

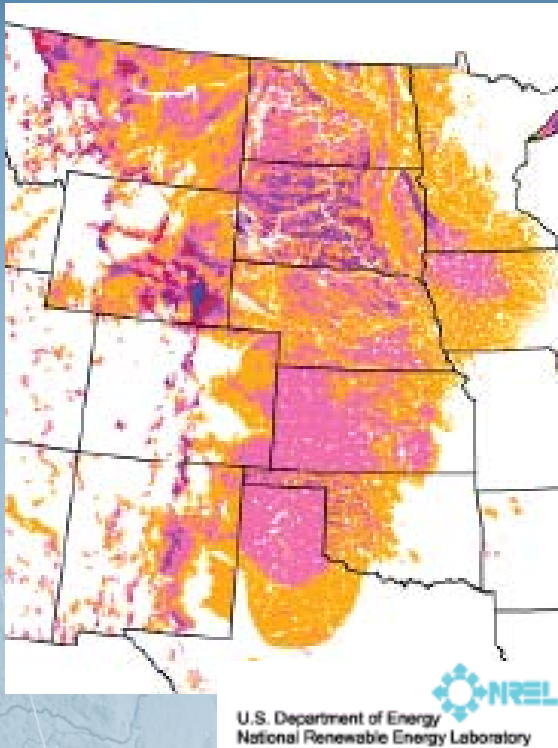
Strategic Energy Resources within the Western Energy Corridor:

A Foundation for Regional Energy & Economic Development

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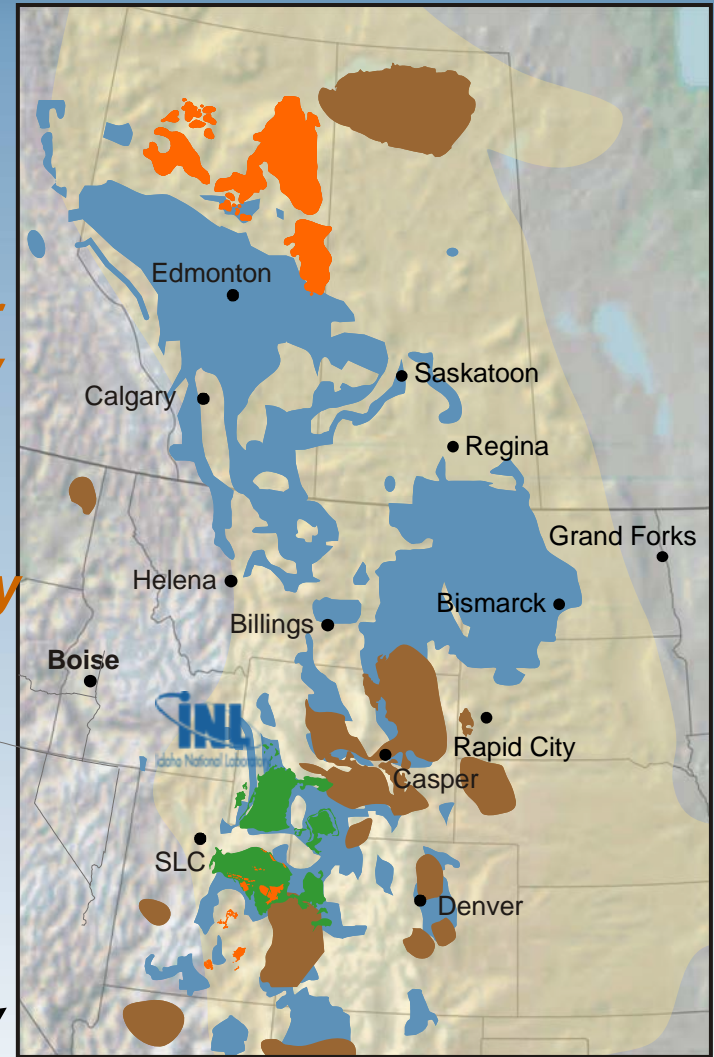
***2010 Ports-to-Plains Energy Summit
Broomfield, Colorado
April 9, 2010***



The Western Energy Corridor contains energy resources strategic in meeting North America's energy security challenges

