

Building the Future NOW

STAR TREK
USB COMMUNICATOR

Get ready for the ultimate Star Trek adventure with the only approved Replica of the Original Series Communicator! This has sound effects and clips from the ground-breaking classic series and doubles as your VOIP/SKYPE phone! Don't be caught on your next away mission without one of these handy life savers!

Built-in audio decode chipset, allow to transfer audio signal with USB cable.

Built-in microphone, available for Skype, MSN, AOL, iChat, etc.

Individual microphone mute button.

Volume up / Volume down button.

Internet connection:

	Aim	Msn	Skype	iChat	Yahoo	Google
Windows	○	○	○	○	○	○
Mac	○	○	○	○	○	○

Mic
Speaker

Velcro

Power Indication Light
Mute Light
Signal Light

Mute Button
Volume Button

DREAM
Creality
It's a LifeSimile™ Date: 18/12/2008

Kord Christianson
President
Adaptive Development Solutions

Alaska Housing Finance Corporation
Energy Efficiency NOW
13 January 2016

TRADITIONAL OR LEAPFROG CHANGE?

13 January 2016



TRADITIONAL OR LEAPFROG CHANGE?



The Cure for Aging



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TECH MOBILE

Landline Phones Are Getting Closer to Extinction

Victor Luckerson @VLuck | July 8, 2014



41% of American homes are now wireless-only

It's not just Millennials anymore—a growing number of older American adults are getting rid of their landlines and going cellphone-only. 41 percent of U.S. households were wireless-only by the end of 2013, according to new data from the National Center for Health Statistics.

