

Strategic Planning Session

Environmental Scan and Industry Review

Feb, 2014

Privileged and Confidential



Change & Opportunity

A green road sign with white text that reads "Change Just Ahead". The sign is mounted on two wooden posts and is set against a background of a blue sky with white clouds. The sign has a white border and is slightly tilted.

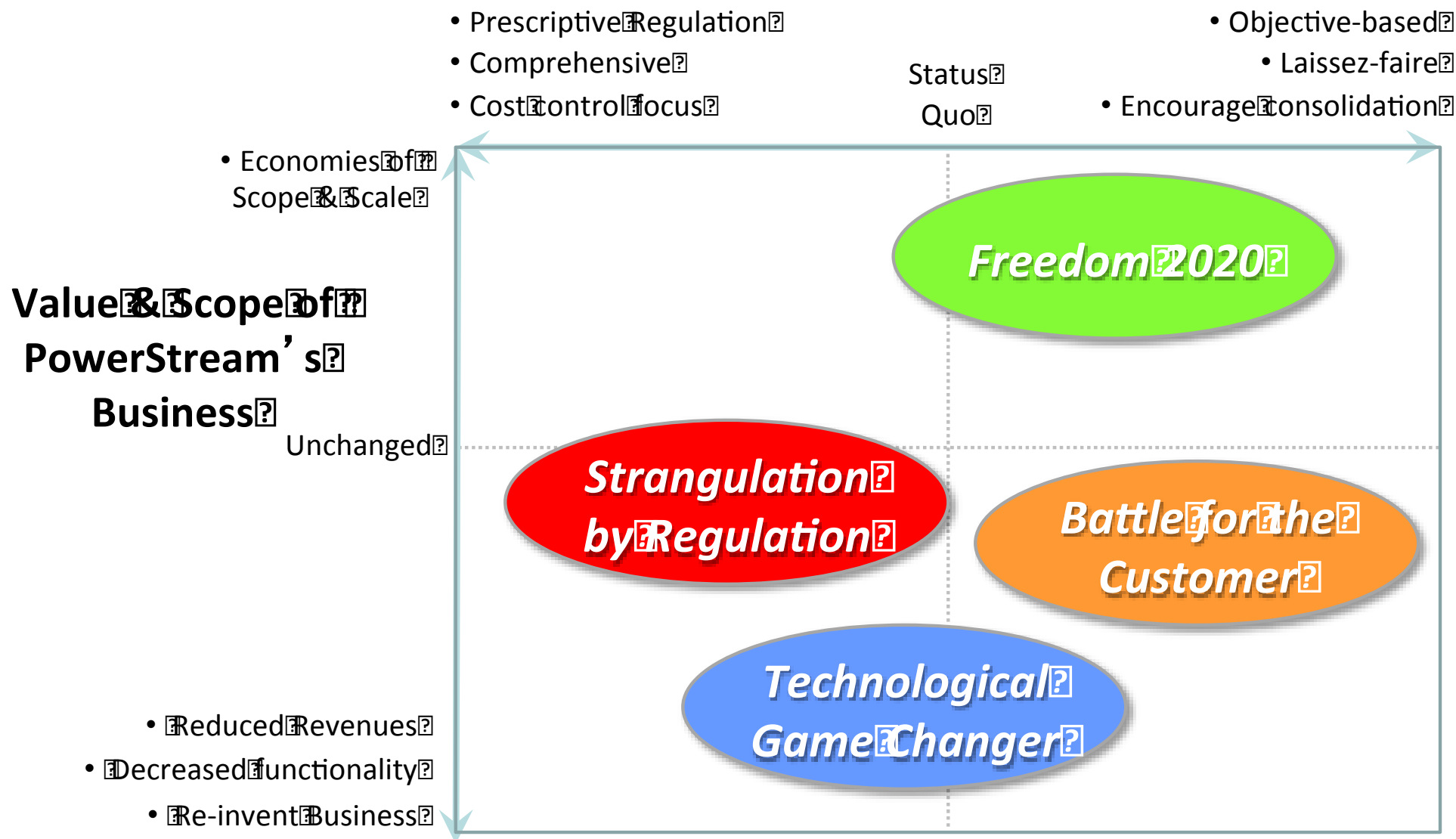
Change
Just Ahead



Forces of Change

Scenarios & Signposts

Operating Environment



Strangulation by Regulation:

- Custom IR - still not clear if capital funding problem has been addressed
- Seemingly endless OEB consultations, issues often not resolved
- Time needed to get a Sub-metering Licence
- Affiliate Relationship Code is out of step with changing industry
- Political pressure on regulators to keep rates down

Battle for the Customers:

- More “behind the meter” offerings
- Greater acceptance and use of distributed generation

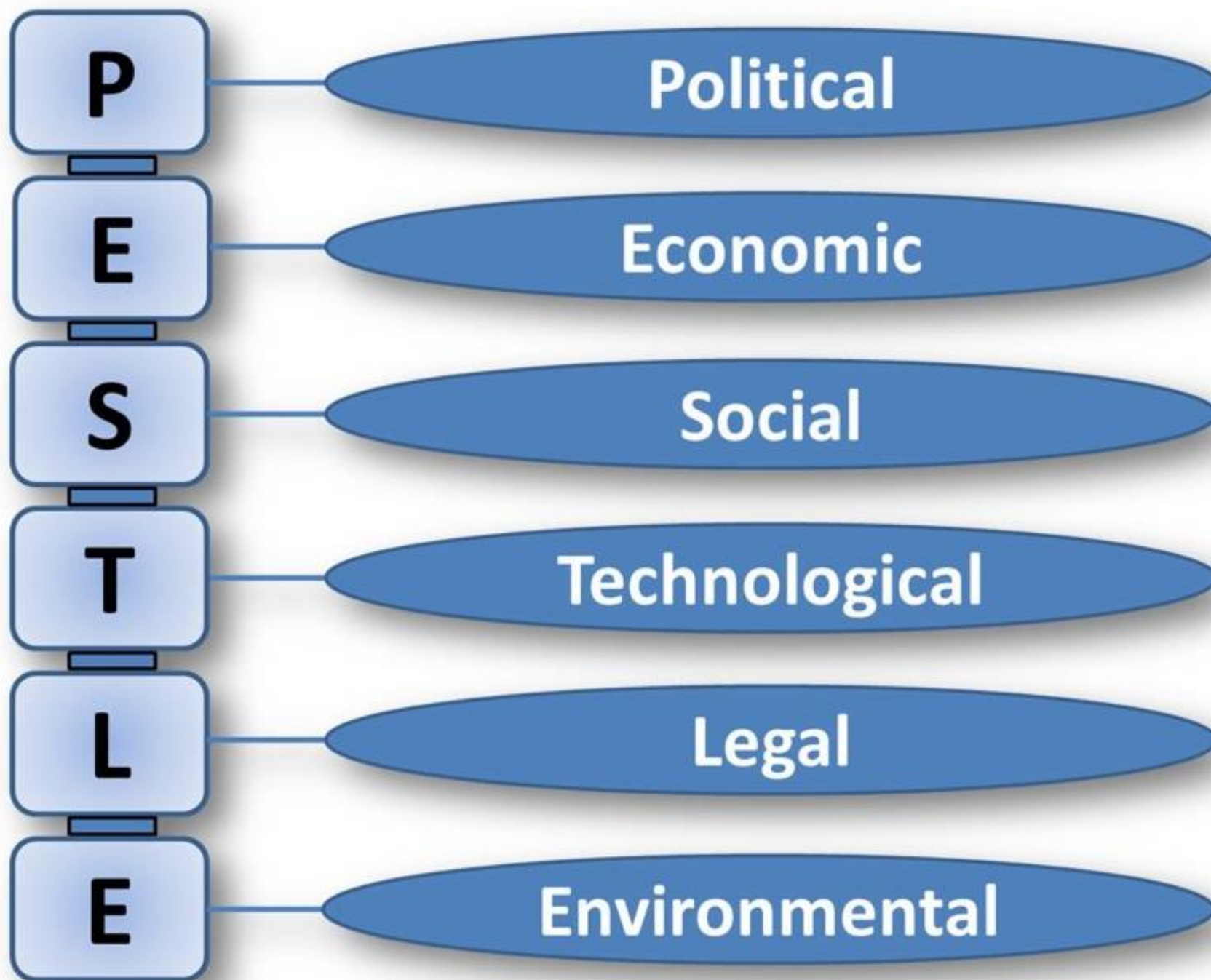
Technological Game Changer:

- Microgrids, Combined Heat & Power
- Advances in energy storage
- Declining cost of solar panels
- “Net zero” homes and buildings
- Smart devices (Internet of Everything)
- New, yet unknown technologies to come

Freedom 2020:

- Distribution Sector Panel Report will not be enacted by government
- Lots of chatter but few deals
- Many “entrenched” distributors
- Hydro One offers to purchase 30-40 distributors
- Potential restrictions on use of proceeds
- Hydro one Brampton may be in play
- Norfolk, Brant, Midland, Guelph

ENVIRONMENTAL SCAN



PESTLE

What's Been Happening?

Novartis to close plant in Mississauga, cut 300 jobs

EB-2015-0003
PowerStream Inc.
Oral Hearing Undertakings
Appendix J1.5
Page 12 of 127
Filed: November 23, 2015

[TAVIA GRANT](#) AND [GREG KEENAN](#)

THE GLOBE AND MAIL 

[The Globe and Mail](#)

Published Thursday, Dec. 12 2013, 5:49 PM EST

Last updated





FOOD AND BEVERAGE

Heinz to close Ontario factory, trim 740 jobs

[ERIC ATKINS](#)

The Globe and Mail (includes correction)

Published Thursday, Nov. 14 2013, 3:06 PM EST

Last updated Thursday, Nov. 21 2013, 7:02 PM EST



Kellogg's to close London plant, 500 jobs lost

The Kellogg's plant in London, Ont., will close by the end of 2014, resulting in the loss of more than 500 full-time jobs.



U.S. Steel closing steelmaking operations at Hamilton plant

CEO Mario Longhi told investors Tuesday the iron and steelmaking operations at the old Stelco plant will be permanently shut down on Dec. 31, ending more than a century of steel production at the plant.



