



MODERNIZING ENERGY EFFICIENCY THROUGH DIGITALIZATION

HARNESSING NEW BUSINESS MODELS THROUGH
DIGITALIZATION – START WITH CUSTOMERS !

IEA PRESENTATION, 27 MARCH 2019

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NAVIGANT

THE ENERGY CLOUD

TOWARD A CLEAN, DECENTRALIZED, INTELLIGENT & MOBILE ENERGY SYSTEM

PAST: Traditional Power Grid
Central, One-Way Power System



Market Demand

Technology Innovation

Policy & Regulation

TODAY: The Energy Cloud
Distributed, Cleaner, Two-Way Power Flows

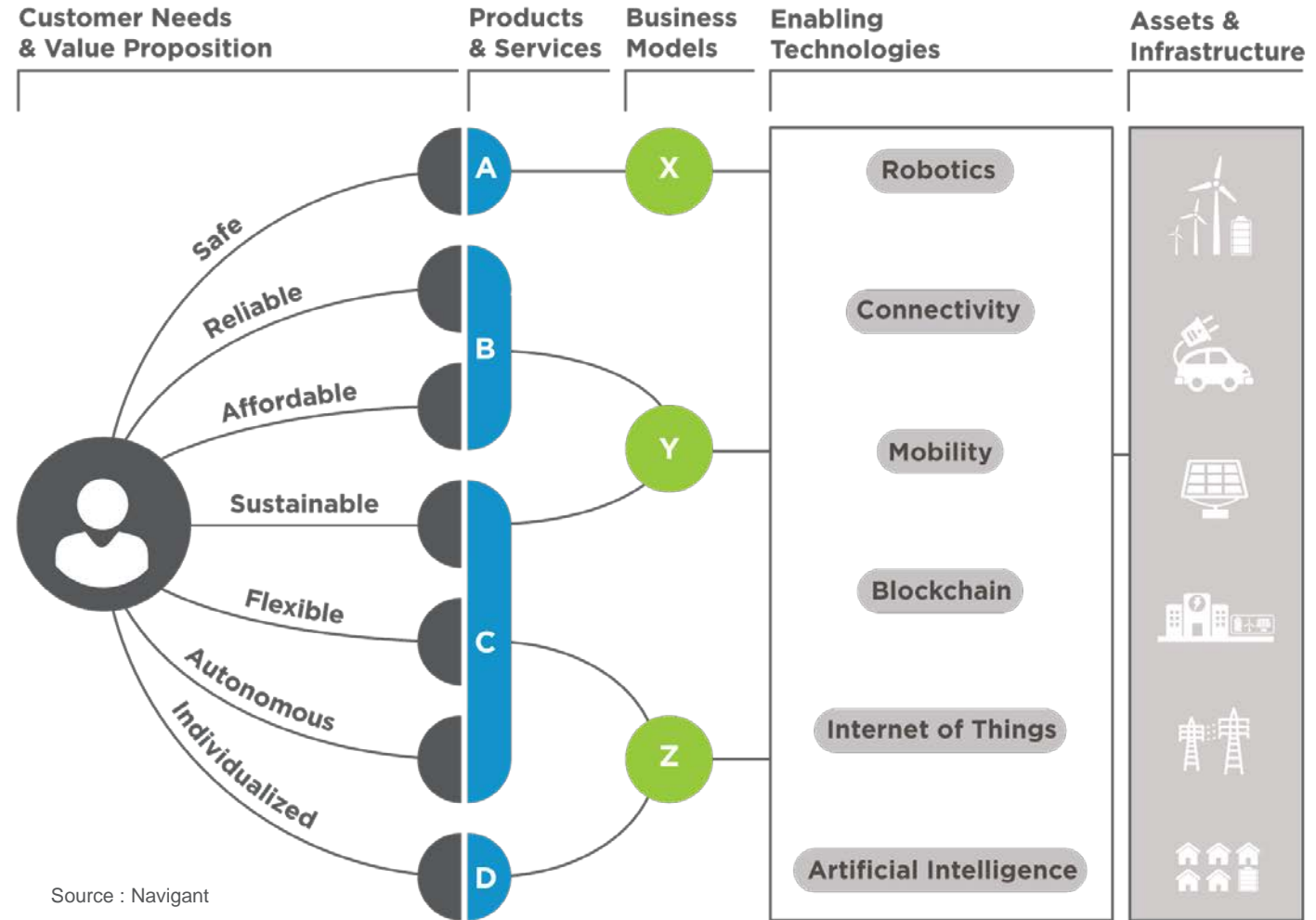


Source: Navigant

.... Accelerated by digitalization, and re-shape the energy efficiency

HARNESSING NEW VALUE – STARTING WITH THE CUSTOMER

- It starts with the customer, customer needs, and value propositions
- Then the solutions (products & services) can be ideated and developed to meet the needs and deliver value
- Finally, business models, technologies, and infrastructure should be layered on top