Young adults are

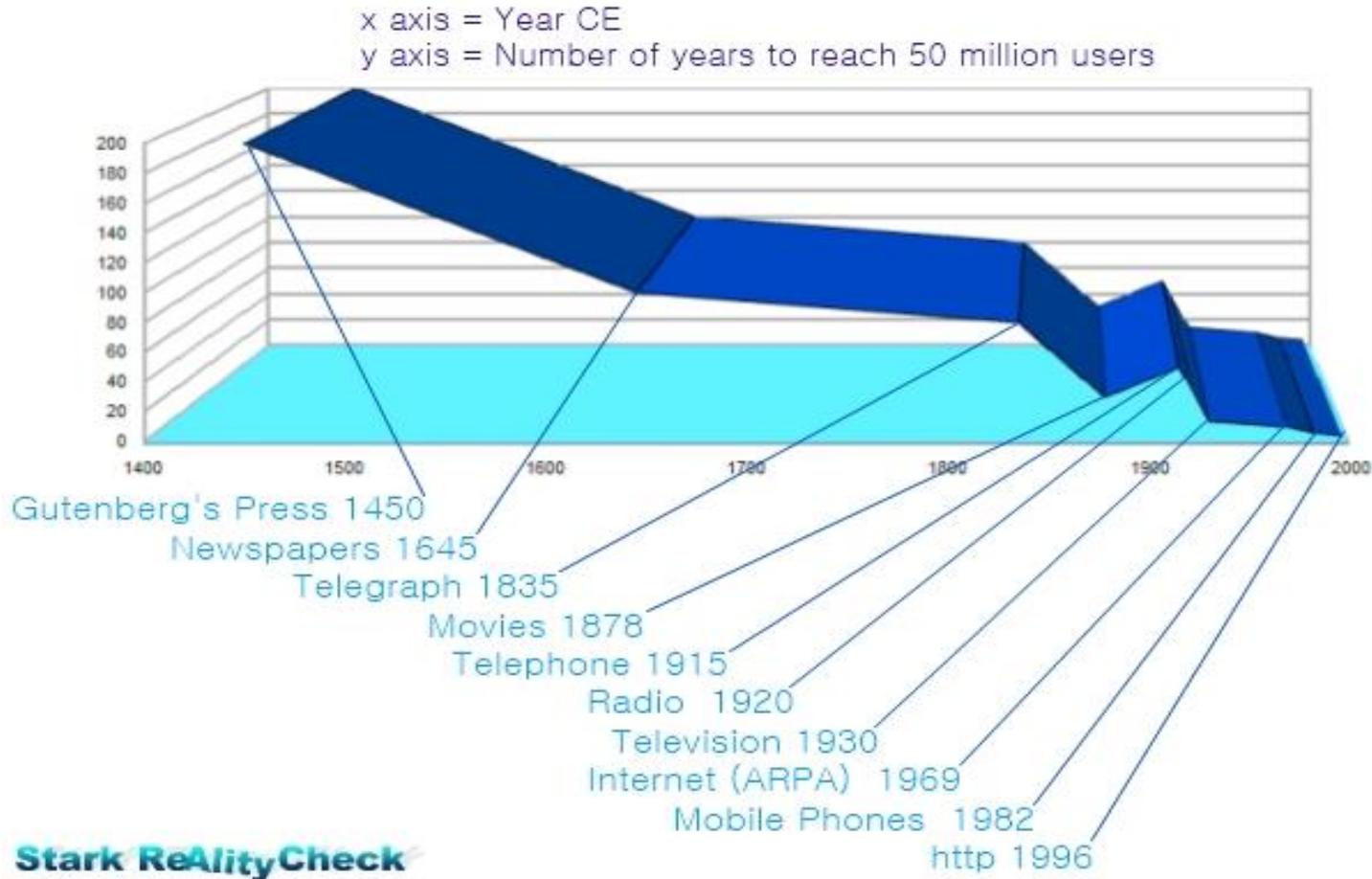


Julie Thurston Photography—Moment Editorial/Getty Images