Bradford's Faurecia plant closing its doors in 2015

Miriam King, OMI AGENCY

Friday



Cisco Canada to invest up to \$4B in Ontario, create 1700 jobs

Amid cries of corporate welfare, Premier Kathleen Wynne signed a 10-year deal with Cisco that she said will expand the company's current Ontario workforce to 3,000 over the next six years and 5,000 within a decade

BY [MARIA BABBAGE THE CANADIAN PRESS](#) ON DECEMBER 13, 2013 4:52PM

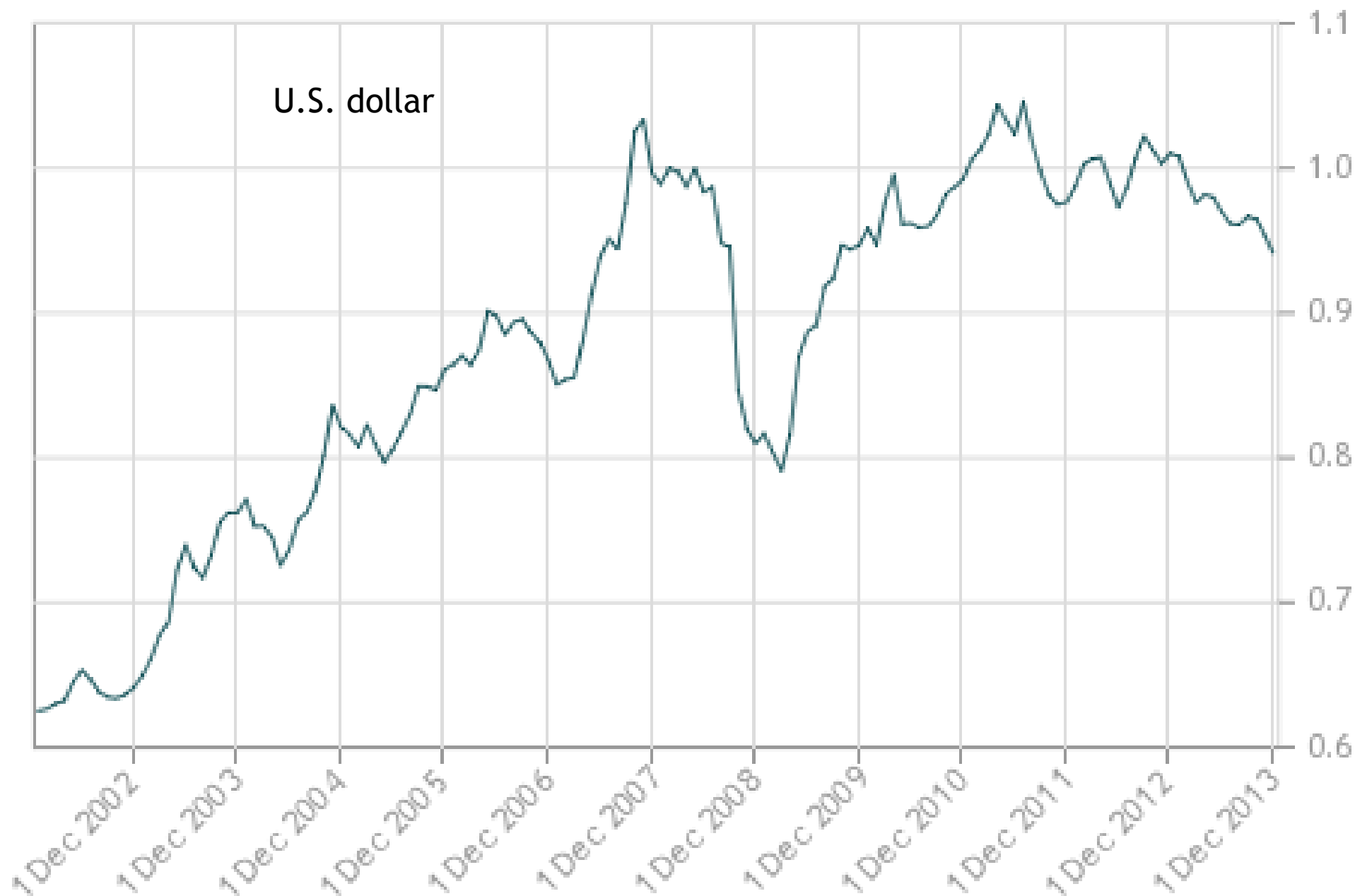


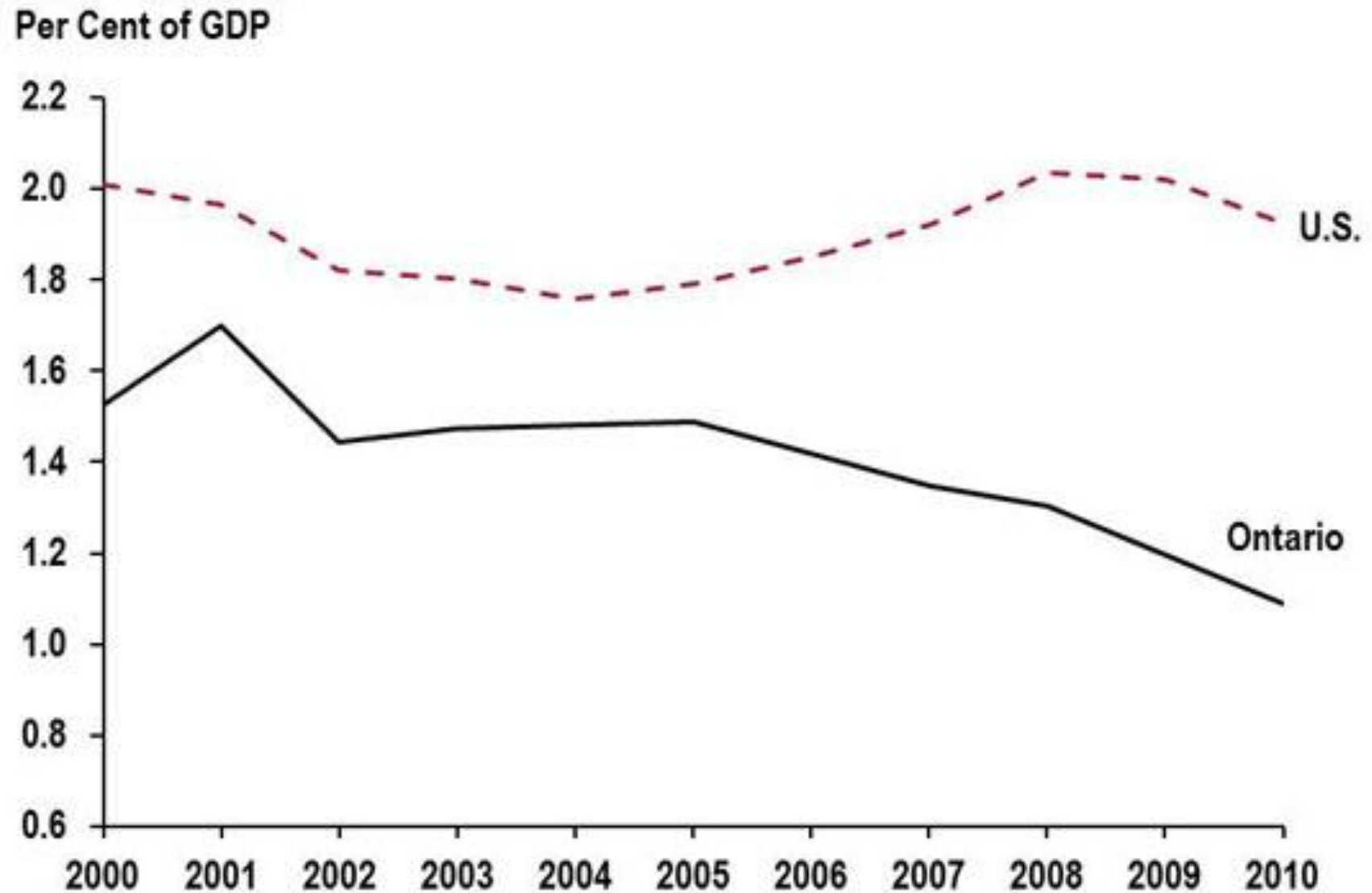
Potential Reasons for Ontario Manufacturing Job Losses

- Global Economy
- 2008 Economic Downturn
- High Canadian Dollar
- No Offsetting Investment in Machinery or Equipment
- No/Low Productivity Gains

Canadian and Ontario Economy

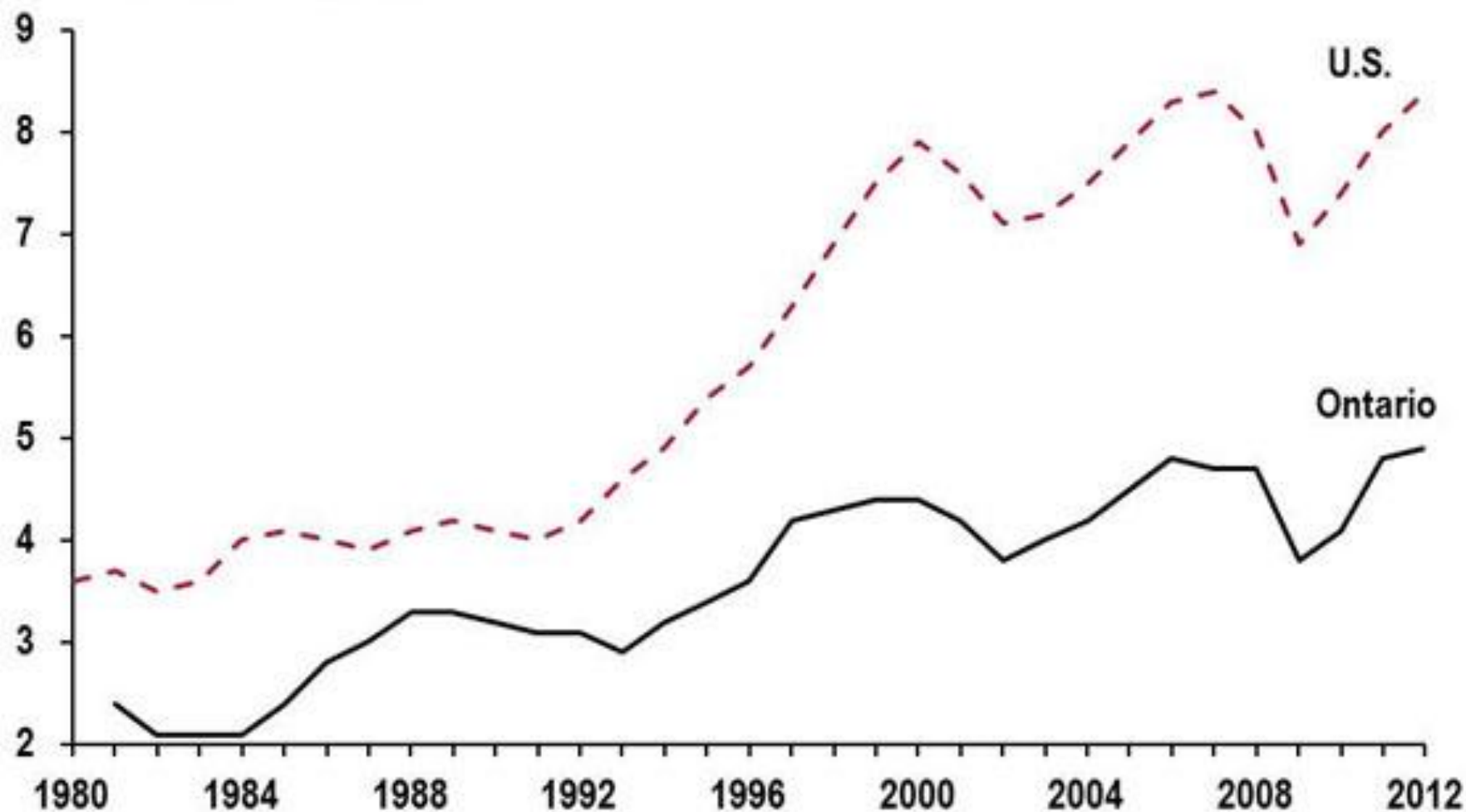
Canadian dollar vis-a-vis selected currencies





