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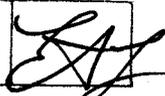
April 7, 2014

Commissioner Robert L. Burns  
Arizona Corporation Commission  
1200 West Washington  
Phoenix, Arizona 85007

Arizona Corporation Commission

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Re: Docket No. E-00000J-13-0375  
Innovation and Technological Developments Docket

Dear Commissioner Burns:

In a December 5, 2013 letter to your fellow Commissioners and Interested Stakeholders in the above-referenced docket, you requested suggested names and contact information for any persons and/or entities which recipients of your letter believed might be appropriate for consideration as presenters in one or more of the workshops to be conducted in the aforesaid docket. It is against that background that I am writing to suggest to you for consideration Edward G. Cazalet, PhD., CEO and President of TeMIX, Inc. and Vice President of Megawatt Storage Farms, Inc.

By way of background, earlier this week I had occasion to attend the "Power Industry Transformation Summit: Disruptive Technology and Market Realignment," which was conducted by Infocast in San Francisco, California. One of the panels was devoted to the topic of "Transactive Energy: A Market-Based Model for Valuing System Resources." The panel participants were (i) Doug Houseman, Vice President of Technological Innovation, Member GridWise Architecture Council, ENERNEX, and (ii) Dr. Cazalet.

In that regard, a copy of that portion of the Summit's Agenda outlining the presentations made by Dr. Cazalet and Mr. Houseman is attached. Also, attached for your convenience is a copy of Dr. Cazalet's Power Point Presentation, which he forwarded to me later in the day on April 2, 2014 at my request.

I wanted to bring Dr. Cazalet and his presentation to your attention as a possible presenter at a forthcoming workshop, because I believe that the content of his presentation is in several respects directly relevant to the scope of the generic proceeding that you are currently overseeing, and offers insight into how producer and consumer decisions are made in today's

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Commissioner Robert L. Burns  
April 7, 2014  
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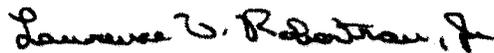
evolving energy world. In that regard, it is my understanding from a discussion with Mr. Houseman later that same afternoon that he has been scheduled to participate in one of the forthcoming workshops in Docket No. E-00000J-13-0375.

In the event that you should decide to consider extending an invitation to Dr. Cazalet to participate in one of the forthcoming workshops, his contact information is as follows:

Edward G. Cazalet, PhD  
CEO and President  
TeMIX Inc.  
101 First street  
Los Altos, California 94022  
Phone: (408) 621-2772  
Email: [ed@temix.net](mailto:ed@temix.net)

Thank you in advance for your consideration of my suggestion. Please let me know if you would like any additional information.

Sincerely,



Lawrence v. Robertson, Jr.

cc: Chairman Bob Stump  
Commissioner Gary Pierce  
Commissioner Brenda Burns  
Commissioner Susan Bitter smith  
Docket Control  
Parties of Record

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**2:00 – 3:15 Transactive Energy: A Market-Based Model for Valuing System Resources**  
In the past year, increasing deployment of DG has begun to cause friction as with the debate over net energy metering policies. The net metering debate has primarily revolved around the true cost and benefits of distributed generation and the value of the T&D grid. Transactive energy is a business model for the electric system—including a business process for transactions among parties—that provides a market-based approach to addressing questions of cost and benefits. This session will:

- Describe future transactive energy business, tariff and regulatory models
  - How would all distributed technologies including solar, storage, and customer devices be effectively integrated?
  - Illustrate how distribution and transmission resources and grids could be coordinated
  - Describe how issues of two-way flows, net metering, cost recovery, customer bill stability and pricing could be addressed
- Discuss the current work on developing a transactive framework
  - Examine the framework's features
  - Assess the role it might play as a foundation of the power industry of the future
  - Consider the building blocks that need to be put in place to support implementation of the framework