IN THE DIGITAL EDGE, CUSTOMERS ARE DRIVING THE ENERGY CLOUD

Consumer expectations are evolving in the Energy Cloud – **the new four C's**.

These are relevant for customers of all types, including residential, C&I, and governments.

Choice



Greater customer choice and demand for more energy options, including clean and renewable energy

Control



More customers want control of their energy usage and spend, better transparency, and improved reliability & resiliency

Convenience



Hassle free customer experience and more personalized and digital options

Cost



Customers are increasingly cost-sensitive and look for ways to optimize their total energy costs

Residential Customers

Commercial & Industrial Customers

Municipal & Government Customers

Source : Navigant

CUSTOMER INNOVATION EXAMPLE 1: OHIO STATE UNIVERSITY & ENGIE ENERGY-AS-A-SERVICE

Ohio State University EaaS :

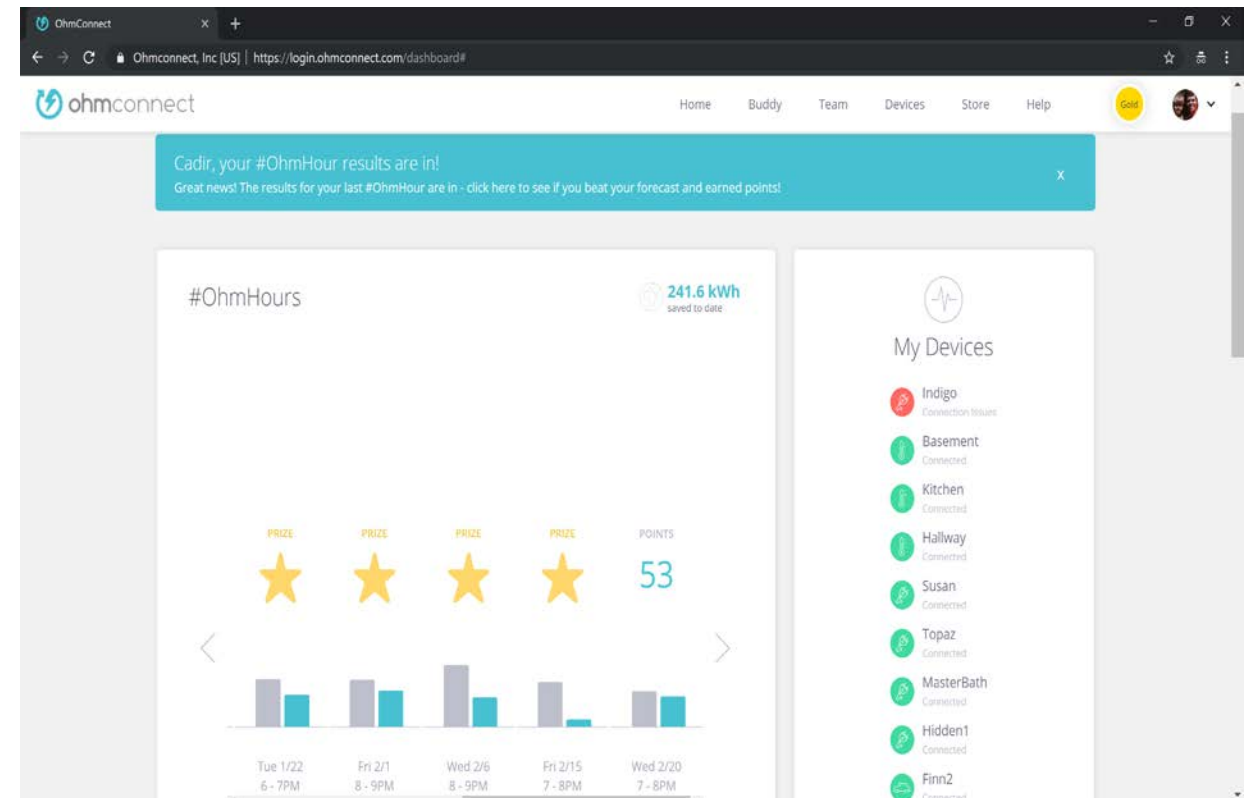
- Comprehensive, end-to-end solution that can meet the OSU's total energy needs on a long-term basis
- Access to low cost of capital through a partnership with investment partner Axiom
- Intimate understanding of OSU's energy strategy and long term objectives, as well as energy systems and infrastructure of individual campuses and users
- Includes multiple energy services including energy audits, participation in academic lectures
- **ENGIE to pay OSU \$1.1 billion** for right to manage and operate OSU campus energy infrastructure and usage in exchange for an **annual fee of \$45 MM over 50 years**