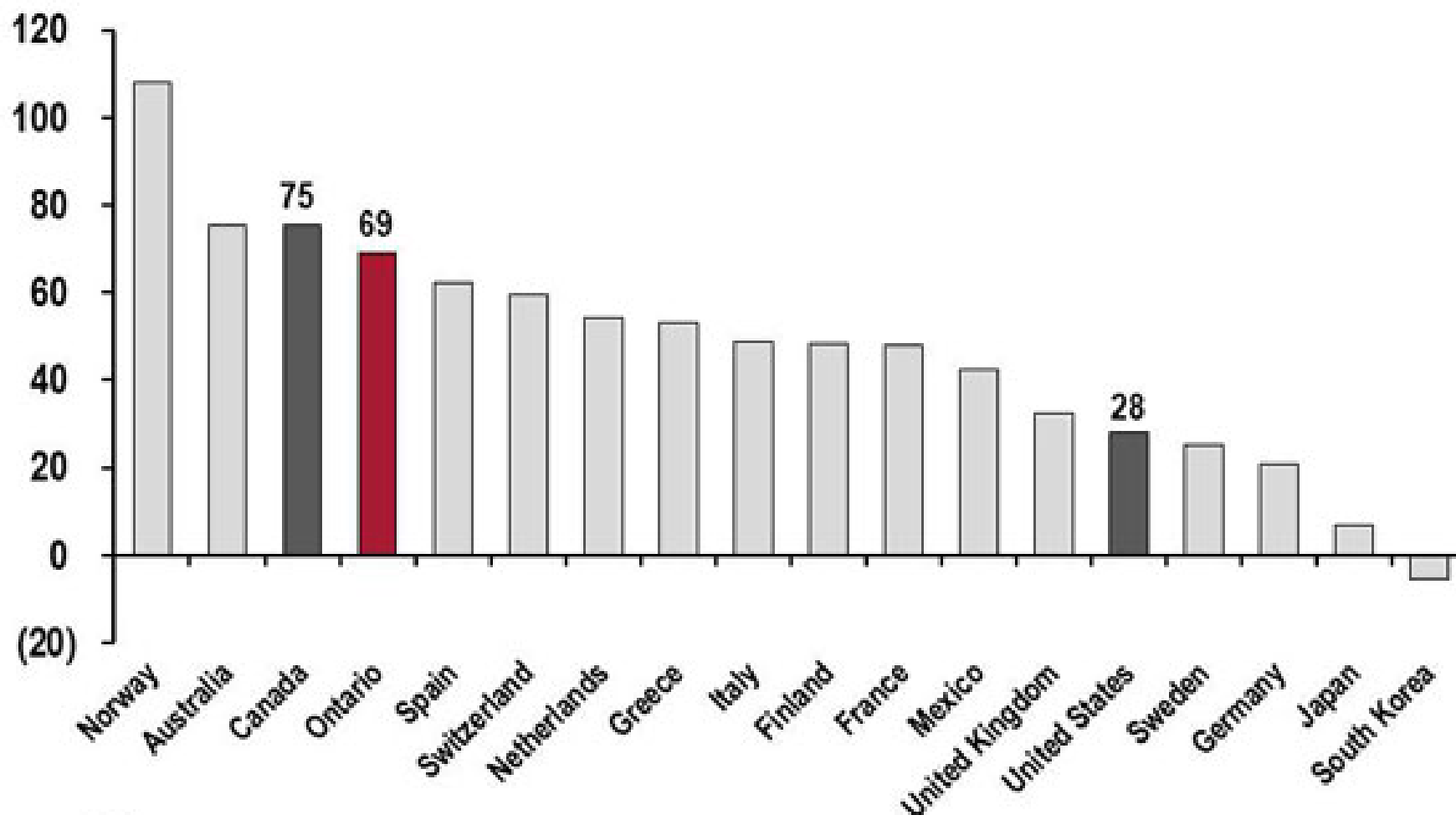
Sources: Bureau of Economic Analysis, National Science Foundation and Statistics Canada.

**Machinery and Equipment Investment
as a Per Cent of Real GDP**



Sources: Statistics Canada, U.S. Bureau of Economic Analysis and Ontario Ministry of Finance.

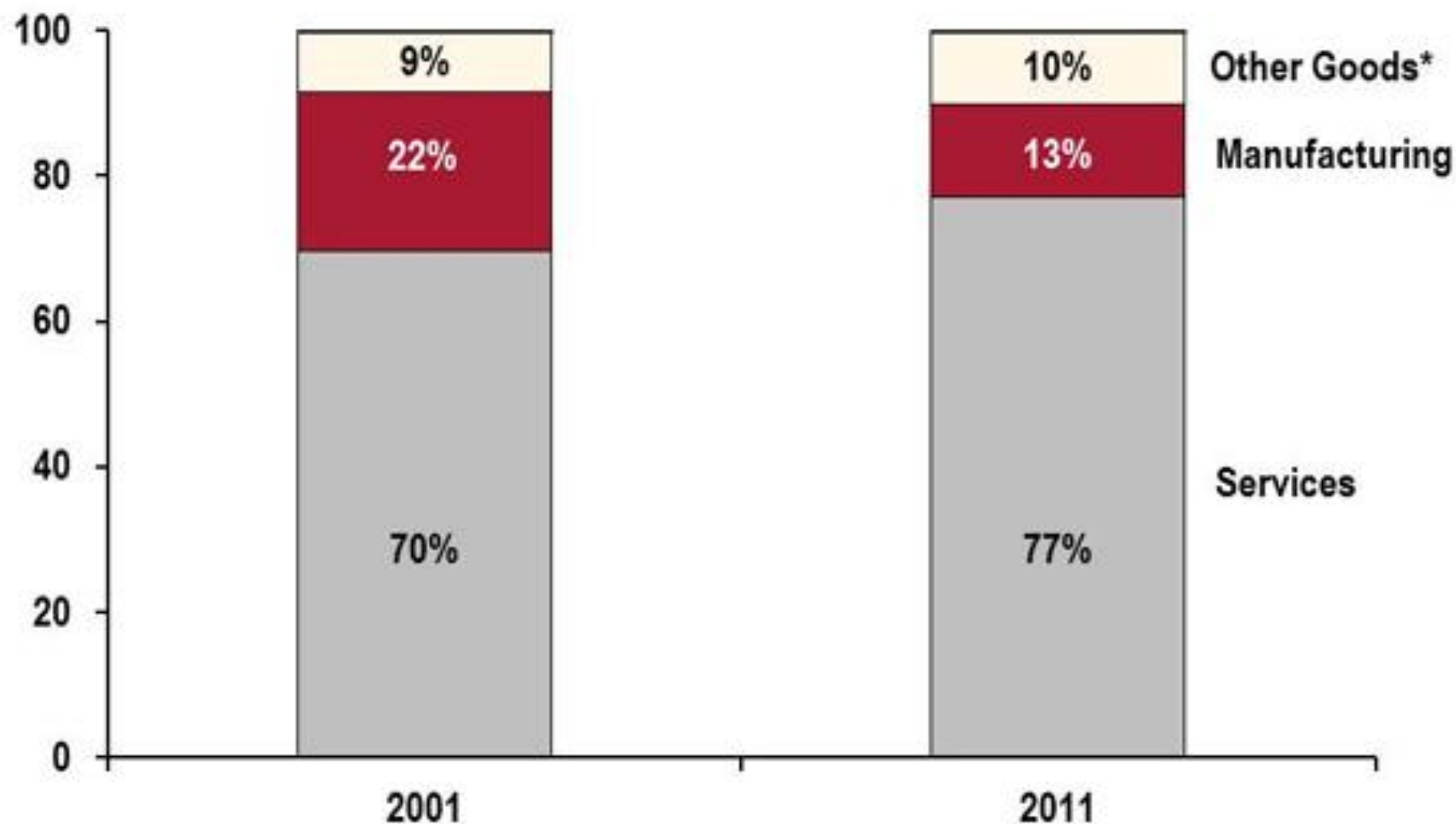
Total Economy Unit Labour Cost, \$ US Market Exchange Rate, 1997–2010
(Per Cent Change)



Note: 2010 or latest available year.

Sources: Organisation for Economic Co-operation and Development and Ontario Ministry of Finance.

Share of Nominal GDP
(Per Cent)



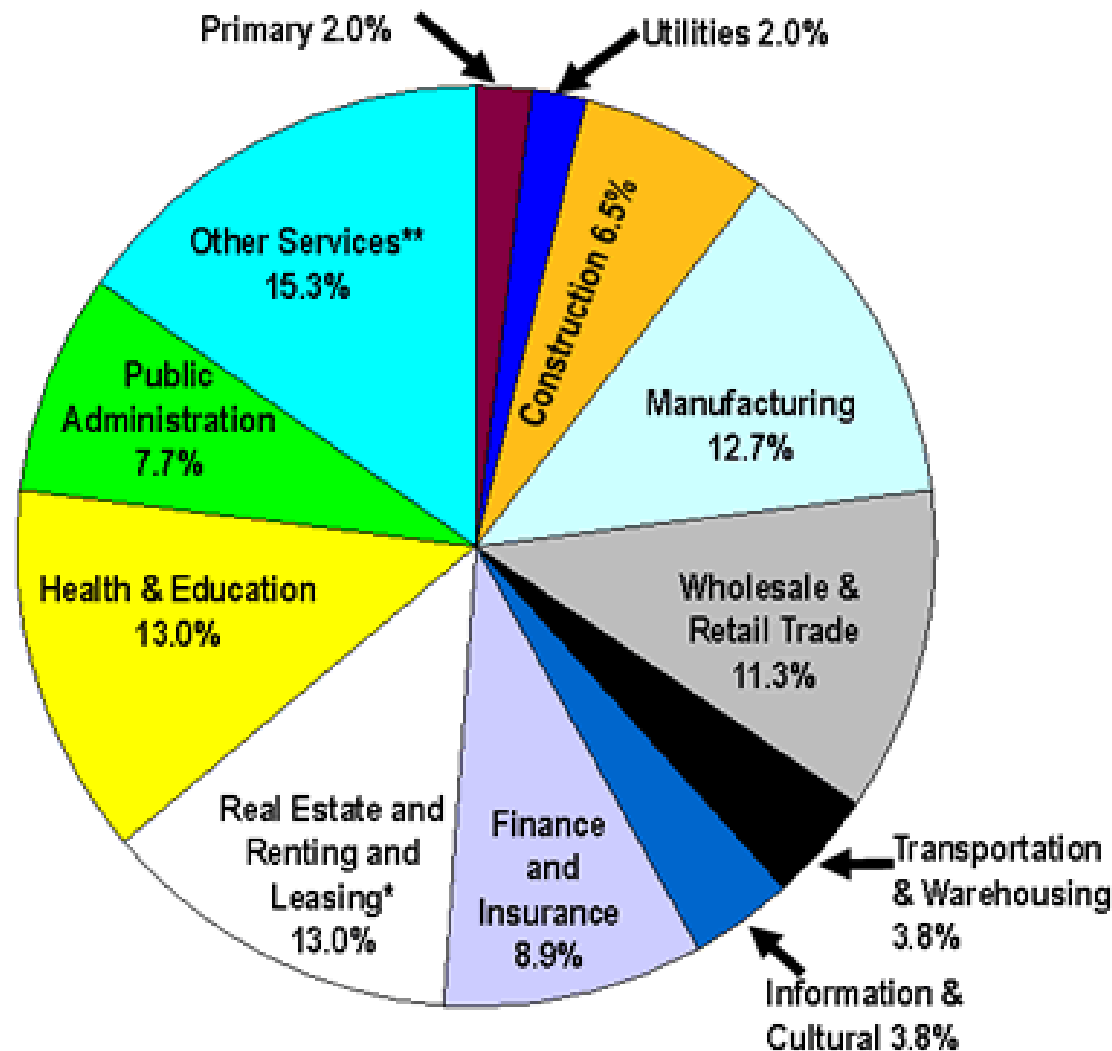
Note: Components may not add to total due to rounding.