**Joint Presentation:**

**Edward G. Cazalet, Ph.D.,** *Founder & Chief Executive Officer, TEMIX INC, Founder, MEGAWATT STORAGE FARMS, INC.*

**Doug Houseman,** *Vice President Technical Innovation, Member GridWise Architecture Council (GWAC), ENERNEX*

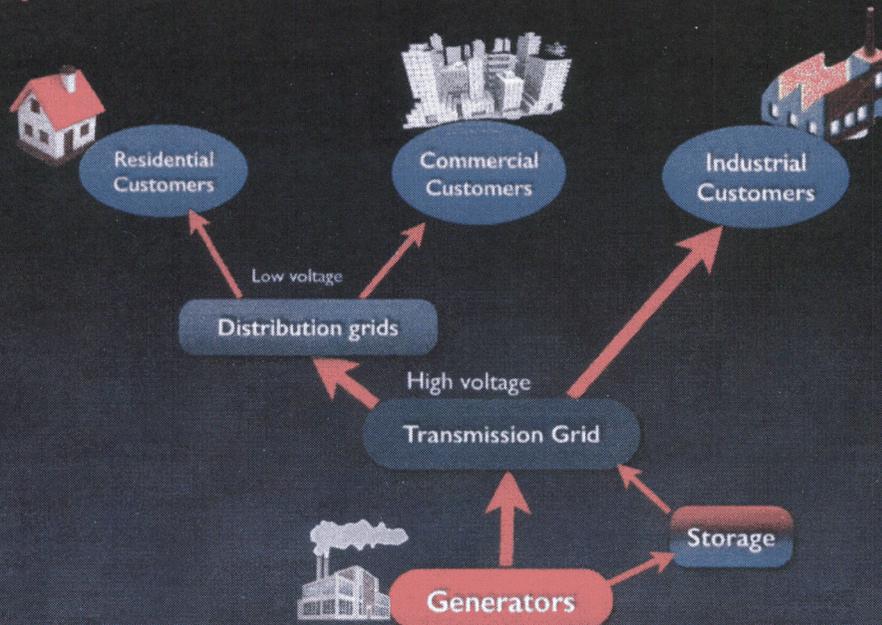
# Transactive Energy

A Sustainable Business and Regulatory Model for Electricity

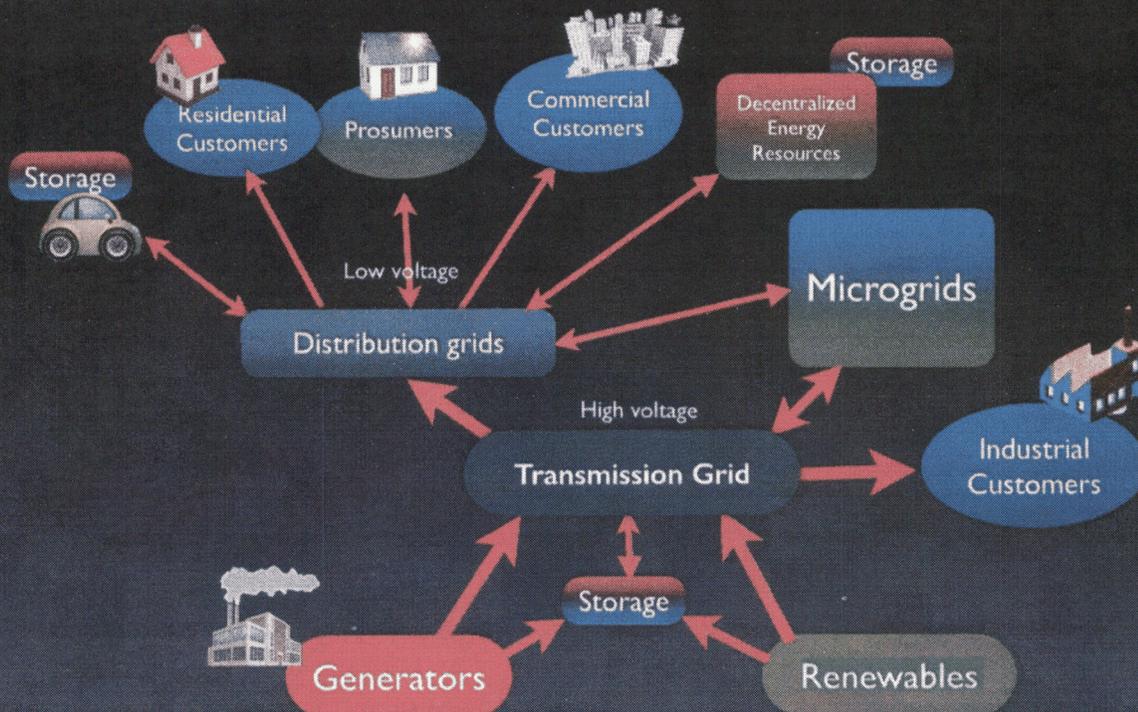
Power Industry Transformation Summit  
Disruptive Technology and Market Realignment  
April 2, 2014  
San Francisco, CA

