

**INDUSTRY RESPONSE TO
WECC'S 10-YEAR PLAN
RECOMMENDATIONS ON
MONTANA TO NORTHWEST
(PATH 8) AND PACIFIC INTERTIE
(PATHS 65/66)**

CREPC/SPSC Pre-meeting Webinar
October 20, 2011

Agenda

- **Brief summary the WECC 10-year plan findings and recommendations**
- **Path 8**
 - John Leland, NorthWestern Energy
 - John Phillips, Puget Sound Energy
 - Ravi Aggarwal, Bonneville Power Administration
- **Pacific Ties (COI/PDCI)**
 - Ravi Aggarwal, Bonneville Power Administration
 - Steve Metague, Pacific Gas & Electric
 - Neil Millard, California ISO

Montana to Northwest (Path 8)

□ Background

- ▣ 500 kV AC
- ▣ 2200 MW rating E to W
- ▣ 1350 MW rating W to E

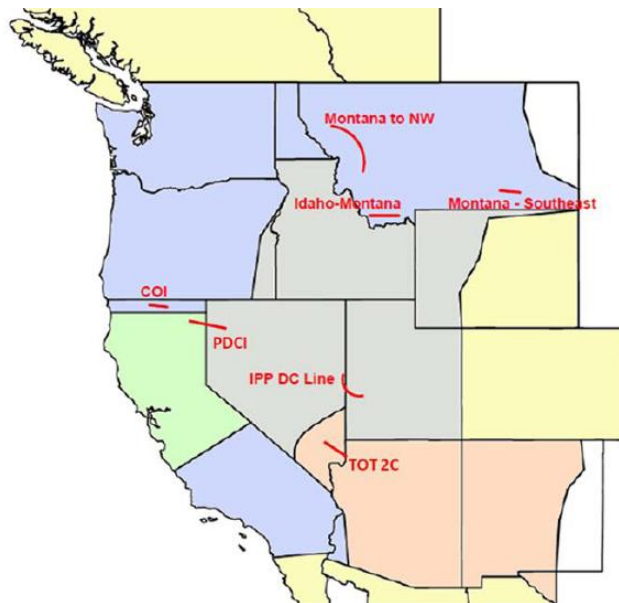
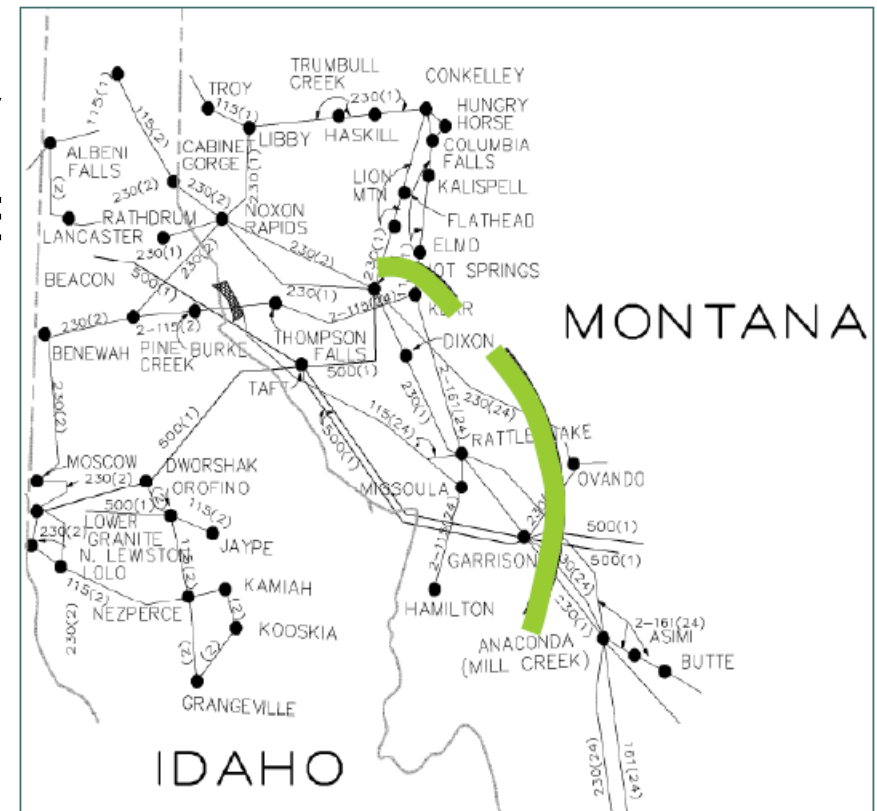