*Other Goods includes the primary, utilities and construction industries.

Sources: Statistics Canada and Ontario Ministry of Finance.

Structure of the Ontario Economy, 2012

Per Cent Share of Nominal GDP



Sources: Statistics Canada and Ontario Ministry of Finance

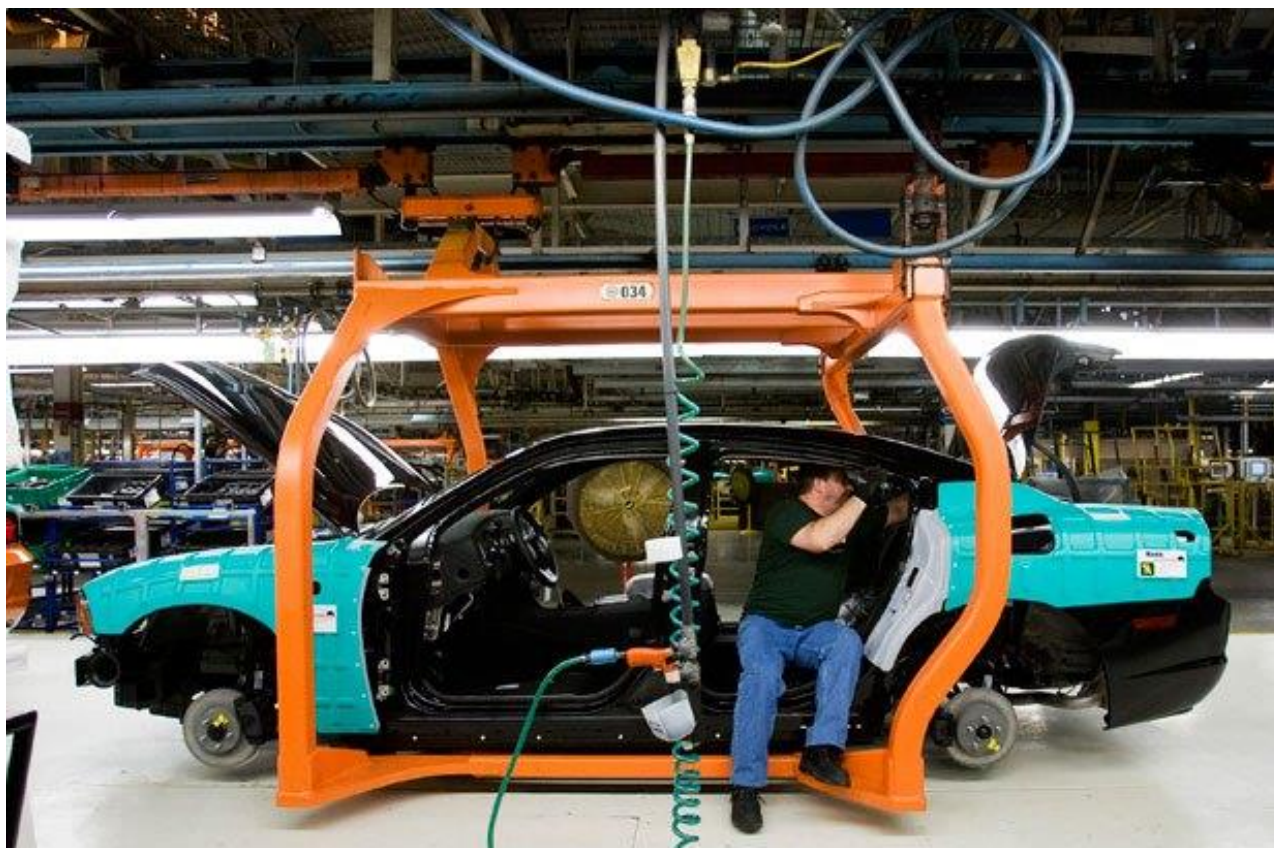
*Includes owner occupied dwellings.

**Includes professional, scientific and technical services; management of companies and enterprises; administrative support and waste management; arts, entertainment and recreation; accommodation and food services; and other services.

The latest evidence Canada's economy could be ready to stage a comeback? Ontario's outlook

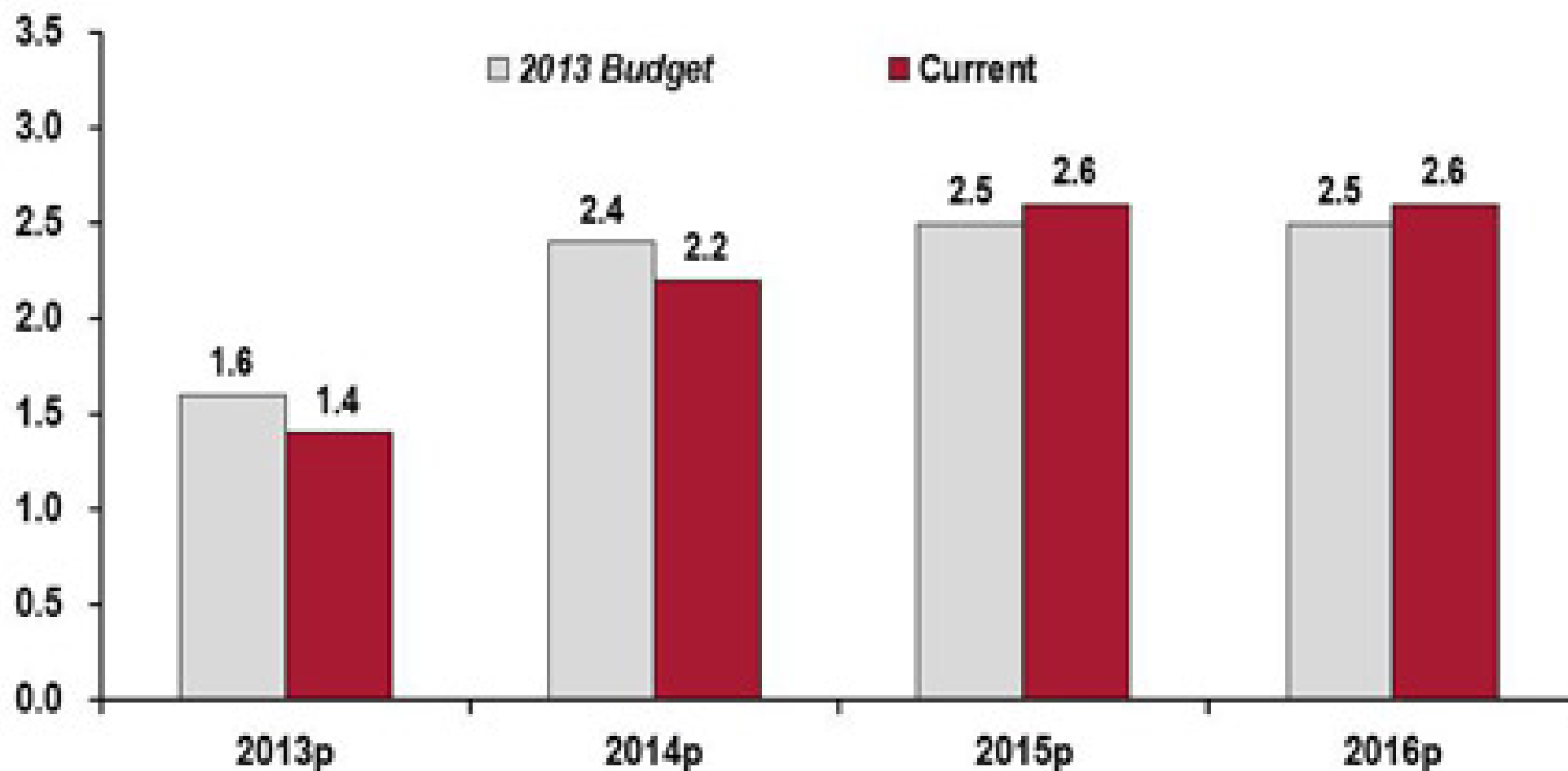
[Bloomberg News](#) | January 6, 2014 | Last Updated: Jan 6 1:58 PM ET

[More from Bloomberg News](#)



Weaker Private-Sector Outlook for Growth in 2013 and 2014

Projections for Ontario Real GDP Growth
(Per Cent)



p = private-sector survey average projection.

Source: Ontario Ministry of Finance Survey of Forecasts.