Edward G. Cazalet  
CEO, TeMix Inc.  
VP MegaWatt Storage Farms, Inc.  
[ed@temix.com](mailto:ed@temix.com)

This is how the electric energy system looked in the year 2000 and before.



This is how the electrical system will look in the year 2020 and beyond.



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## Our electrical systems are in a dramatic transition.

- We are moving toward renewables, new storage technologies, and decentralized energy resources.
- Our existing business and regulatory models cannot keep up with the changes.
- The current ways of doing business are stifling innovation.



“We’re moving into an era where all ways to make or save energy will get to compete fairly, at honest prices, regardless of their type, technology, size, location, and ownership.”

Amory Lovins, Rocky Mountain Institute, in Utility Fortnightly interview

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# The Transactive Energy model.

There are two products:  
energy and transport.

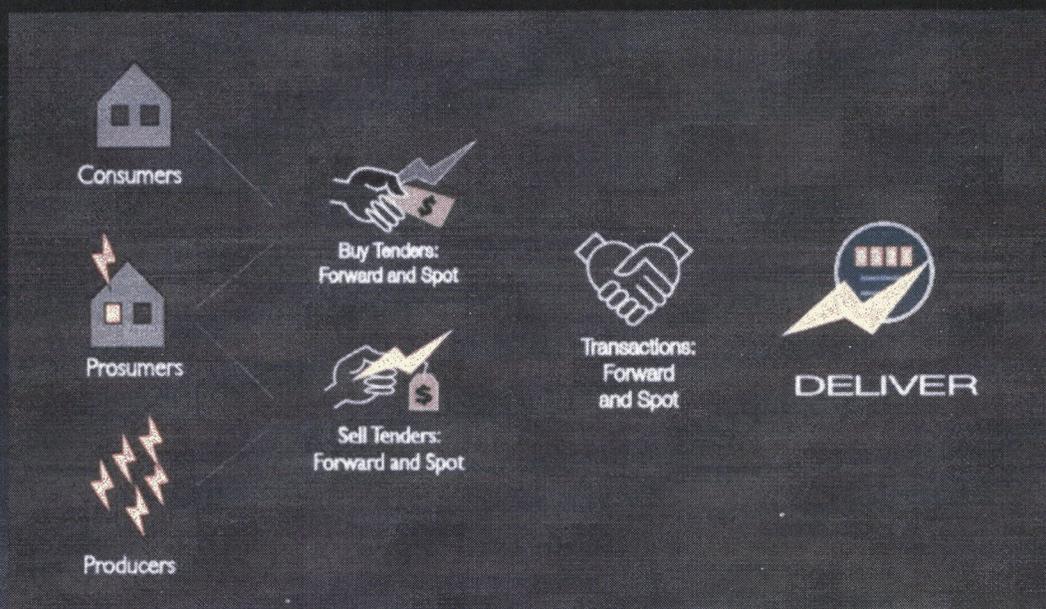
All parties act  
autonomously.

