The nature of the energy business requires a public commitment. A new generation of television technology might cost $10 million to develop. Because those TVs can be built on existing assembly lines, that risk-reward calculus makes business sense. But a new electric power source can cost several billion dollars to develop and still carry the risk of failure. That investment does not compute for most companies...Vigorous federal commitments to new energy technology would bring these options to commercial viability.

This kind of radical change is, in other words, too risky for private investors to deal with on their own. And with resource shortages and climate change on the horizon, we don't have time to waste. That's why the council's so-called Business Plan for America's Future offers five ultra-ambitious recommendations:

- **Create an independent National Energy Strategy Board** — The board will be charged with creation of a Congressionally mandated Energy Strategy Board charged with developing and monitoring a National Energy Plan for Congress and the executive branch, and oversight of a New Energy Challenge Program.

- **Increase annual investments in clean energy RD&D by $11 billion, to $16 billion per year**

- **Create Centers of Excellence in Energy Innovation** — Each of these hubs of innovation will require annual funding in the range of $150 million to $250 million as a part of the $16 billion total.

- **Fund ARPA-E (Advanced Research Projects Agency-Energy)** at $1 billion per year—this will be a jointly funded program between the federal government and the energy industry focusing on the transition from pre-commercial, large-scale energy systems to full-size system tests.
10 Areas of Energy Entrepreneurial Innovation

1. Energy Audits
2. Finance
3. Analytics
4. Efficiency
5. Generation
6. Storage
7. Control Systems
8. SMART Buildings
9. Off Grid / Microgrids
10. Cyber / Grid Edge
1-Energy Audits

“Real Time Collection/Proposing with Tablets and Sensors”

- Snapcount
- Simuwatt
- eMAT
2-Finance
“PPA, MESA, ESA, Off Books “Energy as a Service”

• ENACT
• GSV
• Joule Asset
• Metrus
• Noesis
3-Analytics – BIG DATA
“Descriptive, Predictive & Prescriptive”

- Energy Tool Base
- Agility
- First Fuel
4-Efficiency
“Intelligent and Controllable”

- LEDs
- HVAC
- Pumps
- Motors
- Compressors
- Plugs
- Load
5-Generation
“Renewable Focused”

- Solar – SSD, tenK, Shoals
- Wind – Cube, Blimp
- Fuel Cells – Hydrogen, Other
- Bio – Waste, Algae, Human
- Tidal – Vertical & Horizontal
6- Storage
Batteries and Thermal

- Simpliphi
- TimberRock-V2G
- iPower/ZeroRPM
- PCES
7- Control Systems
“Digital Energy Routers”

- Transverter
- Ideal
- Apollo

- Congestion, stopping and starting, bi-directional flows
8- SMART Buildings
“Intelligent Grid Nodes”

- Wattics
- SciEnergy
- Enlighted
9- Off Grid / Islanding “Microgrids“

- ZeroBase
- Gexpro/Geli
- Spectrum Solutions
10. Cyber / Grid Edge / Internet of Things / EnergyNet
Energy Acquisitions, Mergers & Partnerships
Connecting the Dots
Lori Severin
A lack of credible partners means organizations are left to their own devices.

Executives described how most partners—even those who tout their strategic abilities—tend to come off as product and service specialists, ill-equipped to create, or even consider, the scope of a comprehensive energy strategy. Many providers only have one product to sell, while those with a broader portfolio of solutions tend to operate in a vacuum, ignoring the synergistic effects of working across categories.

The market lacks an integrator

“Someone could drop off all the parts to build a Ferrari in my driveway and I would never have a working Ferrari ... I would build a go-kart.”

- Executive, national real-estate trust
420,000 customers and deployments in more than 145 countries, Oracle offers a comprehensive and fully integrated stack of cloud applications, platform services, and engineered systems.

April 29, 2016

Oracle Acquires Textura

Purchase Price: $663M

A cloud based, contractor and engineering construction contracts and payment management services

This provides Oracle with a cloud based vertical construction solution

Textura and Oracle Engineering and Construction will have the ability to offer a comprehensive set of cloud project construction services

May 2, 2016

Oracle Acquires OPower

Purchase Price: $532M

A cloud based, customer engagement platform for utilities like PG&E, Exelon and National Grid - stores and analyzes over 600 billion customers

This provides Oracle with a cloud based vertical utility solution

2015 Construction growth grew 6.4%, largely bolstered by rapid expansion in new energy and power projects.
“But the real transformation is just emerging as mobile and Internet technologies — like cloud storage, machine-to-machine telematics, and wireless — are incorporated into the energy grid. “ Verizon 2016

Machine-to-Machine Partner Solutions for Utilities

“Every business can benefit from smart alliances. That’s why we’ve teamed with leading solution providers to promote a range of innovative machine-to-machine solutions that can help [utilities] transform [their] business...”