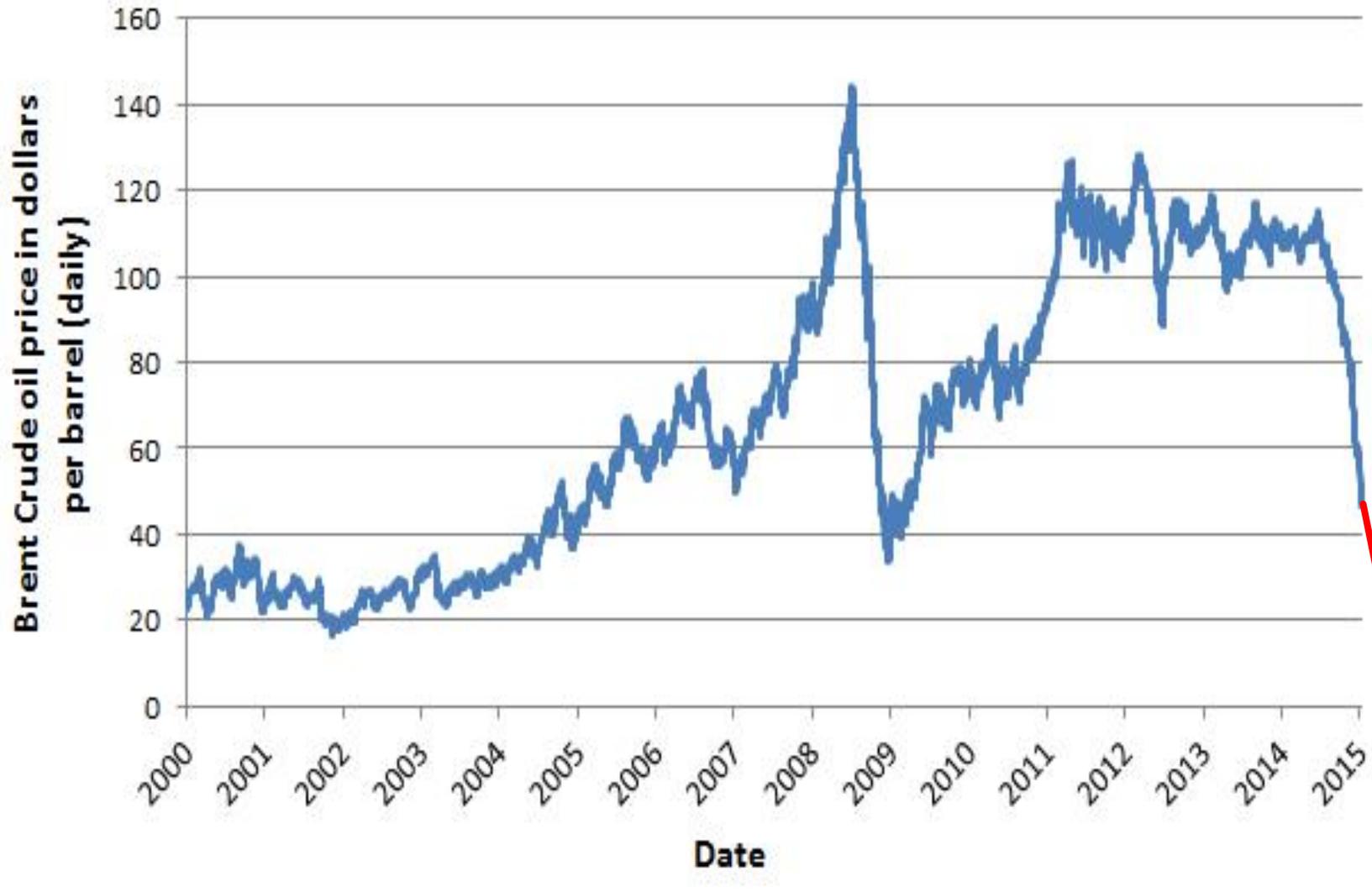
Pile of Old Cordless Style Landline Panasonic Telephones and Their Bases