Forward transactions are used to  
coordinate investments and manage risk.

Spot transactions are used to  
coordinate operating decisions.

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The Transactive Energy process is straightforward.  
There are tenders and transactions. There are two  
kinds: “forward” and “spot.”



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There are two products: electric energy and transport.



Electric energy  
(produced at a  
place and time)



Transport



Electric energy  
(delivered at a  
different place  
and same time)

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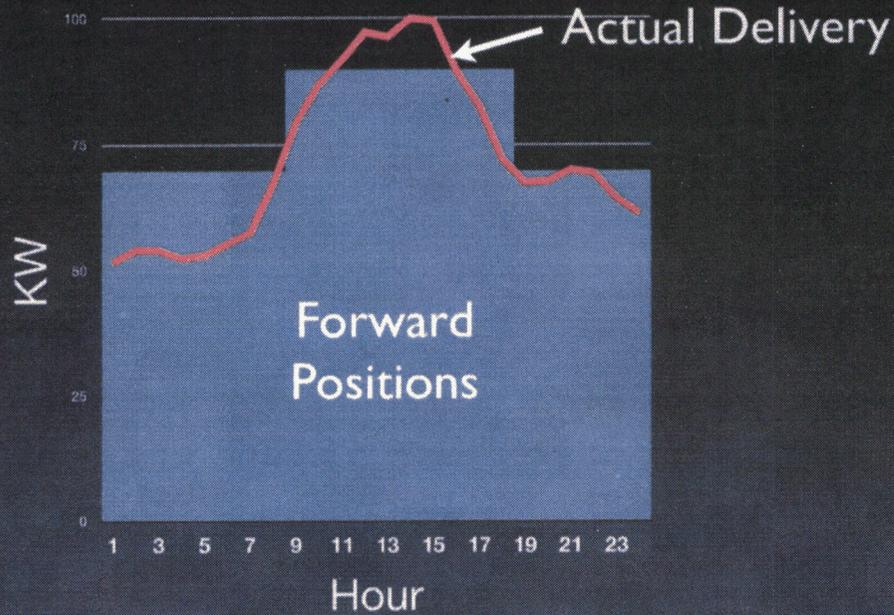
Here's an example of how Transactive Energy works for a consumer.

- Based on my typical usage, I automatically transact with a supplier for delivery of a fixed quantity of energy in each hour of the year(s) for a fixed monthly payment (subscription).
- If I use less than I subscribed for in each hour then I am paid for the difference at the hourly spot price.
- If I use more than I subscribed for then I pay for the difference at the hourly spot price.
- As my needs change, at any time I can automatically buy or sell a quantity of energy in an hour at a current price tendered by my supplier(s).

My energy management system automates this process for me.  
Energy and transport use this same process.

