

2014 Japan-America Frontiers of Engineering



You are now running on reserve battery power.

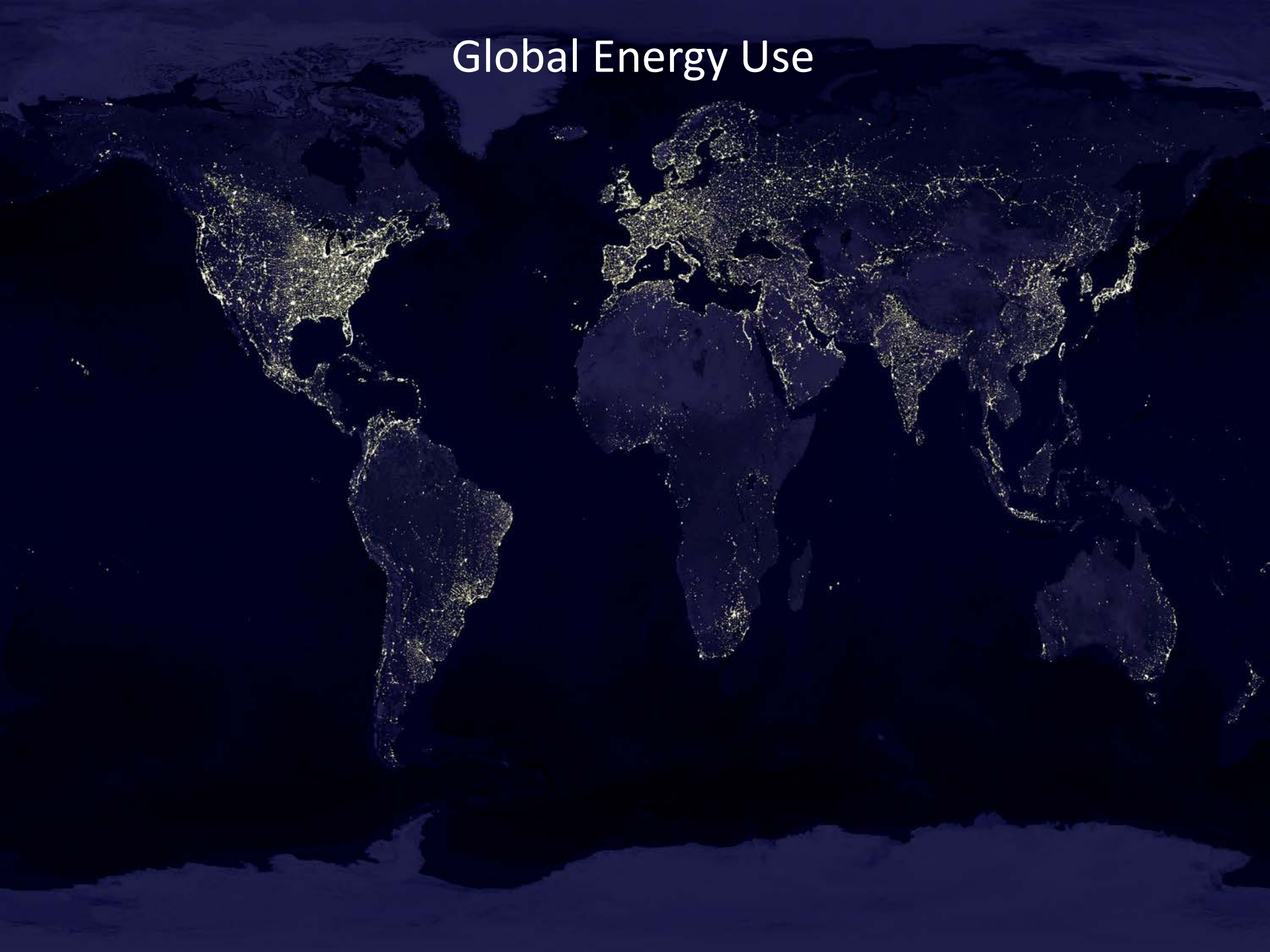
You need to plug the power adapter into your computer and into a power outlet. If you don't, your computer will go to sleep in a few minutes to preserve its memory contents.