Figure 18: Path 8 Cutplanes

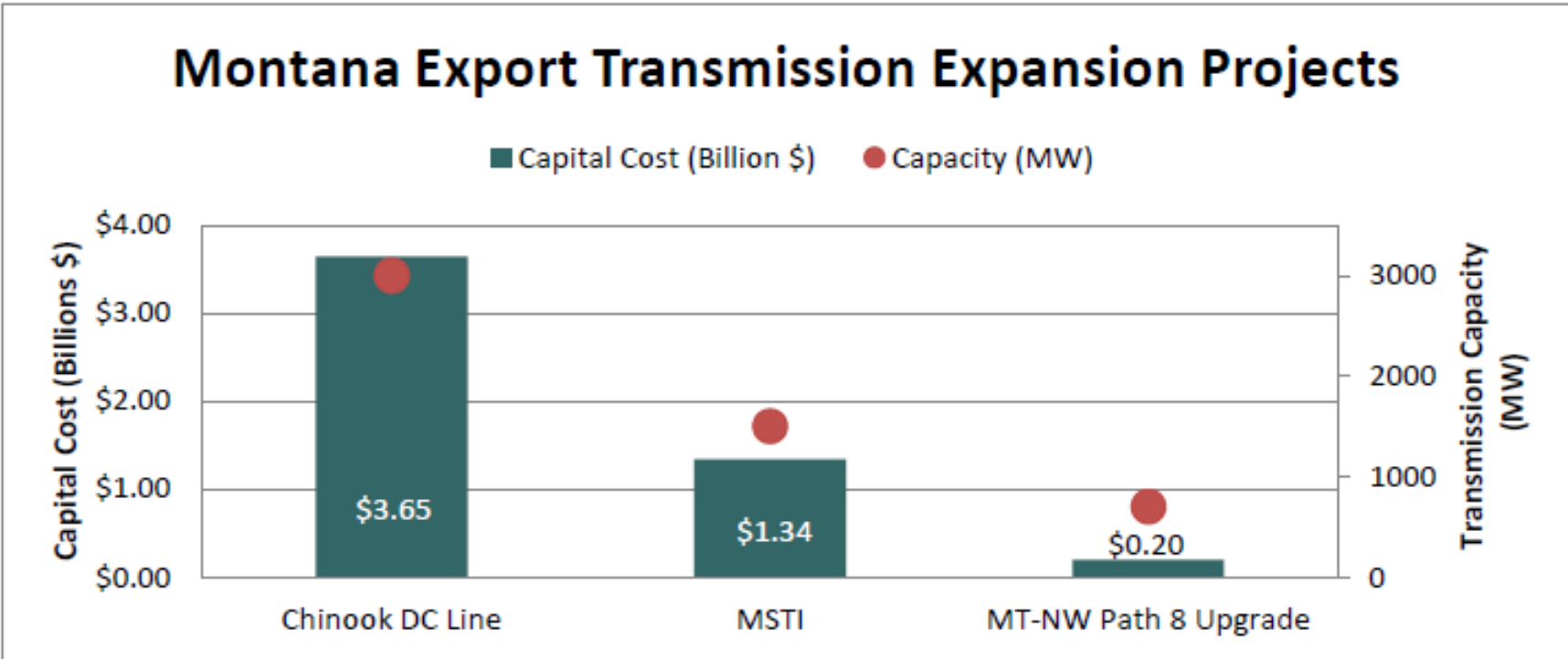


Montana to Northwest (Path 8)

- Finding
 - ▣ 10-year studies showed Path 8 utilization/congestion consistently high and increases notably under a variety of conditions
 - ▣ High utilization reflects that Path 8 was designed to export high capacity factor generation
- WECC recommends
 - ▣ Decision-makers consider transmission upgrades or other mitigating measures that relieve congestion on Path 8 as renewable, or other types of generation, are expanded in Montana.
 - ▣ WECC cannot make specific recommendations to mitigate the congestion. This may be future work for WECC or others.

Path 8 Expansion Cases

Figure 26: Capital Cost Estimates and Project Capacity²³



Questions for the panelists – Path 8

1. Do you view there is sufficient congestion to warrant steps to upgrade or mitigate congestion on this path?
2. What key factors are influencing your decision about this path? (e.g. future resource development?, buyers of such power?, public policies?)
3. What steps are underway to upgrade the path?
4. What additional steps would you like to see done?
5. How can state/provincial or federal entities assist these efforts?

Pacific Ties

- Pacific DC Intertie (PDCI - Path65)
 - ▣ 500 kV DC
 - ▣ 3100 MW rating N to S
 - ▣ 3100 MW rating S to N
- California Oregon Intertie (COI – Path 66)
 - ▣ 500 kV AC
 - ▣ 4800 MW rating N to S
 - ▣ 3675 MW rating S to N



Pacific Ties (PDCI/COI)(Paths 65/66)

