

I always feel virtuous when I send something by email rather than using hard copy, saving trees, transportation fuels, etc. It's probably true that a single email, even with a large attachment, uses very little energy. Cumulatively, however, Internet servers eat up a lot of power. A [new project](#) at Syracuse is one of many efforts to address this issue:

IBM and Syracuse University plan to build a \$12.4 million, 6,000 foot data center that will effectively be powered by natural gas. Natural gas turbines will provide power for the computers, storage systems and servers.

Heat from the microturbines, meanwhile, will be captured and funnelled into a double-effect absorption chiller that will convert the heat into chilled water. That chilled water will then be utilized to cool down the computers. Air conditioning can take up half of the power delivered to a data center. Waste heat by contrast is arguably free energy. The turbines and chillers will allow the university to run the data center off the grid. But that raises the question: Why not also try to harvest the heat from the computers? Well, a group in Finland is building an underground data center that will try to do just that.

The data center will also include a DC-power distribution system. Since the power comes from turbines, and not the grid, it will not have to be converted from AC to DC. That will curb power losses.

Another interesting point from the last line: I always thought that the Westinghouse victory over Thomas Edison definitively settled the superiority of AC over DC. But my tech friends tell me that DC may be the wave of the future.