Verizon Business Solution Alliances for Utilities

IP-based, open architecture, point-to-point wireless metering solution that serves more than 120 major utility companies in North America

- SmartSynch - smart meters monitor and capture energy usage data
- Cooper Power Systems - smart sensors monitor grid [energy] assets performance
- Current - low-voltage sensors provide event notification Verizon’s Wireless network

Verizon claims 1,000 IoT channel partners equating to $495 million in revenue for 2015
Cable, Internet and Energy Services?

May 20, 2015 By Josh Kessler

Comcast is the market leader in broadband Internet services, controlling a 56 percent share of the market, according to Ars Technica. The company also boasts 30 million cable subscribers, according to CNN Money. But now the company is entering a seemingly different business based on running wires to customer homes and businesses: energy services. Comcast just announced a partnership with Commonwealth Edison (ComEd) in Illinois to offer demand response (DR) services to customers in ComEd’s service territory, reports Greentech Media. Comcast’s DR program, Xfinity Home Summer Energy Management, runs on the EcoFactor energy management platform.

In addition to DR services, Comcast has partnered with retail energy suppliers. A March 2014 article in Multichannel explains how the company collaborated with NRG Energy on an energy rewards pilot. Comcast is now partnering with Everyday Energy to offer the program to Xfinity customers in Pennsylvania and Illinois, writes Multichannel News.
Twenty First Century Utilities Buys GridPoint

William Pentland, CONTRIBUTOR
A 10-month old company just bought the erstwhile golden child of green technology as part of a plan to reinvent the 100-year-old utility business model.
Smart street lights shine spotlight on violent crimes

Fri, 2015-10-02 06:00 -- Kevin Ebi

Cities have found intelligent street lights useful for everything from energy conservation to traffic management, but a new partnership involving Council Lead Partner GE will help them fight crime too. In fact, the lights will be able to alert police to possible crimes, even if no one calls for help.

GE is partnering with ShotSpotter, a partnership that could soon enable GE’s intelligent street lights to detect gunfire and alert authorities. ShotSpotter’s technology listens for gunfire. Its real-time analysis can pinpoint the location of the shots, notifying emergency dispatchers and officers in the area in less than a minute.

Under the agreement, the technology would be incorporated into GE’s Intelligent
- Virtual End Nodes (VEN)
  - Receive events and respond to them
  - Generate reports
  - Control demand side resources
- Virtual Top Nodes (VTN)
  - Transmit events to other nodes
  - Request Reports

Jan 5, 2015

EnerNOC Completes Acquisition of World Energy Solutions

Acquisition Increases Energy Procurement Functionality and Grows Enterprise Customer Base

BOSTON, Jan. 5, 2015 (GLOBE NEWSWIRE) -- EnerNOC, Inc. (Nasdaq:ENOC), a leading provider of energy intelligence software (EIS), today announced that it has closed the previously announced acquisition of World Energy Solutions, Inc. (Nasdaq: XWES), an energy management software and services firm that helps enterprises simplify the energy procurement process through a suite of Software-as-a-Service (SaaS) tools. To date, World Energy has transacted more than $45 billion in electricity, natural gas, and environmental commodities for its customers, making it one of the top energy procurement specialists in the U.S. by revenue and volume.
Siemens and IBM team on next generation of cloud-based building energy management solutions

Las Vegas, - 22 Feb 2016: Today, the Siemens Building Technologies Sector announced that IBM (NYSE:IBM) will integrate its Energy Manager software suite into the new Siemens Building Energy Management platform. IBM’s Energy Manager provides an end-to-end solution for energy management across multiple buildings from a single console.

Building intelligence is evolving, and the companies believe that by combining IBM’s Energy Manager with Siemen’s Building Energy Management platform, they will enable building owners and operators to take full advantage of data analytics, and intelligent, connected buildings and infrastructure. The companies are also positioning the partnership as an opportunity by delivering greater insight on building performance and making process while creating new opportunities for growth in the bottom line.

Siemens is integrating software from IBM's Watson IoT Business Unit, including analytics and asset management, into its cloud-based Navigator energy and sustainability management platform. This combination will help benefit corporate real estate customers in many ways, including:

- Corporate real estate owners and operators will now be able to leverage internal and external data on Siemens' Navigator platform to benchmark building performance and forecast operational budgets.
- Predictive analytics can be applied for fault detection and diagnosis so potential issues can be addressed before anything happens.
- Text recognition and analytics for utility invoice validation can identify billing errors and enhance data quality.
- Mobile applications can enable energy audits and creation of audit reports from anywhere.