

**Energy Infrastructure:
Needs and Urgencies
in the United States
(November 14 Session)**

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Energy Needs and Urgencies in USA

What is your overall impression and assessment of the state of energy infrastructure in the United States?

What are the challenges?

Who are the stakeholders involved?

ELECTRIC TRANSMISSION SYSTEM

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To view a similar map of transmission lines,
go to figure 7-1 of
“Reliable, Affordable, and Environmentally Sound Energy
for America’s Future:
Report of the National Energy Policy Development Group”.

<http://www.netl.doe.gov/publications/press/2001/nep/chapter7.pdf>

ELECTRICITY GRIDS

National Energy Technology Laboratory (2001): America's Infrastructure

From this reading, we know that electricity grids in the United States are regional, not national. What implications does this have for the reliability of energy supply and the price of it?

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To view a figure illustrating electric power bottlenecks,
go to figure 7-2 of
“Reliable, Affordable, and Environmentally Sound Energy
for America's Future:
Report of the National Energy Policy Development Group”.

<http://www.netl.doe.gov/publications/press/2001/nep/chapter7.pdf>

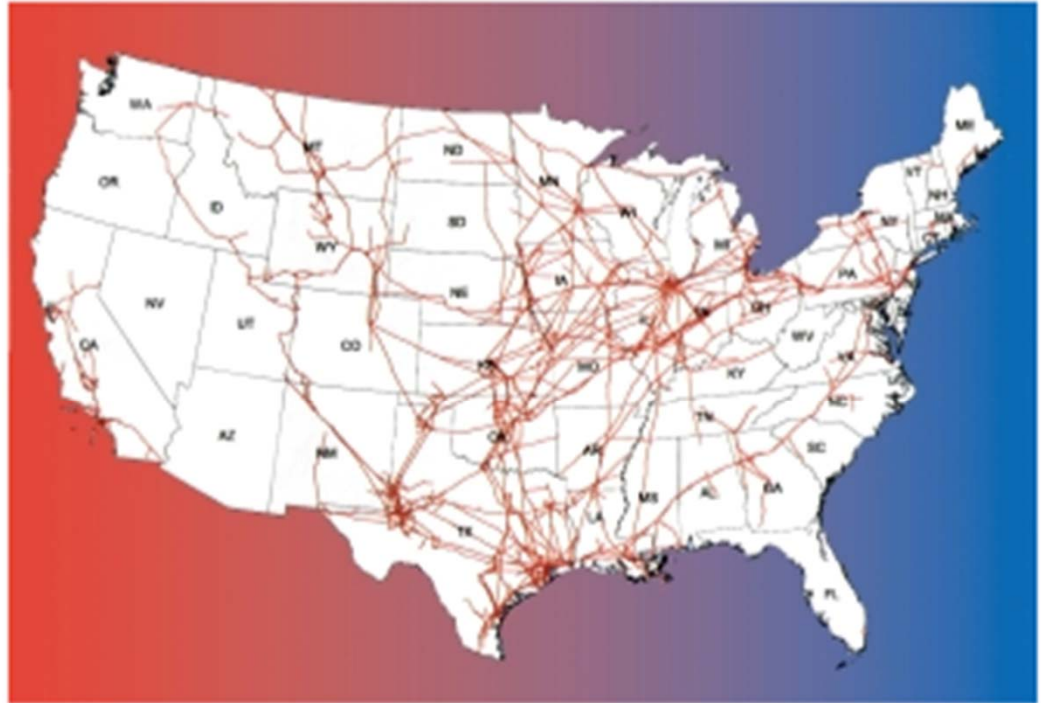
ENERGY DELIVERY

National Energy Technology
Laboratory (2001):

America's Infrastructure

Compared to energy delivered by grids and pipelines, how does energy delivered by maritime and railway transportation differ? (Think of security, demand and supply, and the kind of industries and regions that rely on them.)

U.S. Oil Pipelines



The two million miles of oil pipelines in the United States are the principal mode for transporting crude oil and refined products. They account for about 66 percent of domestic product movements.

Source: U.S. Department of Transportation, Office of Pipeline Safety.

ENERGY SECURITY

National Energy Technology Laboratory (2001): America's Infrastructure

- What physical or non-physical threats are there on infrastructure security? Give a few examples. How could such threats be mitigated?
- Why do different kinds of energy infrastructure become more and more interdependent? Would this be a problem or a benefit?

SITING CRITICAL INFRASTRUCTURE

National Commission on Energy Policy (2006): Siting Critical Energy Infrastructure

- What negative effects does a prolonged decision about siting have on energy supply?
- Why has the siting process become increasingly complicated and difficult? (Think of the changes in environment, regulations, public resistance, local versus national interests, financing issues)
- Compared to expanding transmission systems, what different obstacles are there for the siting of wind projects and nuclear projects?
- Should the siting decision be under the jurisdiction of the Federal Government, rather than state and local governments? What are some mechanisms to improve inter-state coordination and integration?

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