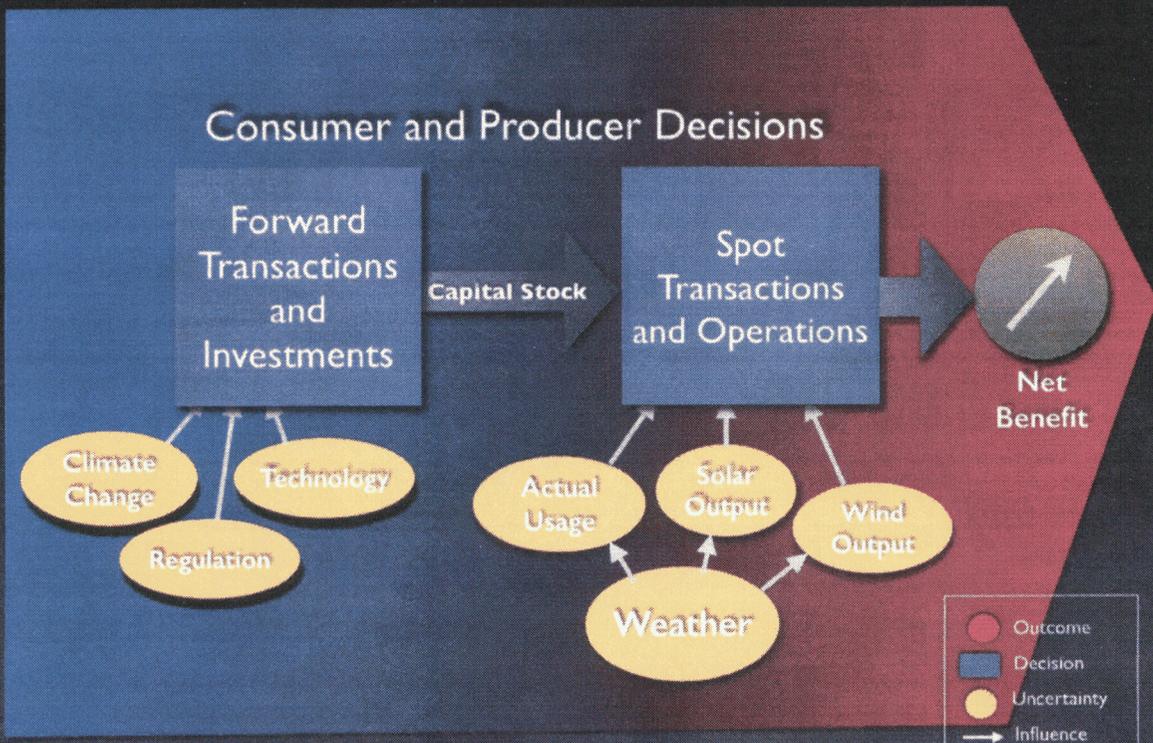
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Spot market transactions are used to buy or sell the difference between forward positions and actual demand.



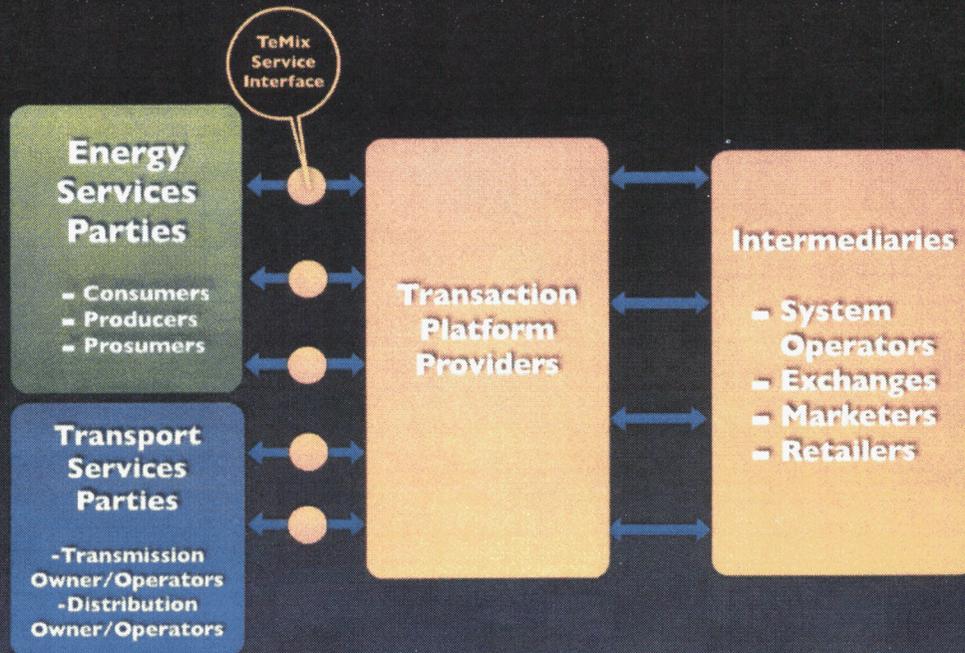
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The Transactive Energy business model coordinates both investment and operating decisions of many parties.