Table 2.1 Ontario Economic Outlook

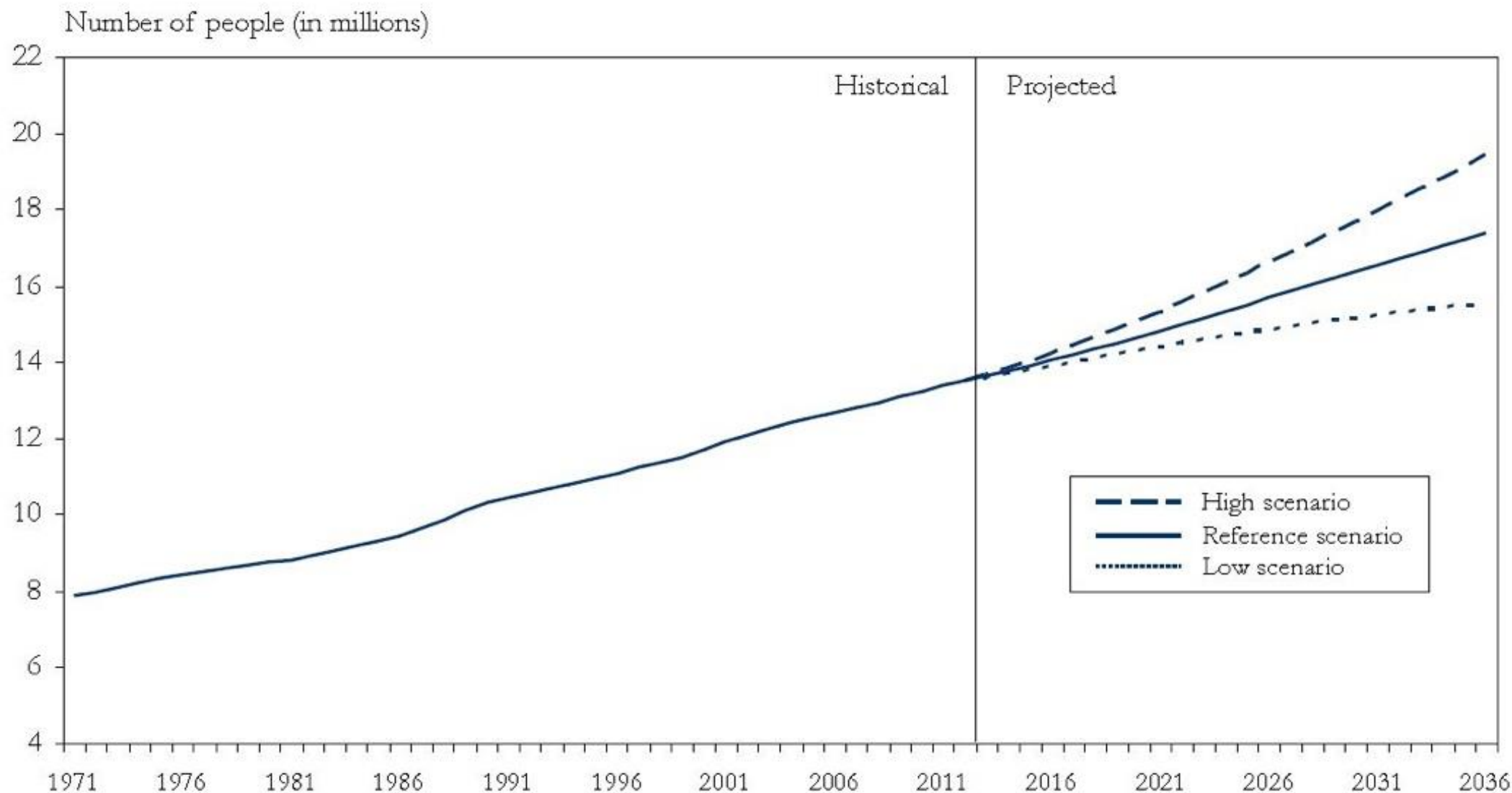
	2013p	2014p	2015p	2016p
Real GDP Growth	1.3	2.1	2.5	2.5
Nominal GDP Growth	2.5	3.8	4.3	4.3
Employment Growth	1.5	1.4	1.6	1.5
CPI Inflation	1.1	1.8	2.0	2.0

p = Ont. Ministry of Finance planning projection

Population Demographics

Ontario Population Growth - (1971 to 2036)

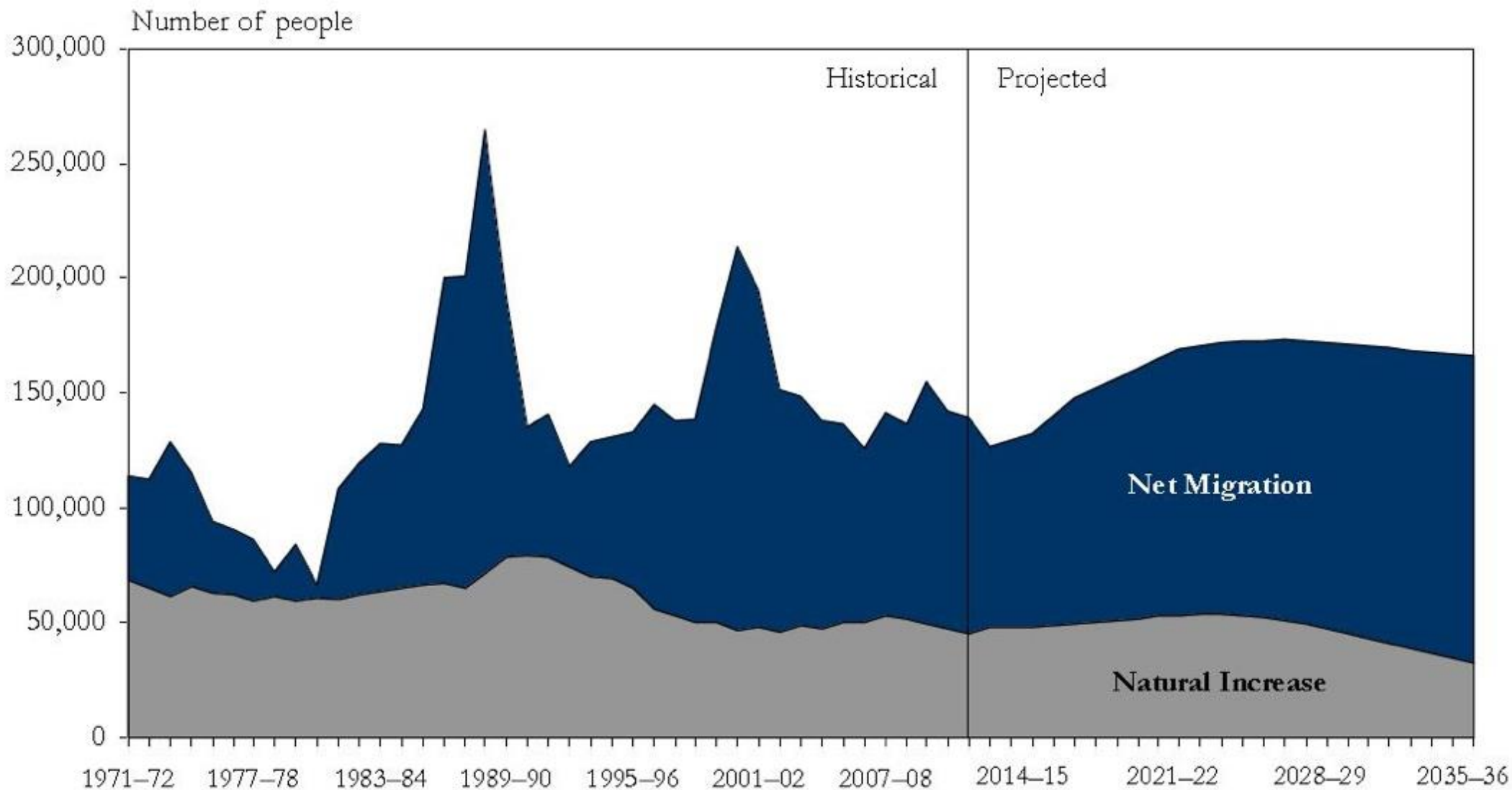
EB-2015-0003
PowerStream Inc.
Oral Hearing Undertakings
Appendix J1.5
Page 30 of 127
Filed: November 23, 2015



Sources: Statistics Canada, 1971–2012, and Ontario Ministry of Finance projections.

Ontario Population Growth - Natural Increase and Net Migration (1971 to 2036)

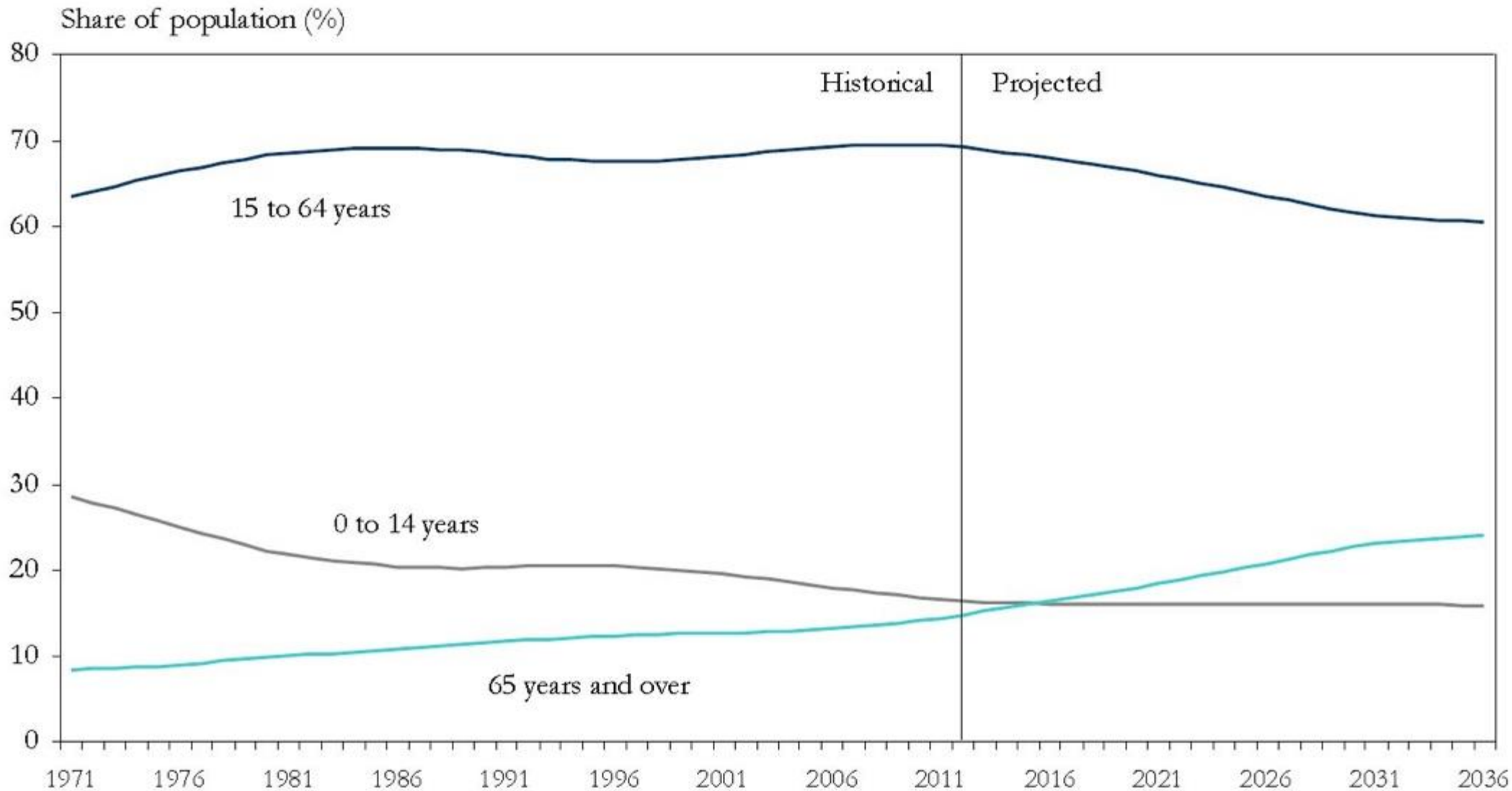
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Power Generation
Environmental
Appendix J1.5
Page 31 of 127
Filed: November 23, 2015



Sources: Statistics Canada, 1971-2012, and Ontario Ministry of Finance projections.

