



Smart Grid Educational Series Inaugural Seminar
March 20th, 2012, 4:00 PM – 7:00 PM
Campus Center
Foothill College, 12345 El Monte Road, Los Altos Hills CA 94022

“Role of Customer in Making Smart Grid a Reality”

Agenda

4:00 – 4:15 PM **Welcome & Intro – Judy C. Miner, President, Foothill College**

4:15 - 5:15 PM **Keynote Address with Q&A – Ed Cazalet**

Transactive Energy: “When it comes to electricity, the customer needs to take charge.”

Ed Cazalet is CEO of [TeMIX Inc.](#), a Transactive Energy services company; VP of [MegaWatt Storage Farms Inc.](#), a renewable energy storage developer; and CEO of [The Cazalet Group](#) consultancy. Ed is also co-chair of the US standards committee that developed standards for Transactive Energy. Ed previously served as a Governor of the California Independent System Operator, appointed by Governor Schwarzenegger. He was a founder and CEO of [Automated Power Exchange, Inc.](#) and has forty years of electricity experience. Ed is an engineer and has a PhD from Stanford specializing in electricity pricing.

5:15 – 5:45 PM **Networking Break with Refreshments**

5:45 – 7:00 PM **Panel Discussion (Moderator – Erfan Ibrahim, Panelists: Ed Cazalet, Anne Smart (Silicon Valley Leadership Group), Chris Villarreal (California Public Utilities Commission), Mark Toney (TURN, The Utility Reform Network)**

Open to the public. \$20 General Admission, pay in cash at the door to receive name badge. Free to students with valid I.D. from any academic institution. Paid visitor parking available on campus.

To reserve seating in advance, email erfan97150@gmail.com at your earliest convenience. Seating limited to 150.

Dr. Erfan Ibrahim, Founder and CEO of The Bit Bazaar LLC – A Marketplace for Digital Ideas (former Technical Executive at Electric Power Research Institute), is offering these monthly seminars in collaboration with Foothill College as a public service to bridge the knowledge gap in the industry and inspire a new generation of students, researchers, engineers, and policy experts to understand the technical, policy and business requirements to enable Smart Grids and develop the skill set to design, build and manage the infrastructure in a commercially viable way.

The Smart Grid Educational series seminars will bring world-class experts in the field to educate the industry on critical issues and create a forum for interaction to solve complex problems in this field. This in-person forum will also allow national labs and academia to showcase their research work to the nation and internationally to attract new funding, new faculty, new students and new ideas for curriculum development. It will also promote cutting edge technologies from vendors, world class experts, and sound engineering, business process and policy principles leading to economic growth, job creation, and social benefit.

Smart Grid Educational Series: Foothill College, Los Altos Hills, CA

Inaugural Seminar: "The Role of the Customer in Making Smart Grid a Reality", March 20, 2012, 4pm, Keynote by Ed Cazalet --

Transactive Energy: "When it comes to electricity, the customer needs to take charge."



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Summary of Keynote

We California electricity customers take electricity for granted, until we get a high bill. We want clean sources of electricity, but many do not understand electricity supply and cost. Yet, we all need electricity.

Our utilities have installed new electricity meters on many of our houses and businesses. These meters measure how much electricity we use every 15 minutes of the day. We can log into a web site and see how much we have used, but most of us do not.

Our Legislature has set a standard requiring 33% of our electricity come from renewable sources. Solar and wind electricity are renewable, but variable. This means at times we either have too much or too little renewable energy. It will help if our electricity use follows the production of electricity from renewables.

Low prices when the sun is shining or the wind is blowing and high prices when they are not will help us follow renewables production. New smart thermostats, appliances, and building energy management systems will automatically buy more at low prices and less at high prices. The price of electricity could vary every 15 minutes.

Currently nearly all residential and most commercial customers pay fixed prices for electricity and at a given time the price is the same no matter how much you use. The Legislature requires that the prices increase during the month based on cumulative usage. The Legislature also requires that low income users pay lower prices. There is concern that some customers will benefit and others will lose by changing from fixed to variable prices.

Transactive Energy allows each customer to choose how much electricity to buy at a fixed price and how much at a variable price. This allows the customer to take charge. Transactive Energy also can support low income customers with low fixed prices for fixed amounts while enlisting them to follow the sun and the wind with variable prices. The combination of fixed amounts of electricity at fixed prices and variable amounts at variable prices is the core idea of Transactive Energy.

Transactive Energy supports customer choice among multiple regulated and competitive suppliers. Suppliers can be neighbors with excess solar electricity, community owned electricity sources, or main grid sources. Electricity transactions can be in local micro-markets with grid connections to regional suppliers. The idea is that any party can automatically transact (buy or sell) electricity with any other party at the best fixed or variable price.

Customers (residential, commercial, industrial, and public sector) need to take charge and support policy changes by the California Public Utilities Commission to implement Transactive Energy.