THE SPEED OF CHANGE?

Major Communication Paradigm Shifts



15-YEAR OIL \$ PER BARREL COST

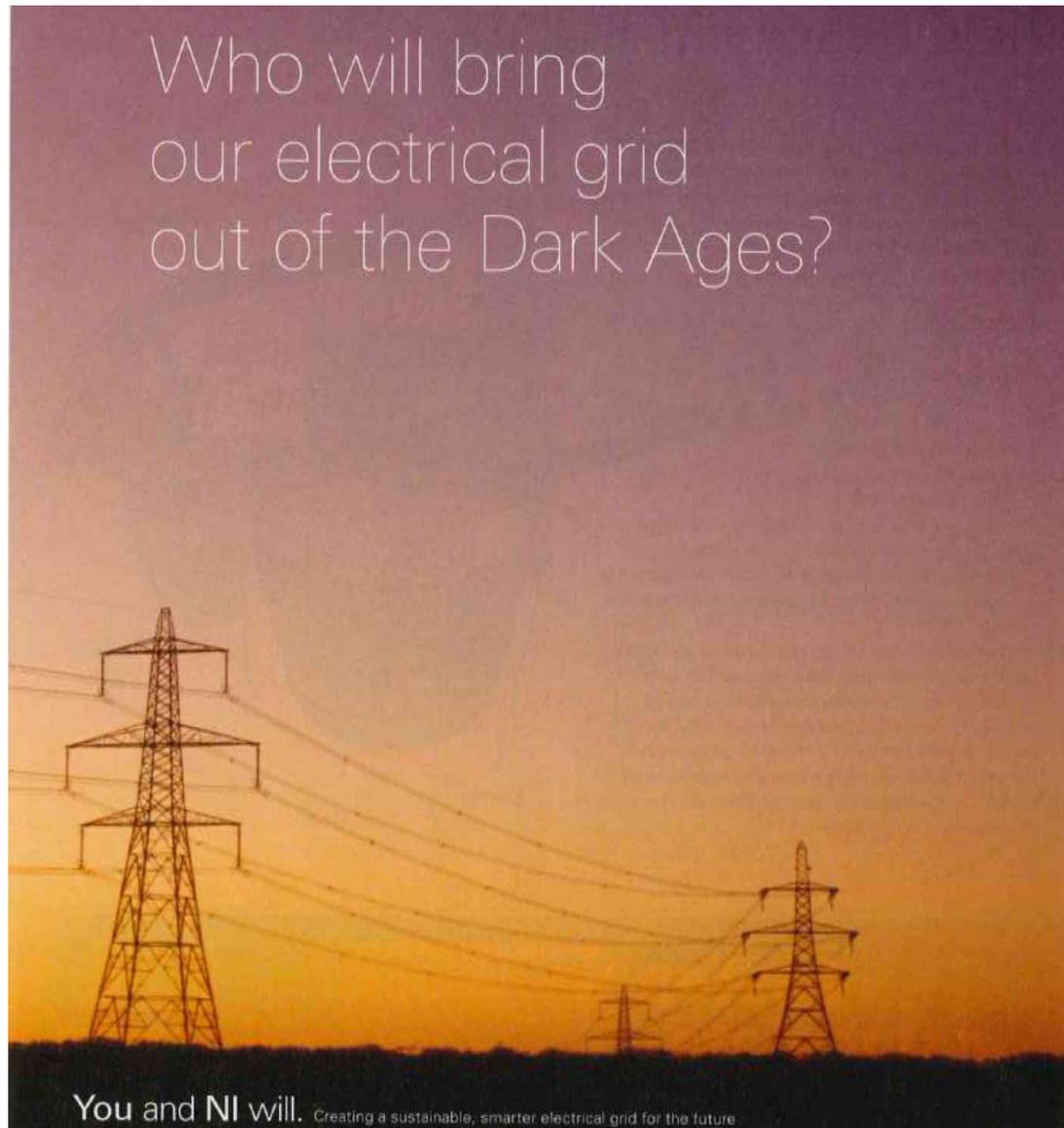


ENERGY OR INFORMATION?