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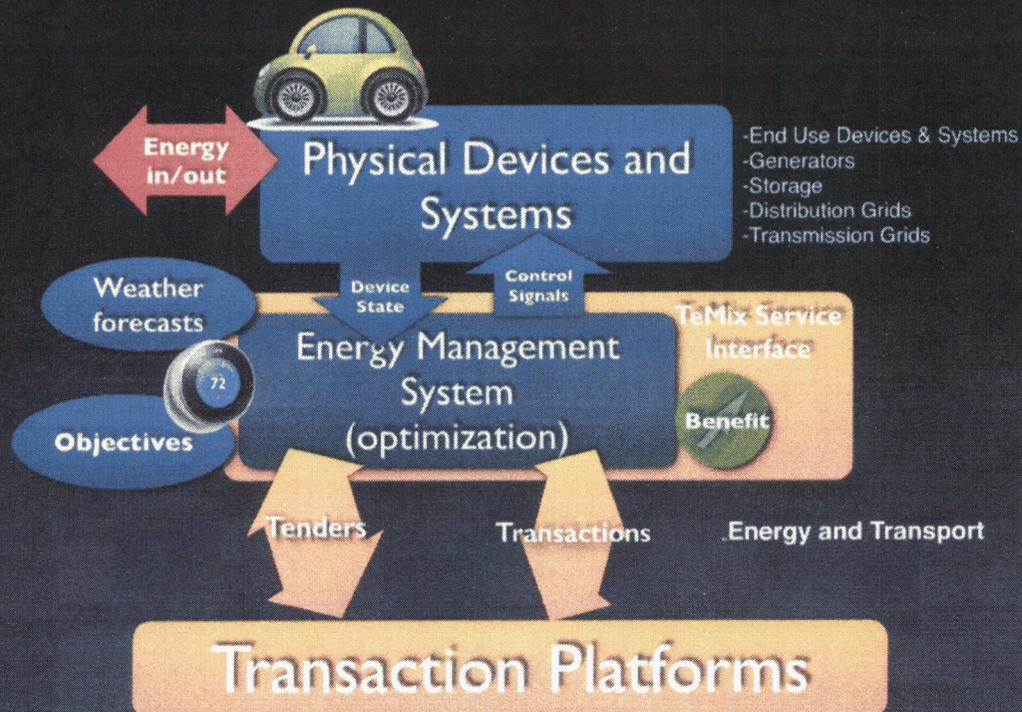
## Parties interact with tenders and transactions on Transaction Platforms.



Regulatory oversight by Congress, FERC, NERC, State Legislatures, PUCs, etc.

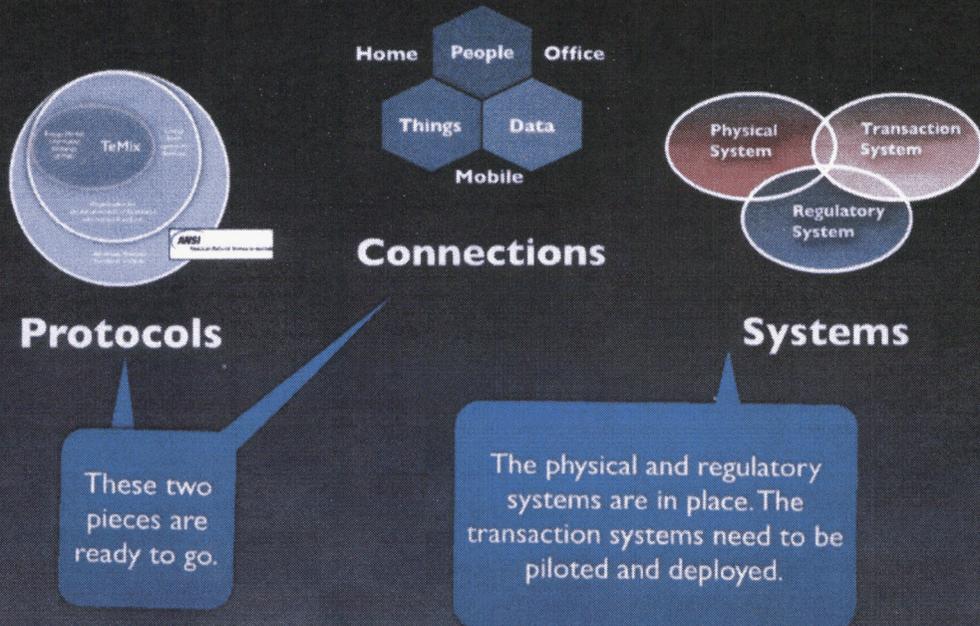
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## Each party can have a TeMix Service Interface for control and transactions.



