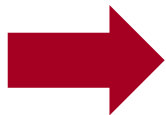# Green Networks

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- Energy use by computers is considerable and growing
  - Much is wasted due to low utilization levels

- About 150 TWh per year in the US (2006, LBNL)
  - Of which about 20 TWh per year is from network equipment

- My work (with colleagues at LBNL and UF) is:

  1) Energy Efficient Ethernet

  2) Proxying to enable network hosts (PCs) to sleep

  In standards process and to be in EPA Energy Star

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Peak Shedding with PCs for Florida

Energy use of PCs in Florida…

About 14.4 million PCs in Florida
$\cong$ **1150 MW load**

TECO Big Bend power plant
= **1800 MW output**

- Can we do peak shedding using controlled PCs?
  – Has been successfully implemented in Japan with laptops
  – Potential for doing something similar in Florida is high
  – Use of Internet for demand response control should be explored

If 25% of Florida PCs could be controlled and 50% are inactive at a given time, a load shed of about 144 MW would be possible

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