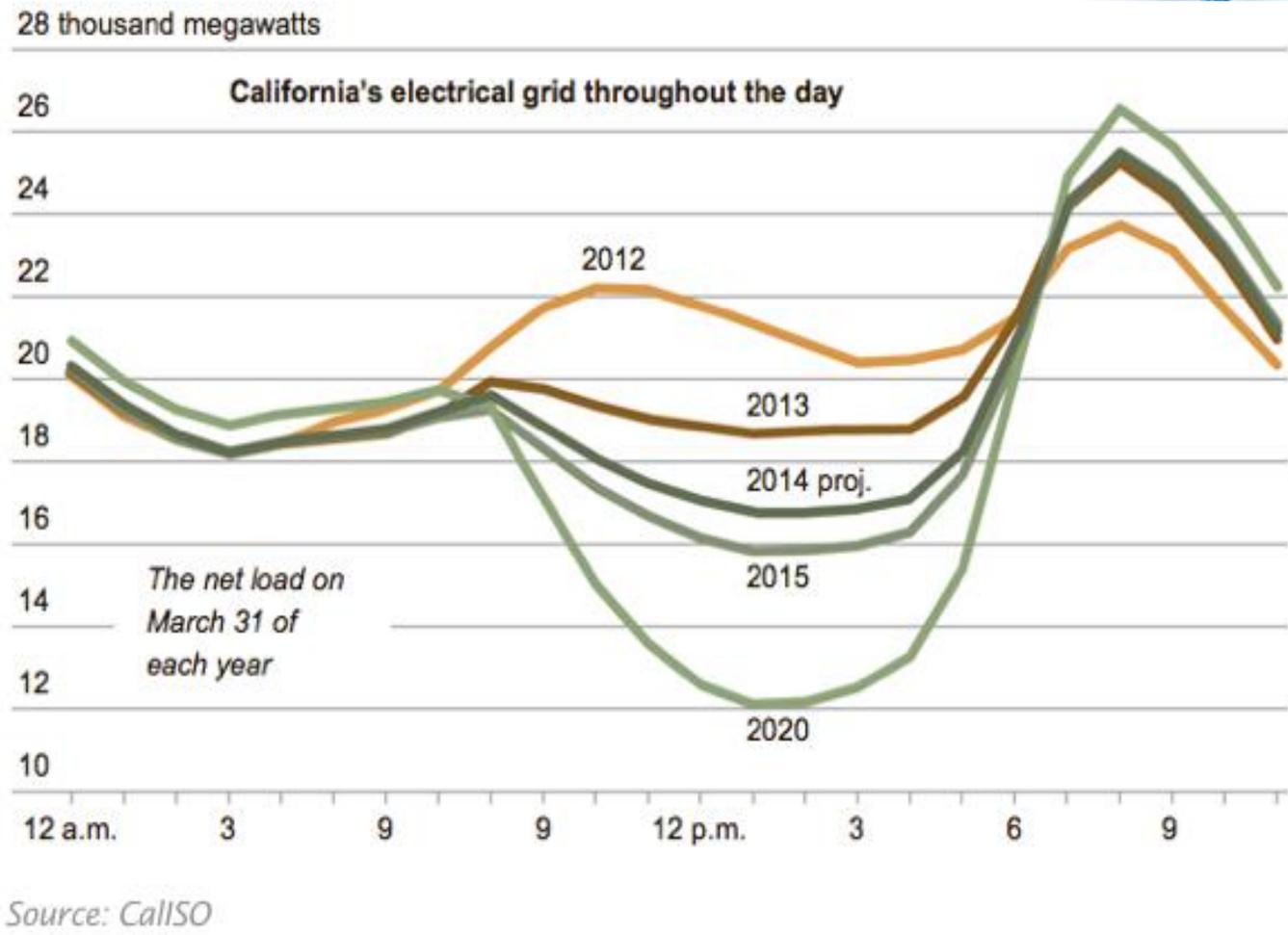
What do you see? By shifting perspective you might see a wise old woman (information) or a young woman (energy)