CUSTOMER INNOVATION EXAMPLE 2: CASH BACK MODEL - OHMCONNECT

- California Public Utilities Commission pilot program for a Demand Response Auction Mechanism (DRAM) : **allows for third parties to offer demand response services to users and trade the savings in the market**
- Business model : Free service that **notifies users during peak electricity consumption hours**, keeping the peaker plants off (fossil, expensive) and pay back the energy savings (cash and reward), through automated Services with Smart Thermostat
- Saved 900 MWh, rewarded \$8.5 Millions, for 500,000 users
- Available in Texas, California, Toronto, on going deployment

PG&E, SDG&E, and SCE in California, Toronto Hydro in Toronto, and through Smart Meter Texas accounts in Texas.



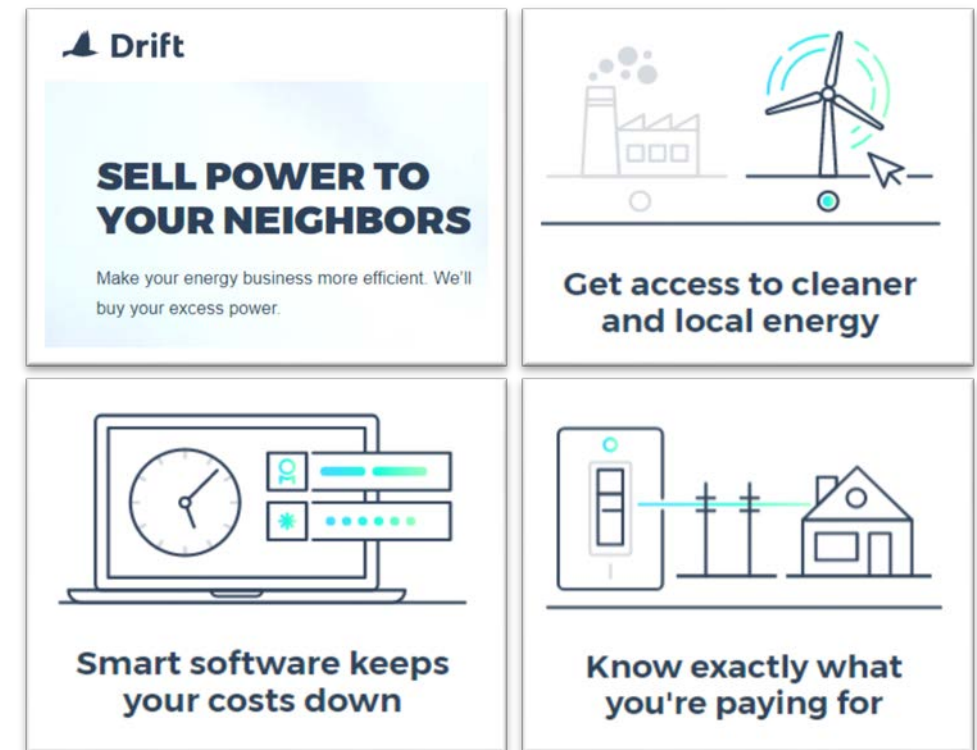
CUSTOMER INNOVATION EXAMPLE 3: DRIFT—A CUSTOMER-CENTRIC ENERGY SOURCING PLATFORM PROVIDER

“If utilities don’t plan the transition to the digital future, someone else will do it for them.”