Ontario Population Proportion - (1971 to 2036)

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Appendix J1.5
Page 32 of 127
Filed: November 23, 2015



Sources: Statistics Canada, 1971–2012, and Ontario Ministry of Finance projections.

Population of Ontario regions, 2012 and 2036



Sources: Statistics Canada, 2012, and Ontario Ministry of Finance projections.

Population Share - Ontario Regions (1986 to 2036)

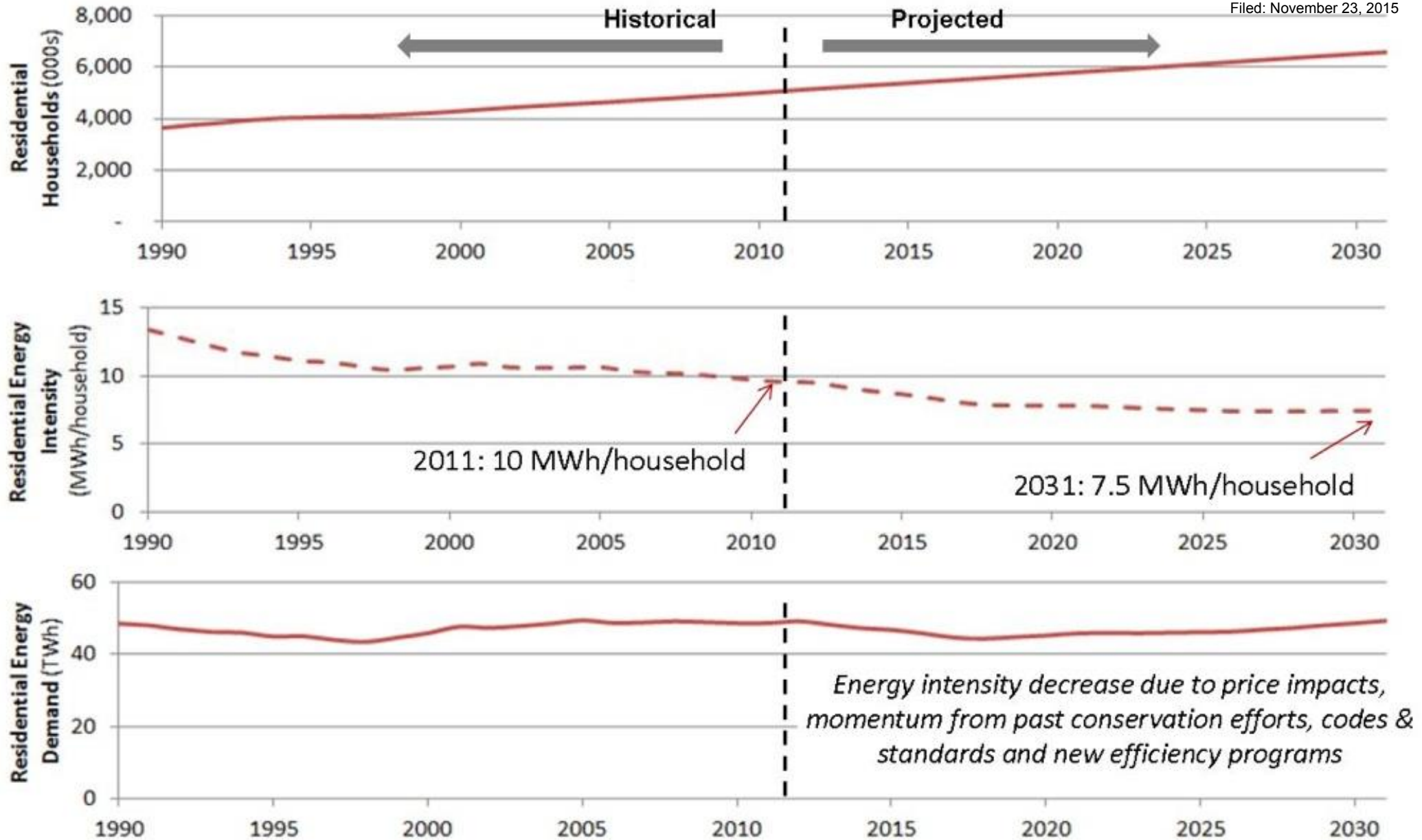
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Appendix J1.5
Page 34 of 127
Filed: November 23, 2015

Share of Ontario Population (%)	1986	1996	2011	2016	2026	2036
GTA	41.4	43.0	47.3	48.3	50.0	51.5
Central	21.8	22.2	21.6	21.5	21.1	20.9
East	14.0	13.8	13.0	12.9	12.9	12.7
Southwest	14.1	13.4	12.0	11.6	10.9	10.2
Northeast	6.2	5.4	4.2	4.0	3.6	3.2
Northwest	2.6	2.3	1.8	1.7	1.6	1.4

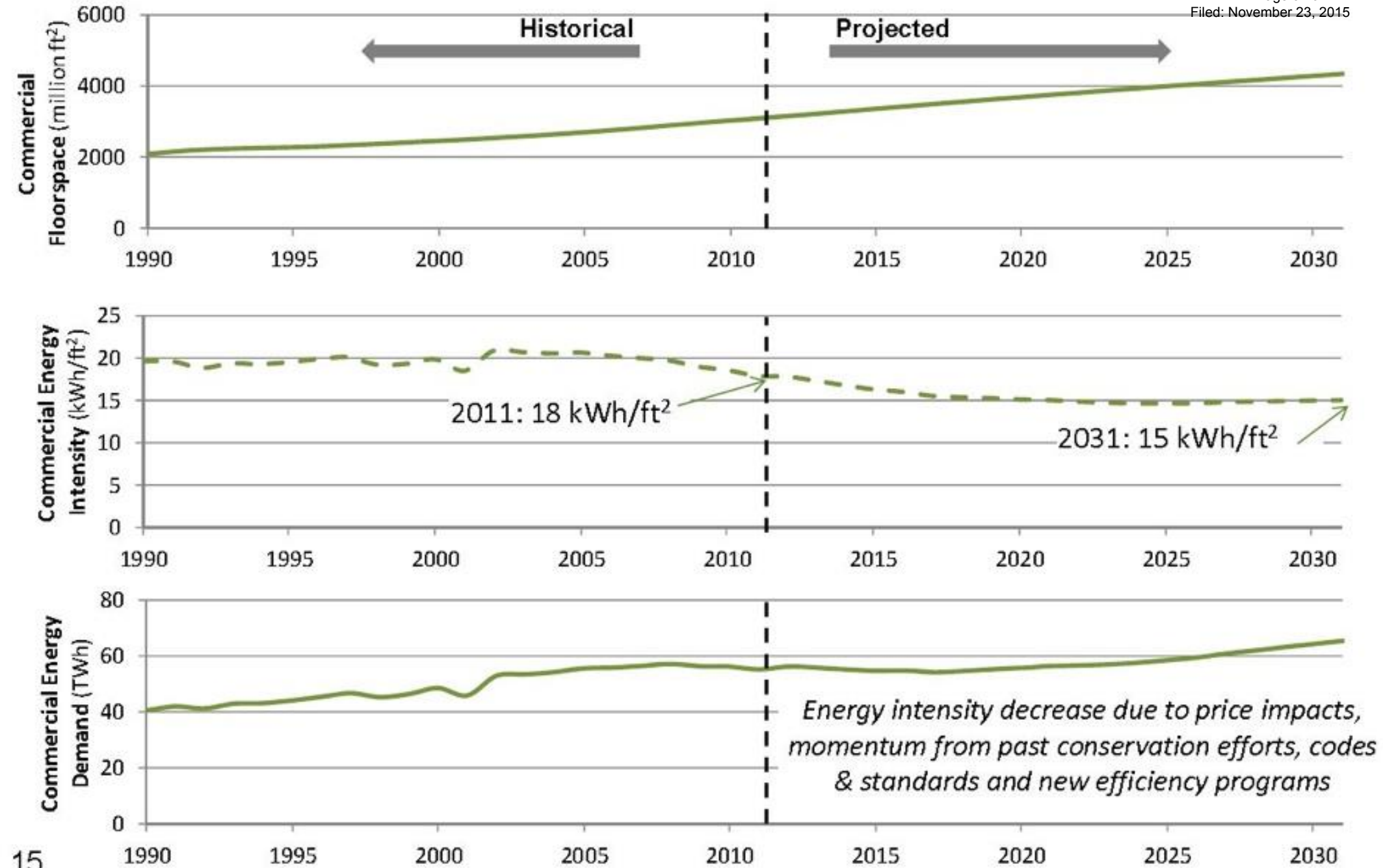
Sources: Statistics Canada, 1986–2011, and Ontario Ministry of Finance projections.