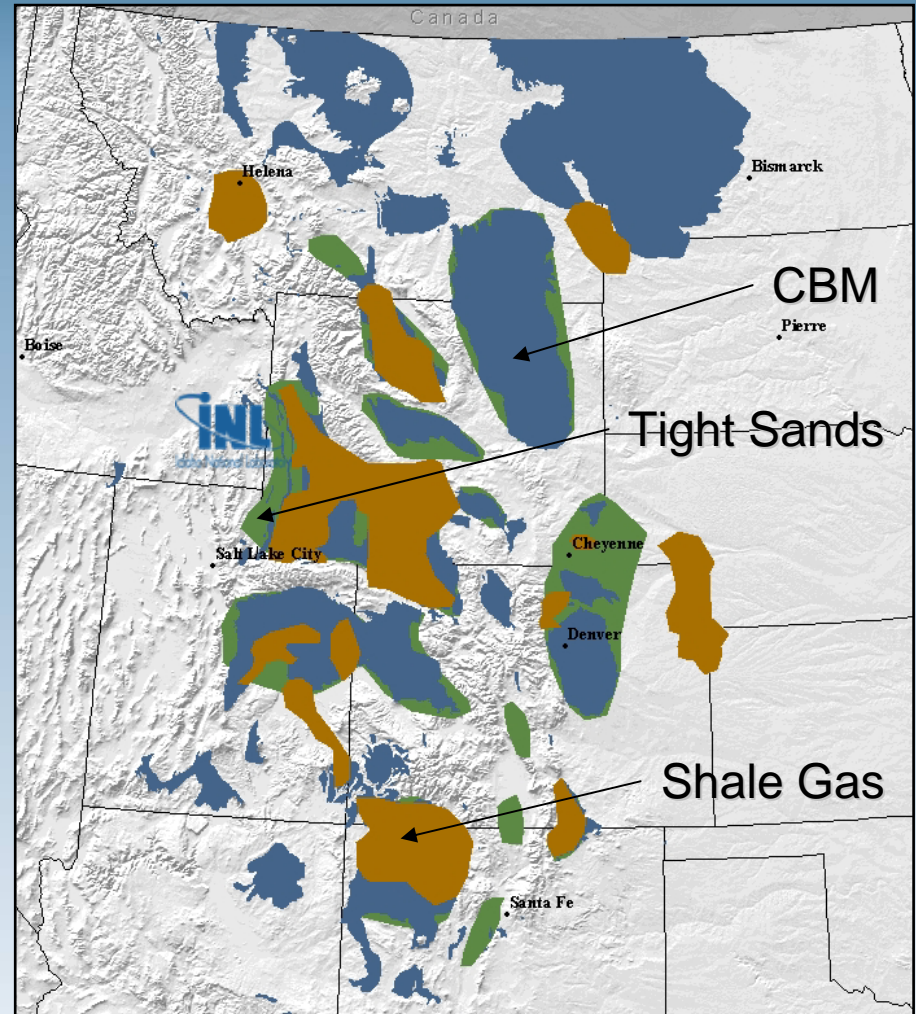
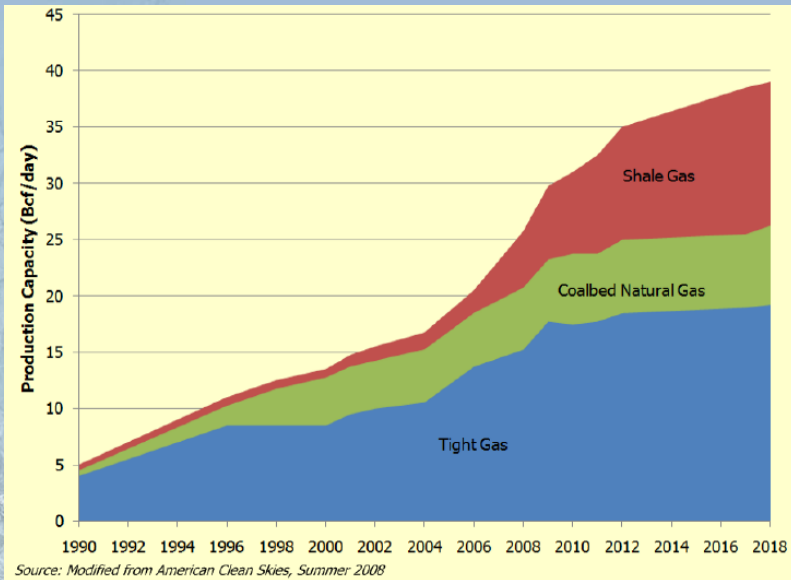
Wind Power Classification				
Wind Power Class	Resource Potential	Wind Power Density at 50 m Wm ²	Wind Speed ^a at 50 m m/s	Wind Speed ^a at 50 m mph
3	Fair	300 - 400	6.4 - 7.0	14.3 - 15.7
4	Good	400 - 500	7.0 - 7.5	15.7 - 16.8
5	Excellent	500 - 600	7.5 - 8.0	16.8 - 17.9
6	Outstanding	600 - 800	8.0 - 8.8	17.9 - 19.7
7	Superb	800 - 1600	8.8 - 11.1	19.7 - 24.8