— a Utility Executive



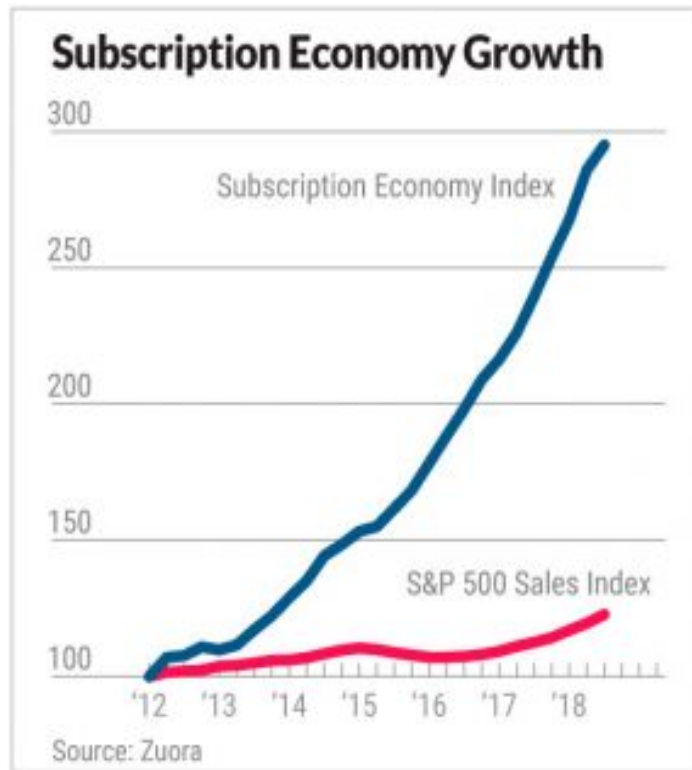
- **Power industry disruptor** – hybrid between an ESCO and a DER manager
- **Cheap** - drift doesn't take a margin on its energy sales, but **charges a fixed fee of \$1/week** for residential customers and a bit more for commercial customers
- **Have choice, no contract** - consumers use a dashboard to choose whether to prioritize cheap or low-carbon energy sources, and they're able to terminate their relationship with Drift at a moment's notice
- **Automated and seamless** - everything is automated, digital, and transparent making the switch and ongoing interactions effortless for their consumers
- **Scalable**— currently operates in NYC, but has business models that identify pricing opportunities built for the entire state and 16 additional states



Source: <https://joindrif.com/>

CUSTOMER INNOVATION EXAMPLE 4: SUBSCRIPTION MODEL

The “subscription economy” is growing exponentially



Investors Business Daily, December 2019

For energy, this means creating a platform to offer fixed energy billing along with additional services (a la Netflix)

NAVIGANT	Unlimited Savings	Unlimited Choice	Unlimited Premium + EV
Fixed monthly price based on household profile usage (Your average current bill is \$115/month)	\$115/month for 36 months	\$125/month for 36 months	\$145/month for 36 months
30% Clean Energy with energy portal app	✓	✓	✓
100% Clean Energy	×	×	✓
Free Smart Thermostat	✓	✓	✓
Access to free or discounted energy efficiency upgrades	✓	✓	✓
Unlimited EV charging at home and in community	×	×	✓
Maximum number of control days	30	15	7
Free control day over rides per year	3	5	7

- Fixed bill, that doesn't vary with usage, with no true up
- Customized
- Layering of additional services

- Visibility and simplicity for customers
- Energy savings
- Additional revenue for energy suppliers

CUSTOMER INNOVATION EXAMPLE 4: SUBSCRIPTION EXAMPLE



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100% clean
energy



Smart device
packs



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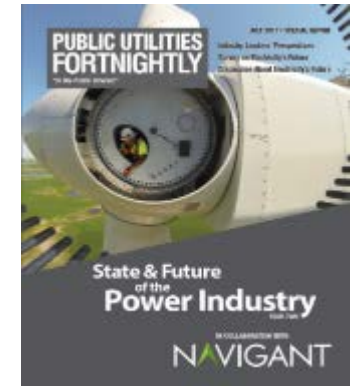
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*RELEVANT
THOUGHT
LEADERSHIP*

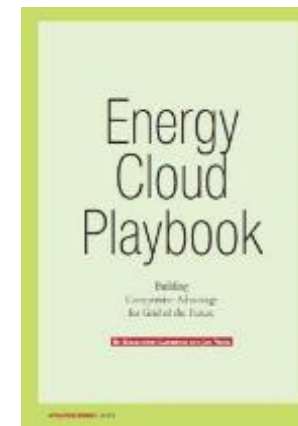
Business Value through Disruptive Energy Platforms



State & Future of the Power Industry



Energy Cloud Playbook



Defining the Digital Future of Utilities