INFORMATION & ELECTRONS?



13 January 2016

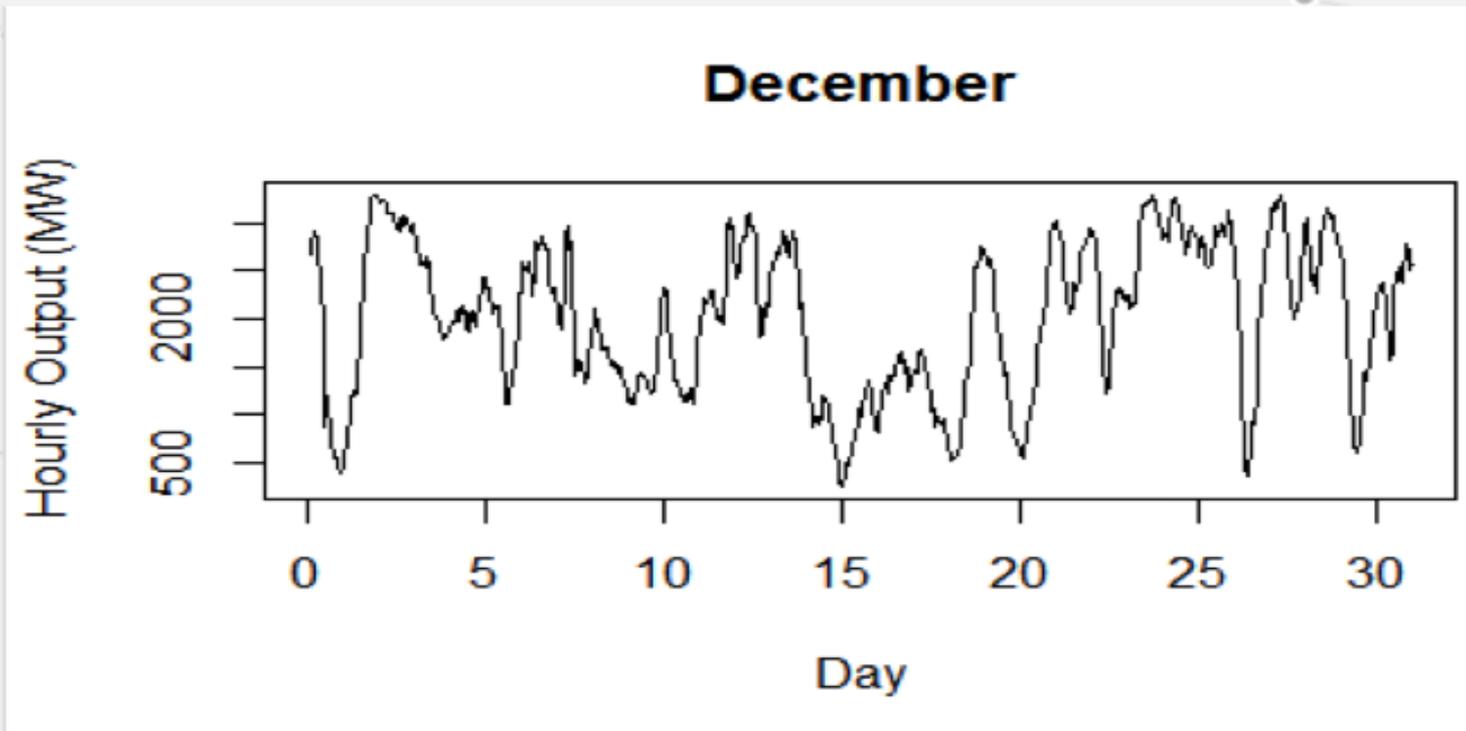
FUTURE UTILITY DUCK CURVE



NET METERING & INTERCONNECTION

<h2>CLEAN ELECTRICITY</h2> <h3>Net Metering and Interconnection Standards</h3>	
<p>Definition</p> <p>For those consumers who have their own electricity generating units, net metering allows for the flow of electricity both to and from the customer through a single, bi-directional meter. With net metering, during times when the customer's generation exceeds his or her use, electricity from the customer to the utility offsets electricity consumed at another time. In effect, the customer is using the excess generation to offset electricity that would have been purchased at the retail rate. Under most state rules, residential, commercial, and industrial customers are eligible for net metering, but some states restrict eligibility to particular customer classes.</p> <p>Standard interconnection rules establish processes and technical requirements that apply to utilities within the state and reduce uncertainty and delays that clean distributed generation systems can encounter when obtaining electric grid connection.</p>	
<p>Alaska</p>	<ul style="list-style-type: none"> • Net metering rules approved by the Regulatory Commission of Alaska (RCA) <ul style="list-style-type: none"> – The rules must be finalized by an order and signed by the lieutenant governor; • Utilities with retail sales of less than 5,000,000 kilowatt-hours (kWh) exempt from offering net metering; • Renewable energy systems with a capacity up to 25 kilowatts (kW) eligible; and • Overall enrollment is limited to 1.5% of a utility's retail sales from the previous year <p><i>Approved final net metering rules were finalized in January 2010 (became effective January 15, 2010).</i></p> <ul style="list-style-type: none"> • <i>Exempted utilities that either generate 100% of electricity from approved renewable energy sources or from other low environmental impact sources approved by the RCA.</i> • <i>Net excess generation is reconciled monthly, with the utility crediting the customer-generator's account for the excess kWh generation multiplied by the "non-firm power rate." These dollar amount credits do not expire and can be applied to subsequent monthly bills.</i>

What are Renewable Power Characteristics?