^aWind speeds are based on a Weibull k value of 2.0



- Oil shale
- Oil sands
- Uranium
- Coal basins

Unconventional natural gas will have a major impact on energy portfolio investments,



Unlocking the vast energy resources within the Western Energy Corridor will require integrating, optimizing and stewarding a diverse set of North American energy resources, interconnected by a dependable delivery infrastructure, and developed in an environmentally responsible manner



**Today: High Carbon Intensity
Foreign Dependent**
Trillions \$ to foreign economies

**Low Carbon Intensity
Domestic Dependent**
Trillions \$ to U.S. economy



The energy corridor contains a unique and rich base of carbon, hydrogen and primary energy sources to create fuels, electricity and other products

The Energy Corridor Forms a Rich Foundation for Establishing Hybrid Energy System Approaches at Multiple Scales

Renewable-Electric Integration

Electrolysis or co-electrolysis driver
Additional electricity to grid

Hydrogen Generation Plant

Upgrade of fossil and bio feedstocks
Catalytic feedstock for coal to liquids

Liquid Fuels & Chemicals Plant

Coal and biomass to liquids
Process chemicals

Nuclear Island

Present or future generation
Process heat and/or electricity

Carbon Feedstock

Coal
Biomass
Recycled carbon

Hybrid Energy Systems can help form a foundation for energy security, a renewed industrial base and sustainable economic prosperity within the region

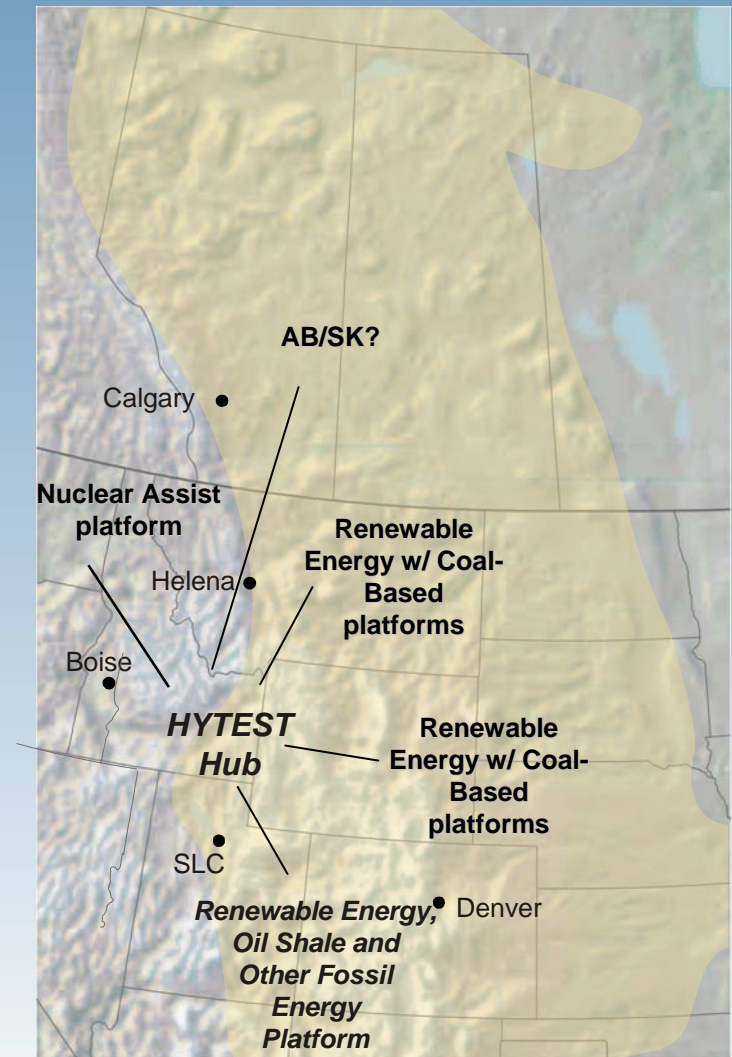
Hybrid Energy Systems allow communities to move up the energy value chain to create more advanced manufacturing jobs and products



Stewarded wildlife, waters, air, natural/energy resources

**Industrial Enterprises
(Belleplaine)**

INL is pursuing creation of a hybrid energy systems testing program which can result in promoting integrated development of regional resources



HYTEST Regional Testing Relationships

Future regional energy decisions will be made in an increasingly complex environment requiring more sophisticated, science based, decision making tools and applied RD&D to reduce risks

Regional political and technological leadership is essential in addressing our energy and environment grand challenges





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