OK

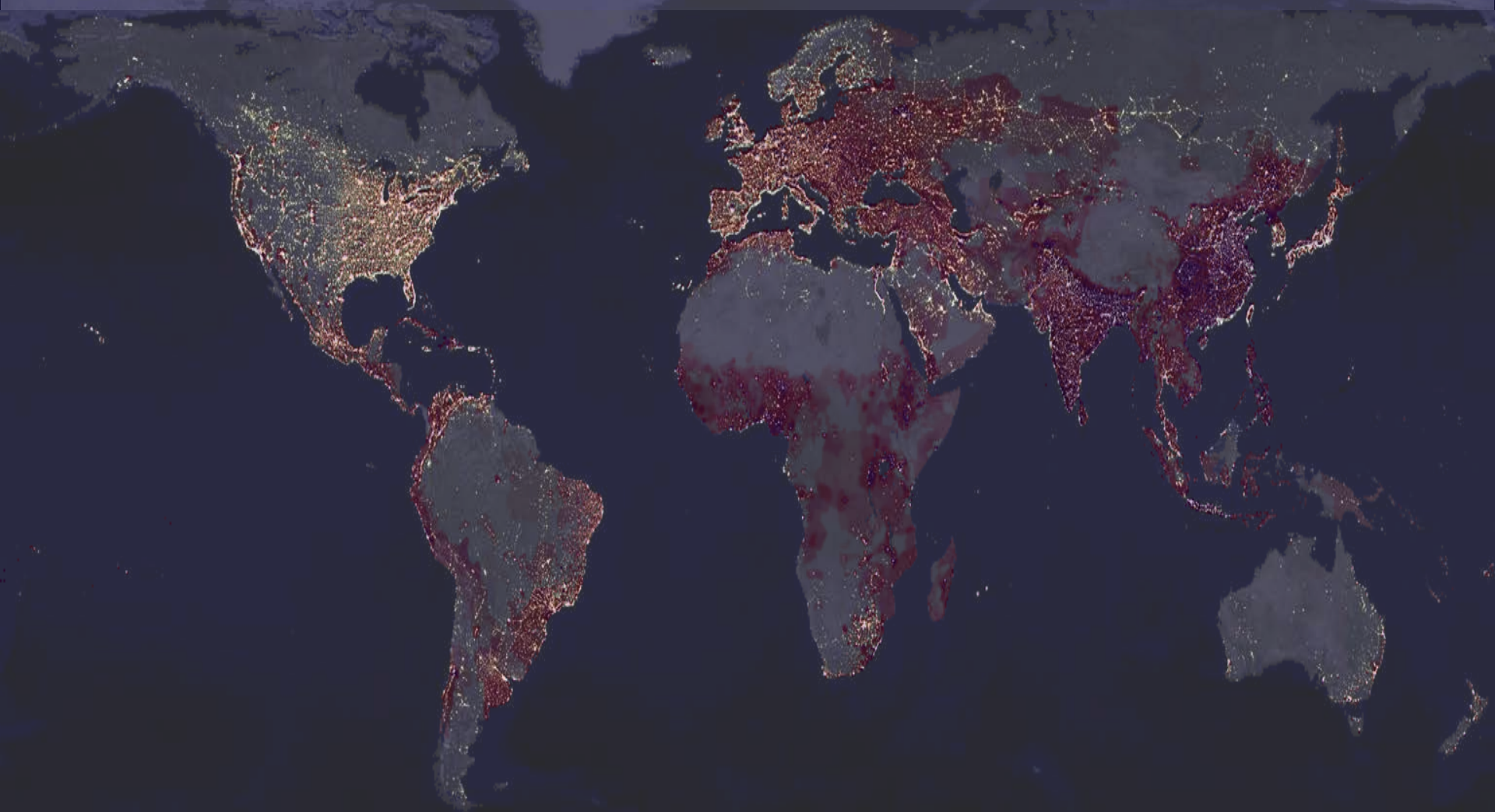
Power Transmission

Jeff Urban (Molecular Foundry, Berkeley Labs) and
Yukihiro Tahara (Mitsubishi Corporation)