Energy Demand

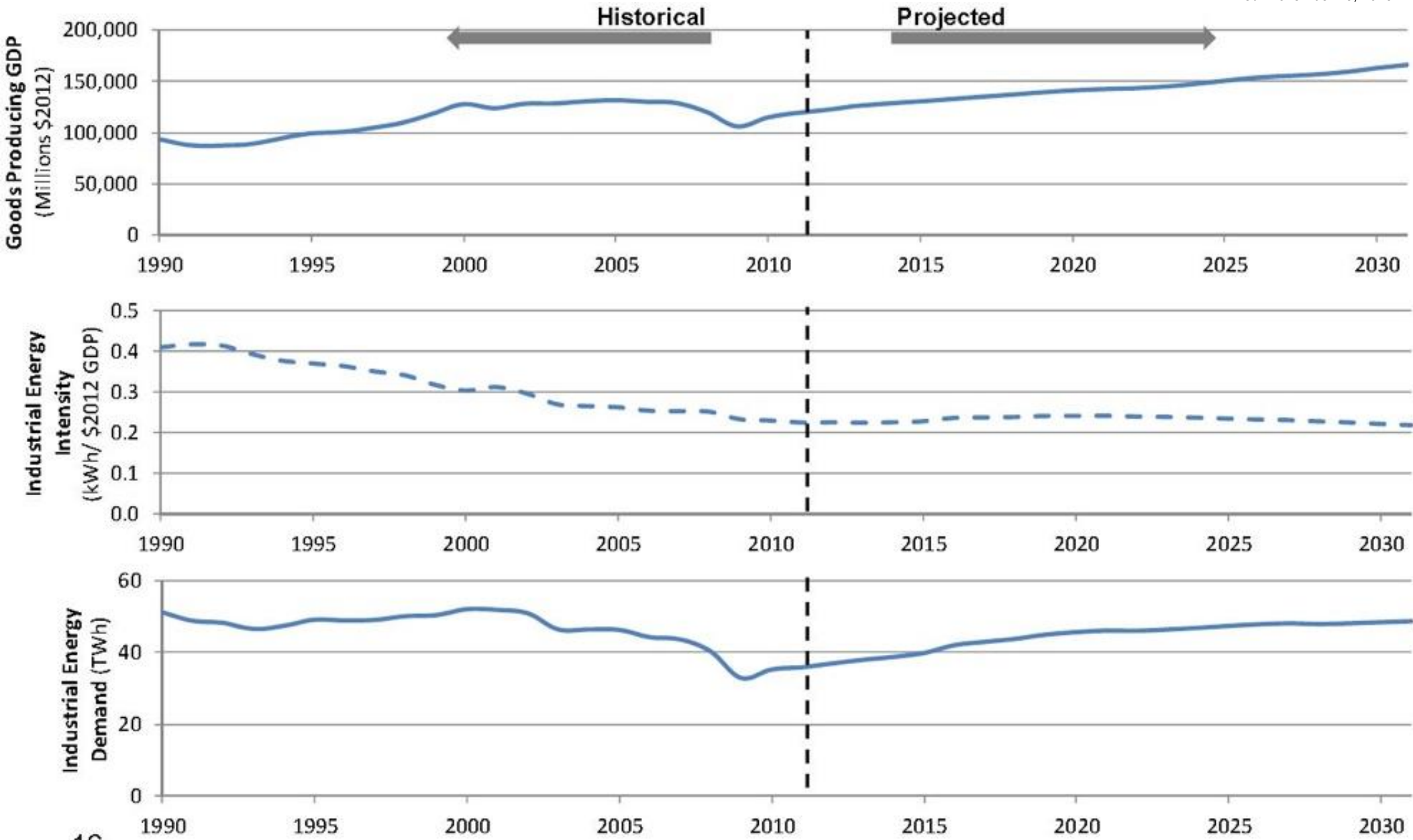
Households



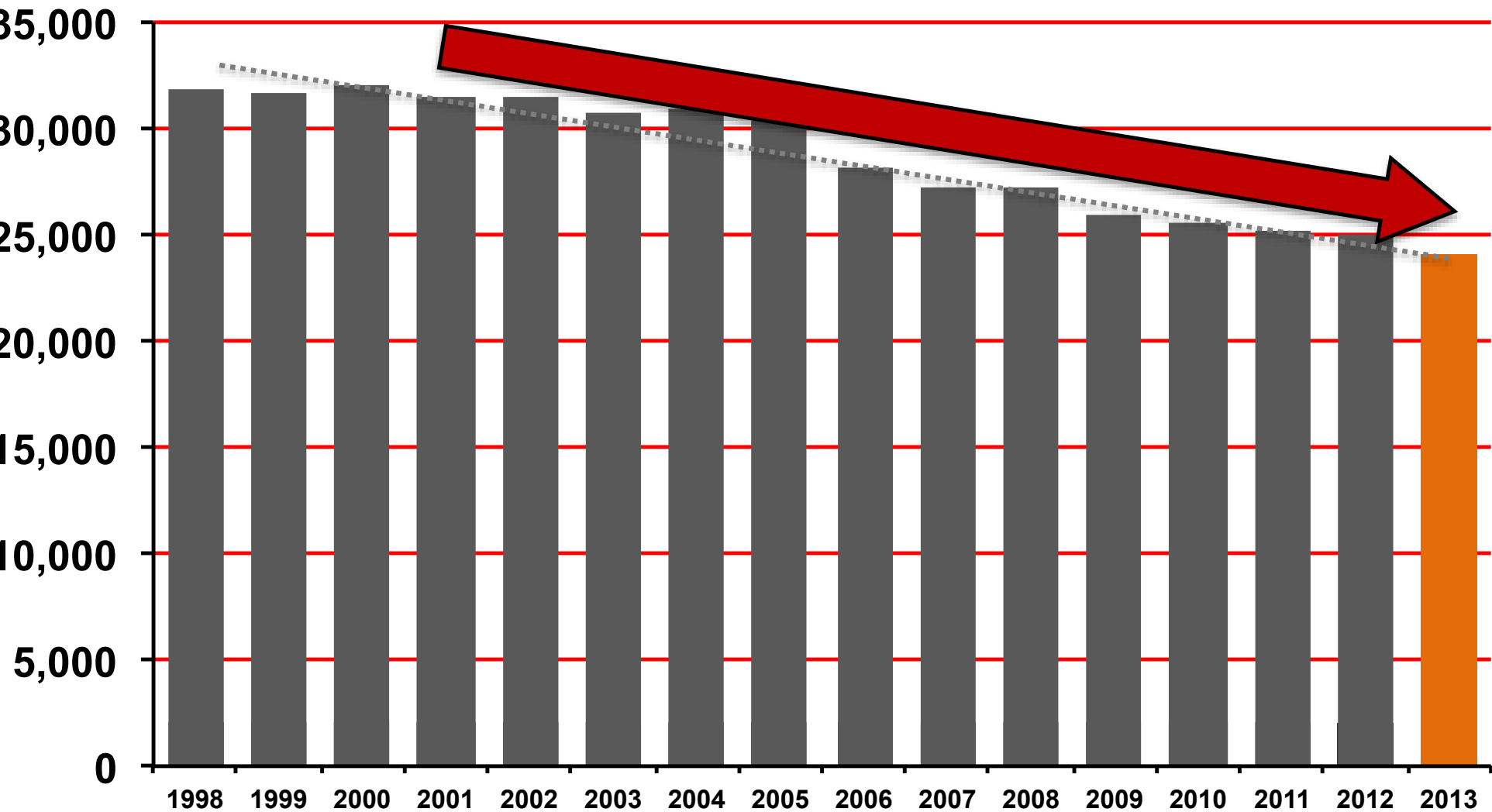
Commercial



Industrial



Total Normalized Energy Sales per Customer (1998 - 2013)



Energy Demand

Gross Energy Demand (before taking into account energy efficiency) Forecast 2003 – 2031

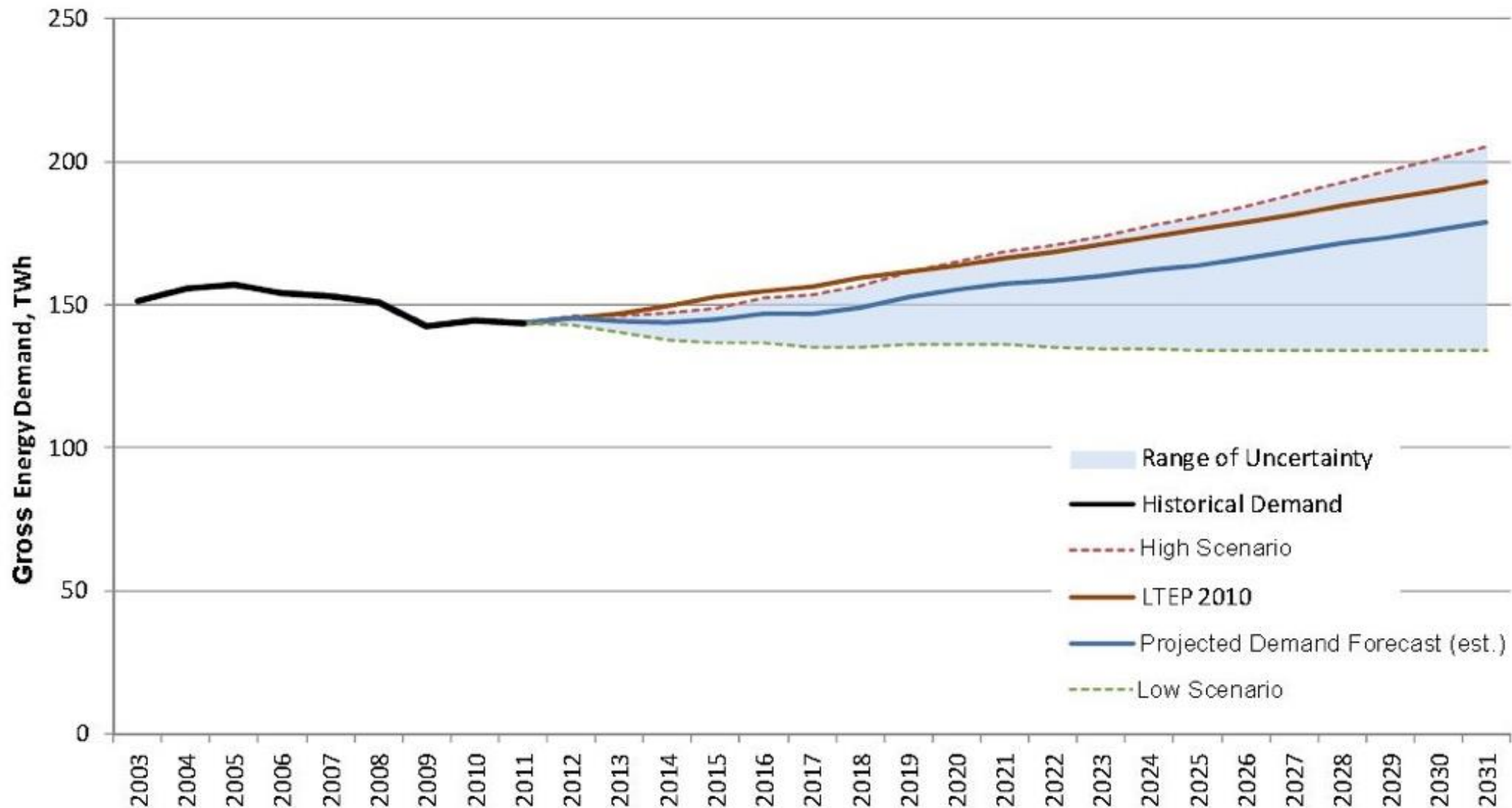
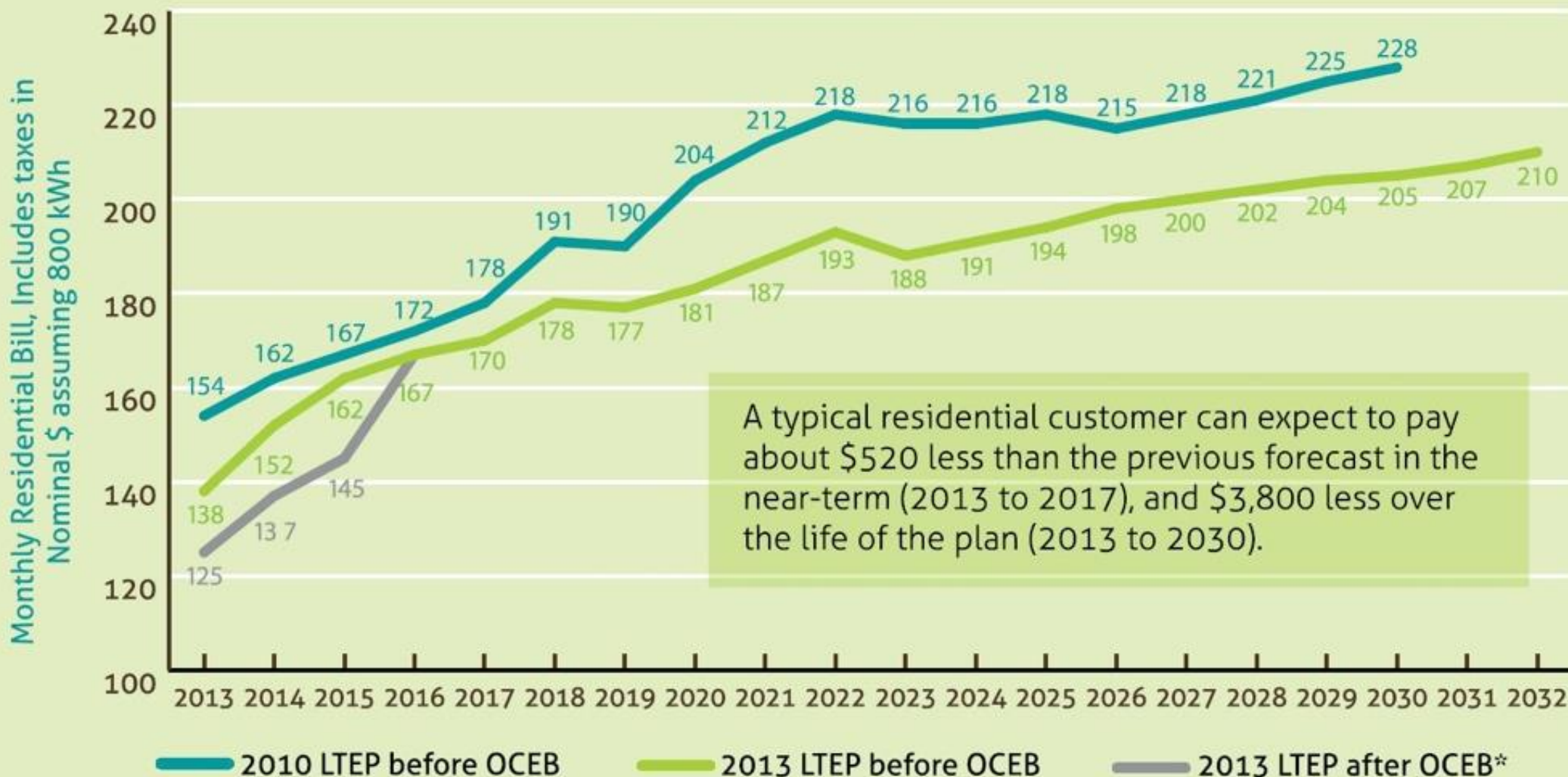


