

Addressing Energy with Petascale

- **8:30 Gil Weigand – Session Introduction**
- **8:40 Alex Larzelere**
Building new means of insight for Nuclear Power Systems
- **9:30 Martin Keller**
Bio-science at the petascale
- **10:00 Andy McIlroy**
Computational science enabling combustion
- **10:30 Break**
- **10:45 Vincent Meunier**
Using computational science to optimize carbon supercapacitors: a step toward efficient energy storage
- **11:15 Panel...**
Does the national energy security challenge—clean, increased supply, independence—need exa-scale computing and beyond

Elements of U.S. Energy Security

National Security

dependence on unreliable sources

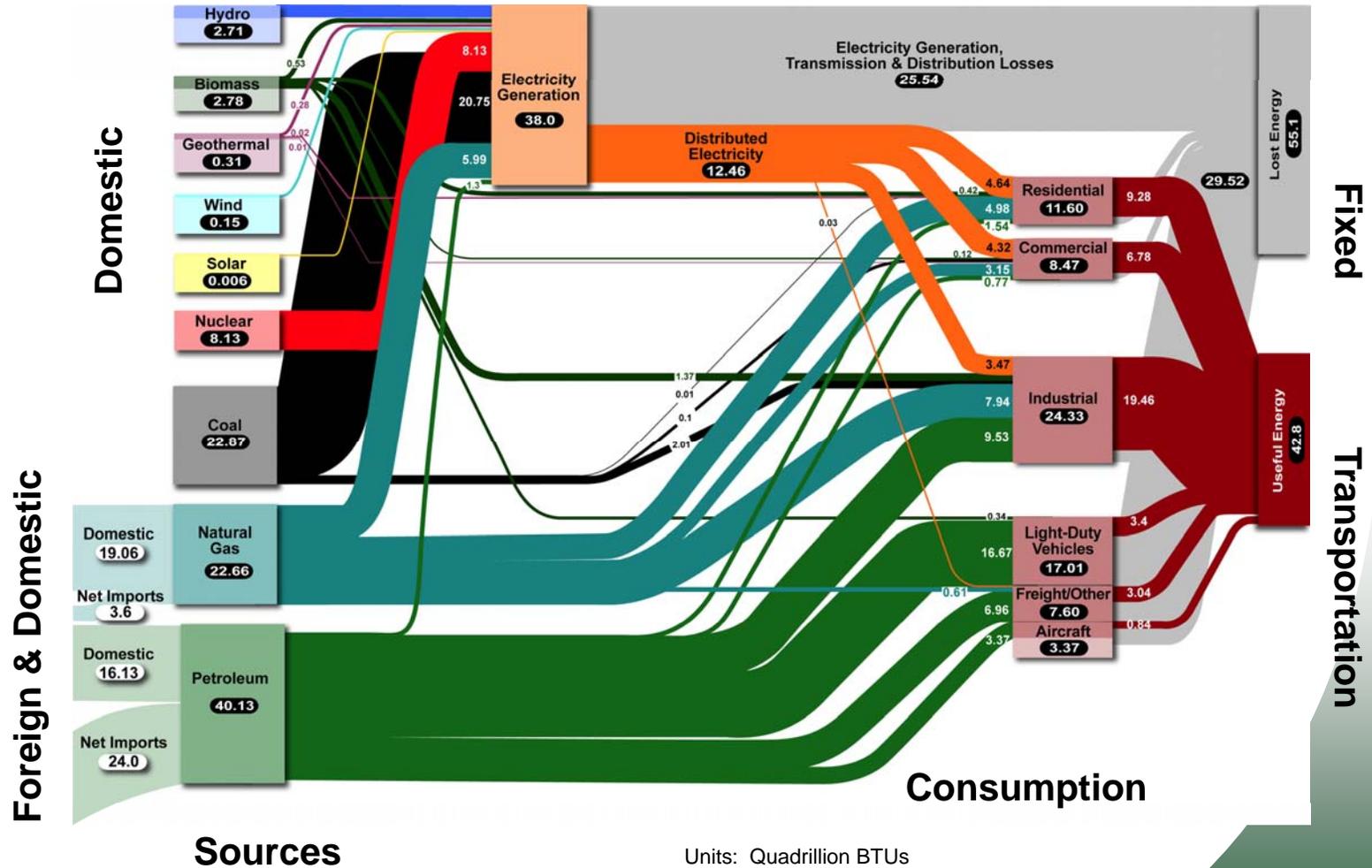
Economic Security

need for assured supplies at affordable prices

Environmental Security

obtaining energy in ways that does not harm the environment

2005 U.S. Energy Flows



Units: Quadrillion BTUs
Source: Lawrence Livermore National Laboratory

Does the national energy security challenge—
clean, increased supply, independence—need
exa-scale computing and beyond

- **“Slam Dunk” for driving Computing and Computational Science**
- **Return to the “Desktop”**
- **What are we doing to assure the former**