Global Energy Use



Population and Energy Use Do Not Correlate

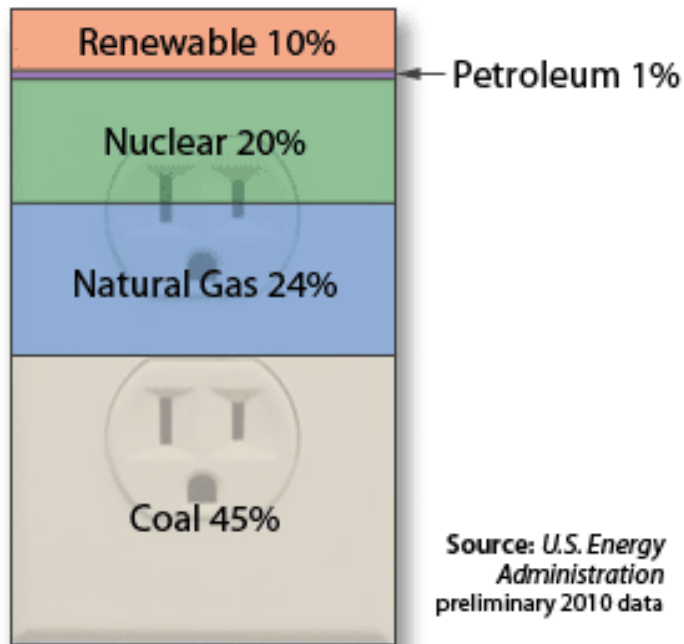


Opportunities: Decoupling from the Grid

Harvesting: Decarbonizing our Energy Sources

Transmission: Liberation from the Tyranny of the Wires

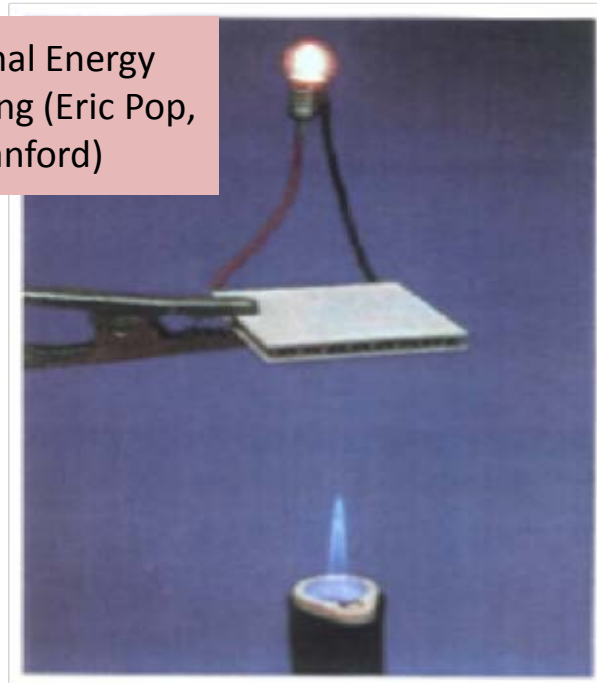
Sources of U.S. Electricity Generation



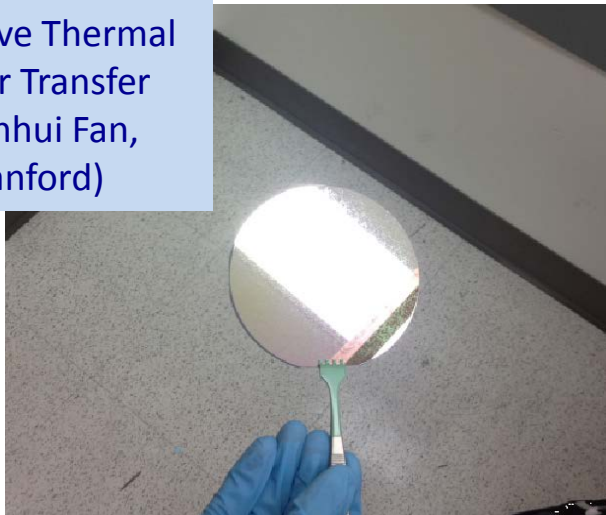
Can we engineer systems that provide abundant, hassle-free, clean electricity?

Overview of the Sessions (Mon/Tues)

Thermal Energy Harvesting (Eric Pop, Stanford)



Radiative Thermal Power Transfer (Shanhui Fan, Stanford)



WIRED.CO.

TECHNOLOGY PLANTS THE INTERNET

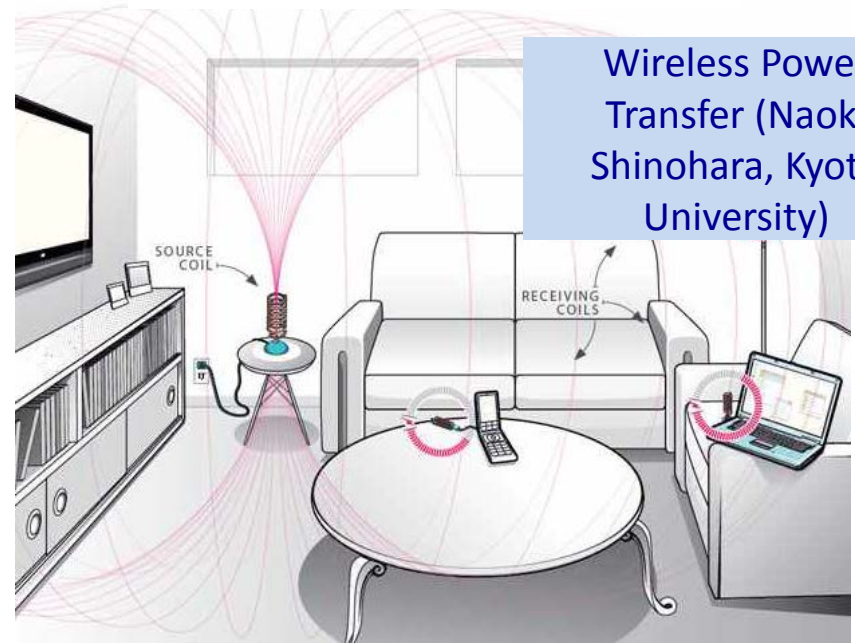
12 issues + FREE ACCESS on iPad, iPhone



Wireless RF Energy Harvesting (Yoshi Kawahara, University of Tokyo)

Smart Irrigation System helps farmers save water powered by radio waves

13 SEPTEMBER 13 / by VICTORIA TURK



Wireless Power Transfer (Naoki Shinohara, Kyoto University)