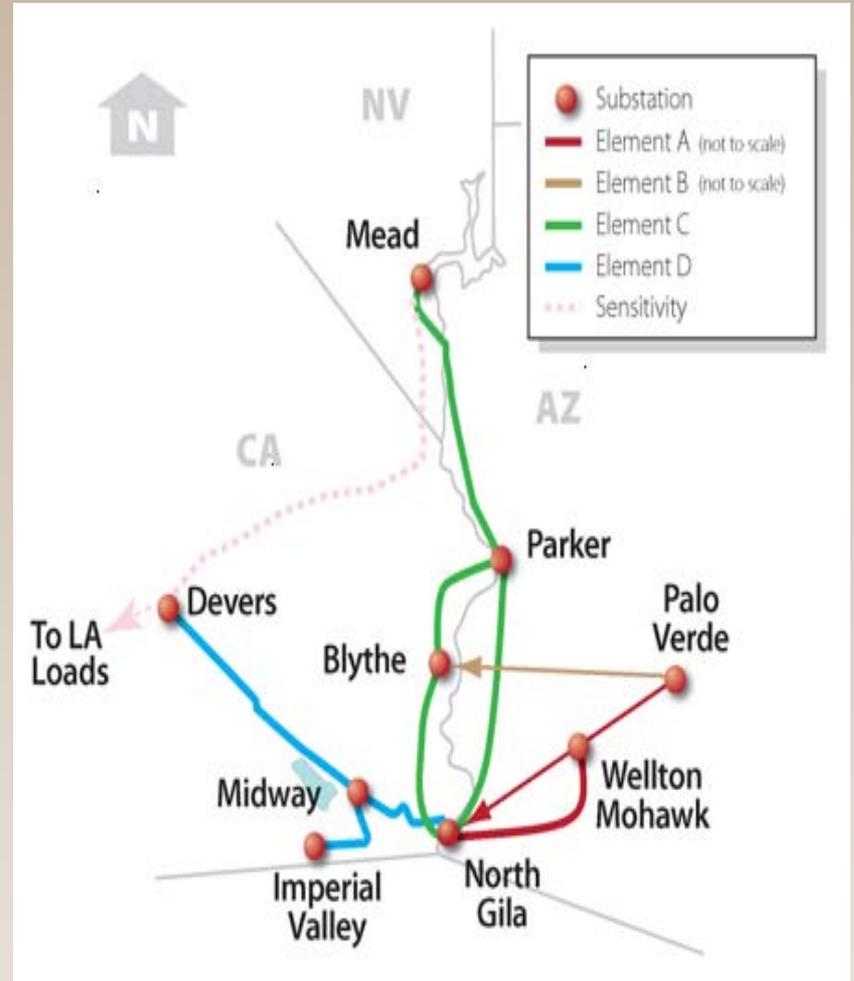
# SMRT – PROJECT AND STUDY AREA OVERLAPS SOLAR POTENTIAL

## D–Imperial Valley

- 500-kV network addition to the Southern CA grid in Imperial County, miles TBD

## Sensitivity- Las Vegas to Los Angeles Loads

- 500/230-KV Eldorado/Marketplace/Mead area towards Mohave - terminating in LA Load Centers





# SMRT PRELIMINARY FEASIBILITY STUDY

- Purpose: high-level renewable potential, system impacts and benefits
- Participants: APS, Citizens, ECP, IID, SRP, Starwood, Trans-Elect, WMIDD, Western (Parker Davis Project) and Department of Energy Solar Program
- Study results in summer, will be made publicly available



# SMRT COMMERCIAL BUSINESS MODEL TBD

- Business discussions underway in parallel with study
- Business framework for:
  - decision-making on further participation in funding and project development
  - to define a request for TIP funding and participation in the project that can be certified to have a reasonable expectation of repayment
- Parker Davis Project participation if project benefits Parker Davis customers



# DISCUSSING SINGLE PROJECT CONCEPTS

- Phased development- based upon element readiness
- Multiple elements with flexibility
- Participation consistent with each entity's interests
- Participation in the whole project and/or individual project elements



# WESTERN CONTACTS

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