



ELECTRIC TRANSMISSION 301: New Business Models

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What's Driving Transmission Investment?

Aging Infrastructure

Growing Demand for Renewable Energy

New FERC Policies

Other Regulatory Drivers

U.S. transmission investments by FERC-jurisdictional providers increased from \$2 billion/year in the 1990's to \$10-13 billion/year in the last several years*

Projected \$120-160 billion of investments over the next decade (for reliability, integration of new resources, upgrading/replacement of facilities built in 1950-70's)*

New Business Models

Transmission Subsidiaries
(Transcos)

Joint Ventures

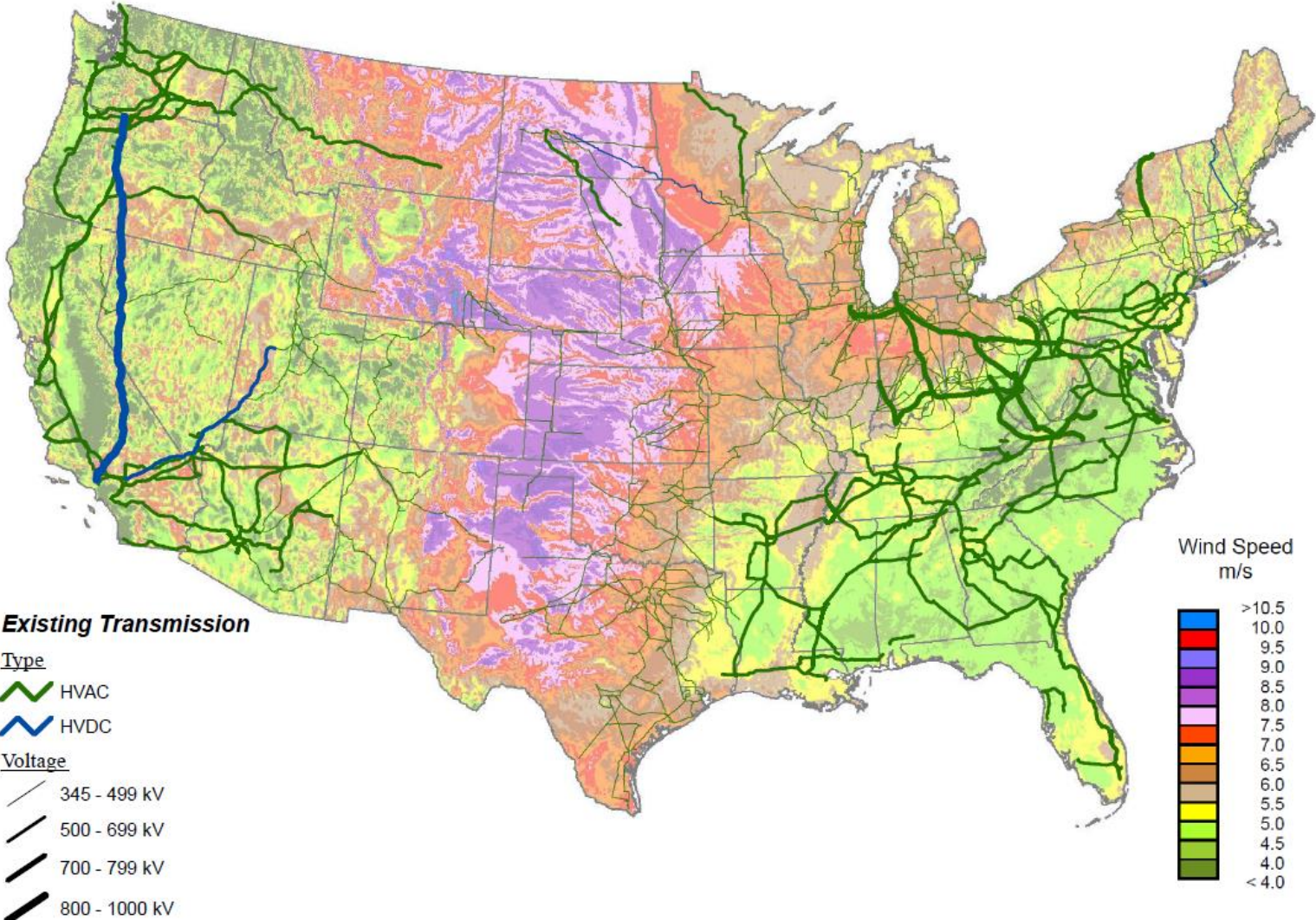
Public-Private Partnerships

Independent Transmission
Companies

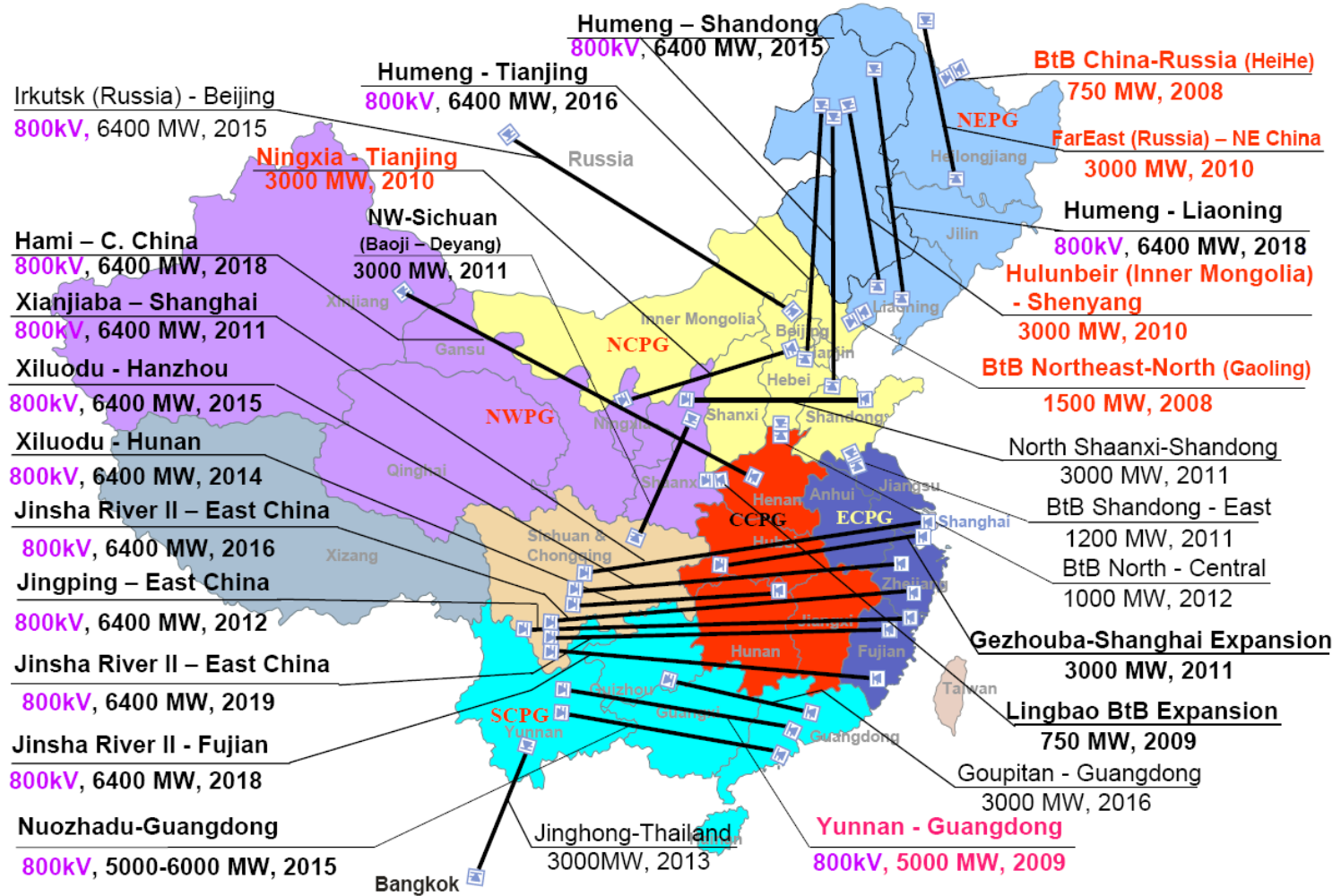
Merchant Transmission

Passive/Financial Investment

Clean Line's projects connect the best wind resources to load centers



HVDC in China



HVDC transmission lines bring economic, environmental and electric reliability benefits

Greater Efficiency

Lower line losses

Reduced Cost

Requires less infrastructure, results in lower costs and lower prices for delivered renewable energy

Improved reliability

Control of power flow enhances system stability and lowers cost of integrating wind

Smaller footprint

Use narrower right-of-way than equivalent alternating current (AC)

AC



Three 500 kV lines

3000-4000 MW Capacity

DC



One \pm 500kV bipole

Key Issues in effectively siting multi-state transmission lines

Varying Legal Requirements by State

Environmental Permitting

Federal, State, & Tribal Land Issues

Coordinating Interconnection,
Regulatory, & Financial Timelines