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The three pillars of Transactive Energy are protocols, connections, and systems.



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We have all the connections we need. Home, office, mobile. People, devices, data.

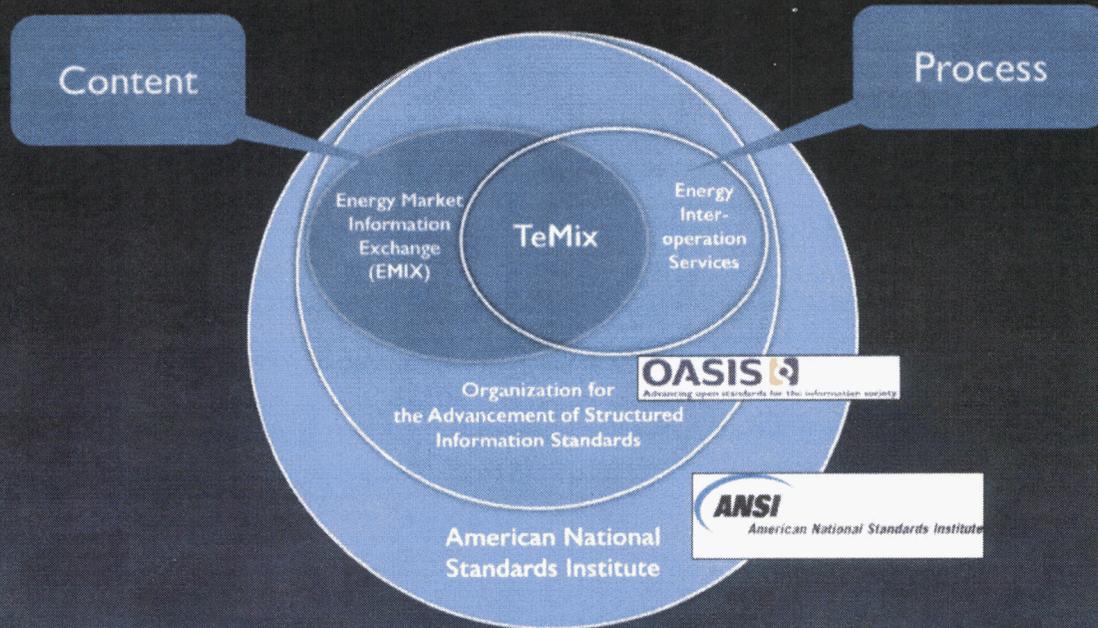


You can buy a thermostat at the Apple Store that is remotely programmable with your iPhone. The thermostat knows where you are, how you behave when you are at home, and what the weather forecast is.

To attain full value for customers it needs Transactive Energy.