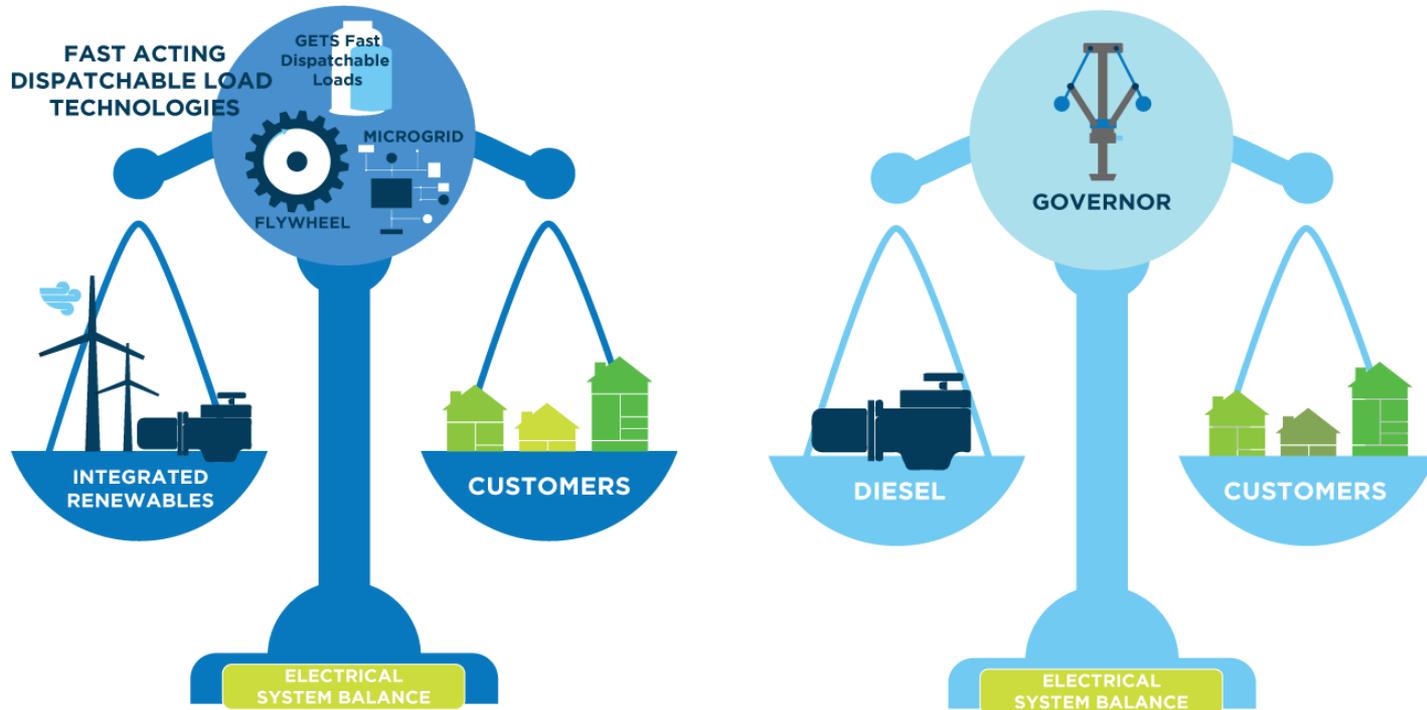
UK Wind Output – December 2011

Solar Power Output Variability

13 January 2016



BALANCING GENERATION & LOADS



- **Broadly dispatching fast-acting dispatchable load technologies will allow integrated renewable systems to increase wind power resources - by providing effective regulation of the power grid.**
- Renewable energy resources are naturally variable in their generation. Wind ramps up and down quickly – and isn't often, if ever, in sync with the ups and downs of the demands on the grid.
- Fast acting dispatchable loads alleviate variability while addressing the need for grid management and the ability to regulate available power.
- Providing a consistent energy supply within a grid that inherently varies its demand highlights the stability challenge faced by the operator.

INFORMATION, ELECTRONICS & TEAMWORK REQUIRED FOR SUSTAINABILITY

- Leadership, Teamwork and collaboration with:
 - Community & Community Leaders
 - Electric utility & fiber internet provider
 - Commercial and residential utility customers
 - State & Federal agencies
 - Alaska Energy Authority (AEA)
 - Regulatory Commission of Alaska (RCA)
 - Alaska Housing Finance Corporation (AHFC)
 - Alaska Industrial Development & Export Authority (AIDEA)
 - Alaska Division of Community & Regional Affairs (DCRA)
 - U. S. Department of Agriculture (USDA)
 - U.S Department of Energy (DOE)
 - U. S. Department of Transportation (DOT)
 - Financial Partners & investors
 - Project Developers, advisors, & consultants



Questions?

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