□ Finding

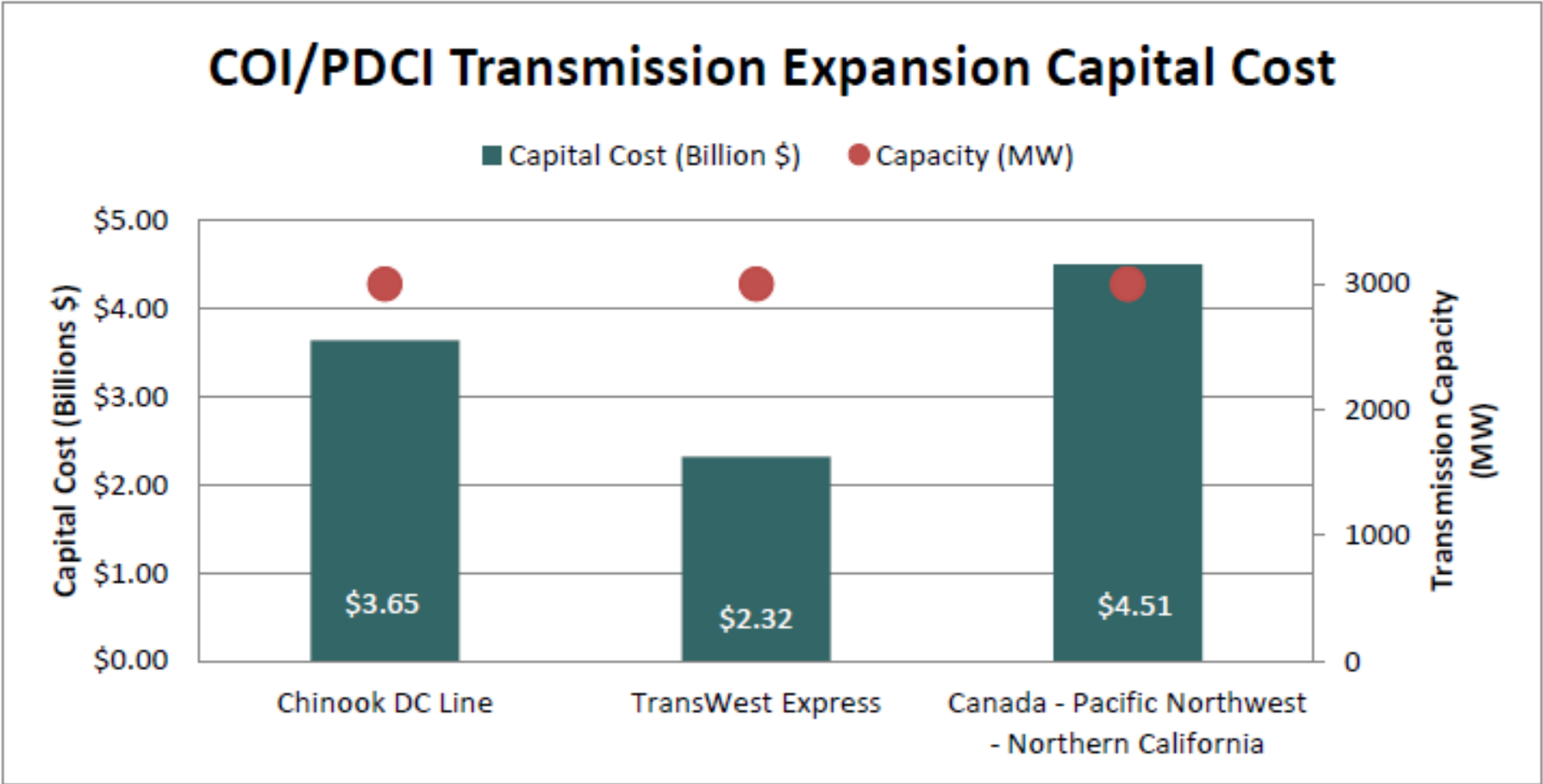
- ▣ Paths 65/66 utilization and congestion remain consistently high and increases under a variety of conditions analyzed in the 10-year planning studies
- ▣ Analysis assumed almost 8,800 MW of new wind generation in Oregon and Washington by 2020. If these resources do not materialize, congestion along these paths will be less prevalent

□ Recommendation

- ▣ WECC recommends consideration by decision-makers for transmission upgrades or other mitigating measures that relieve congestion on Paths 65 and 66.
- ▣ WECC cannot make specific recommendations to mitigate the congestion. This may be future work for WECC or others.

Path 65/66 Expansion Cases

Figure 38: COI/PDCI Transmission Expansion Capital Cost Estimates³²



Projects

- Project development along or directly parallel to Paths 65/66
 - Canada to Northern California (CNC)
 - Chinook
 - Transwest Express
 - Triton HVDC Sea Cable Project
 - West Coast Cable
 - Zephyr

Questions for the panelists – Paths 65/66

1. Do you view there is sufficient congestion to warrant steps to upgrade or mitigate congestion on this path?
2. What key factors are influencing your decision about this path? (e.g. future resource development?, buyers of such power?, public policies?)
3. What steps are underway to upgrade the path?
4. What additional steps would you like to see done?
5. How can state/provincial or federal entities assist these efforts?