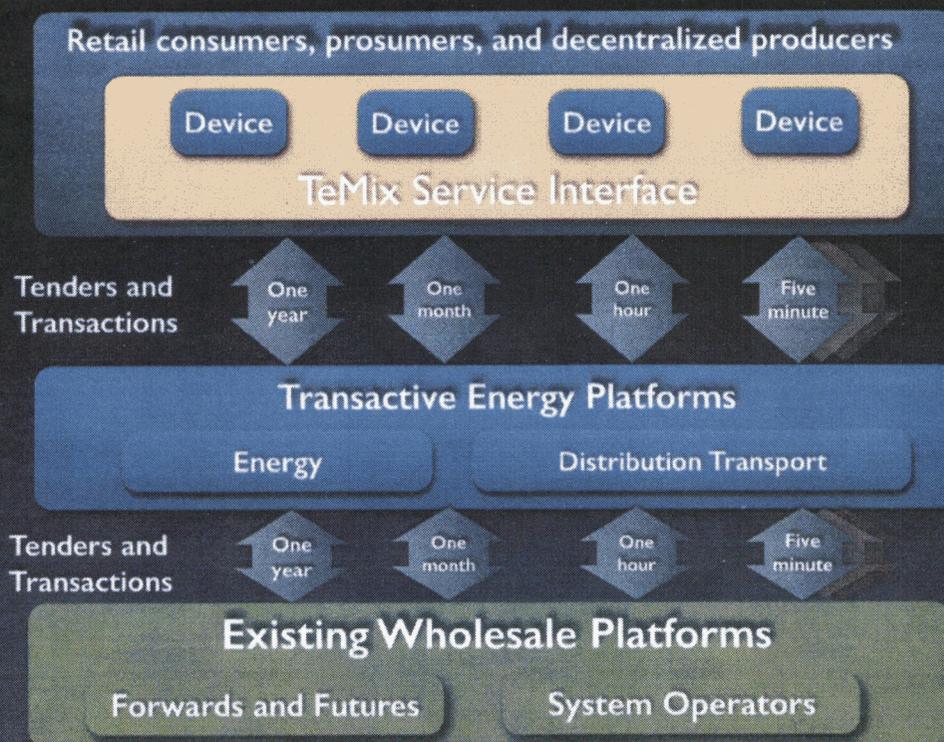
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The open and free TeMix protocol covers the required process and content.



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Transactive Energy can be incrementally deployed to work with current systems and entities.



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## State Legislatures, Public Utilities Commissions, and municipal and coop boards can do the following to enable Transactive Energy:

- Encourage Transactive Energy pilot projects and monitor results.
- Transition existing retail tariffs to long-term and spot commercial transactions.
- Deploy transaction platforms to facilitate buying and selling by retail customers of energy and cost-of-service transport.

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## Transactive Energy is a “Silver Bullet.”



- It will spur innovation.
- It will provide incentives for efficiency.
- It is fair and transparent.
- It will have the support of vendors, customers, suppliers, economists, environmentalists and voters.
- It addresses many current vexing problems: renewables integration, net metering, fixed cost recovery, dynamic prices, decentralized generation and storage operation, microgrids, wholesale/retail market coordination, and regulation.

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For more information on Transactive Energy go to the following sources:



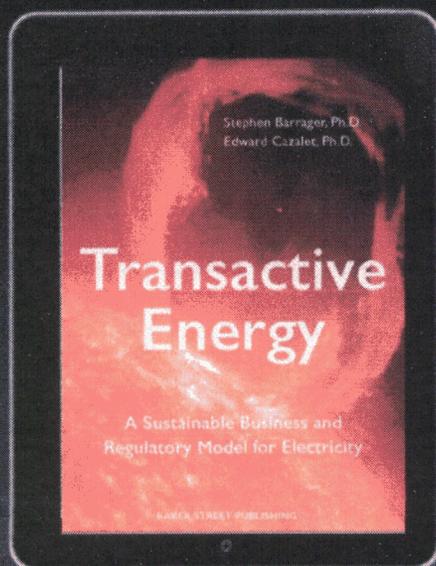
[www.tea-web.org](http://www.tea-web.org)



[www.temix.com](http://www.temix.com)

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The Transactive Energy concepts are developed further in a forthcoming eBook.



Leave your name and email if you would like to be the first to know of the release.

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