Researchers at the Advanced Digital Sciences Center are working to create an intelligent system to understand context of human activities and their corresponding energy consumption in the ADSC Smart Grid research project, Incentive Pricing for Aggregated User Load Scheduling and Control. They plan to develop a non-intrusive, fine-grained energy consumption breakdown, as well as extract reliable high-level information of occupants’ activities and develop an automatic demand response that preserves occupants’ comfort levels.

By obtaining detailed power usage information from commercial meters, devising less intrusive metering solutions and integrating data from different types of sensors, ADSC researchers are able understand the context of human activities and their energy consumption. This will lead to a more effective and attractive demand-response system, which will optimize everyone’s profits and savings in a scalable, stable and user-friendly way.

As ADSC researchers strive to successfully incentivize wide adoption of demand response, this may lead to monetary savings on electricity and society as a whole may use less electricity. Taming peak usage can reduce the probability of overload and lead to a more stable power grid. Additionally, flexibility in load control can help society adapt to intermittent green energy sources, which facilities their adoption for a clean society.

About Us
The Advanced Digital Sciences Center is a University of Illinois at Urbana-Champaign research center in Singapore, led by Illinois Computer Science and Electrical and Computer Engineering faculty members. ADSC’s research aims to transform the way people use and interact with information technologies, through research in interactive digital media and the smart grid. ADSC is funded by the Agency for Science, Technology, and Research (A*STAR).