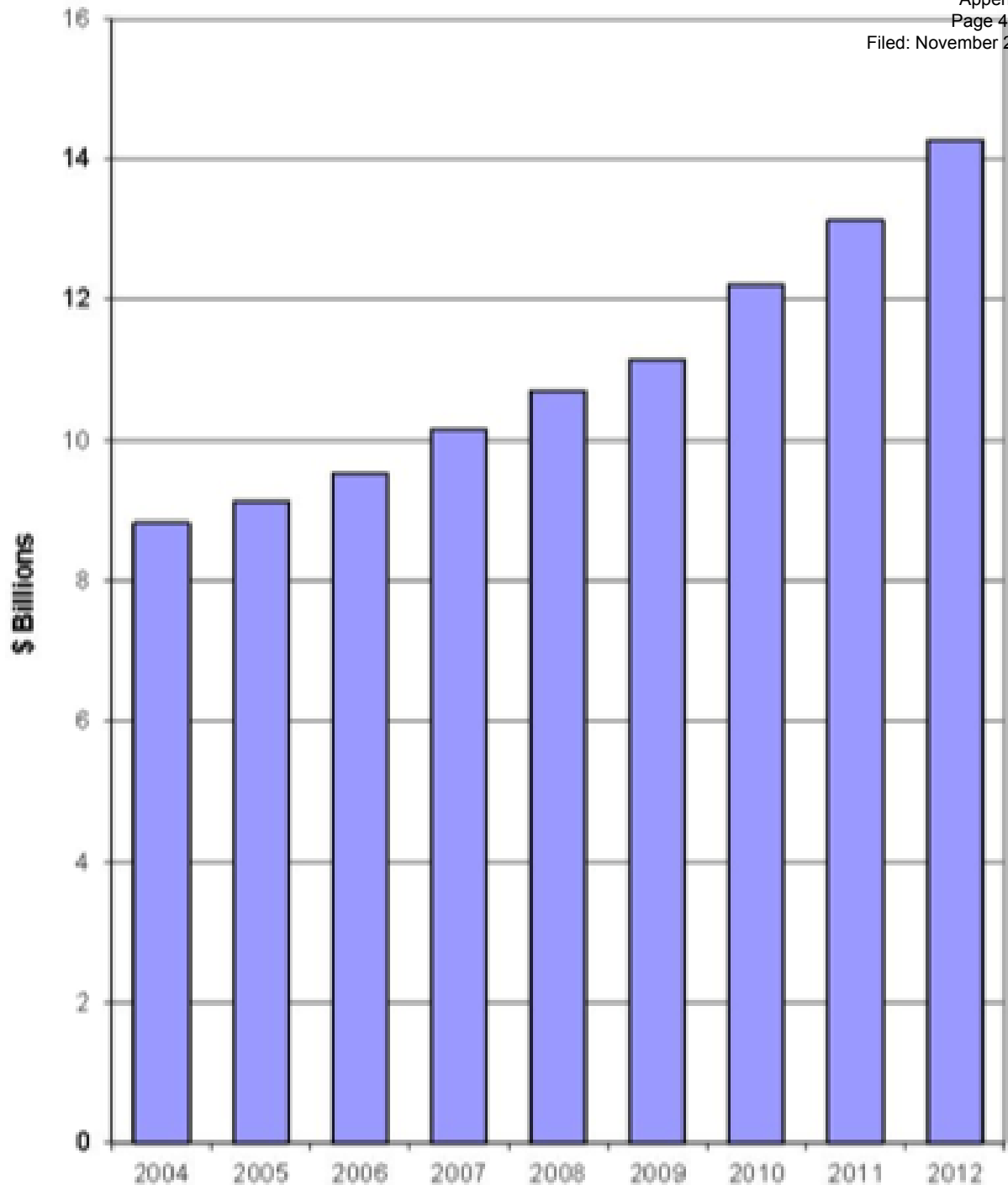
Figure 7: Typical Residential Electricity Bill Forecast



Ontario Electricity Distributors

Net Property Plant & Equipment

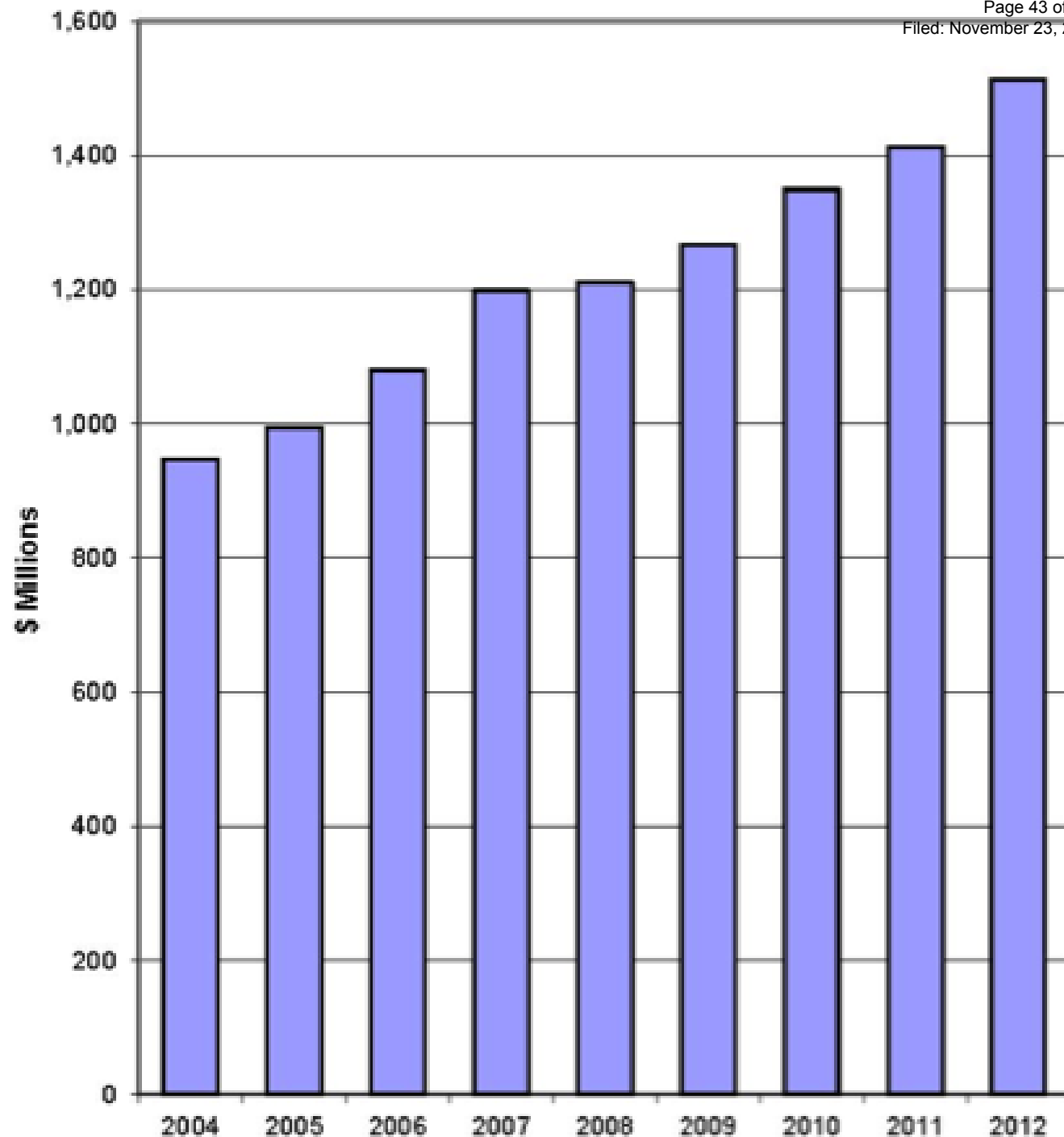
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Appendix J1.5
Page 42 of 127
Filed: November 23, 2015



Ontario Electricity Distributors

Operating, Maintenance & Administrative Expenses

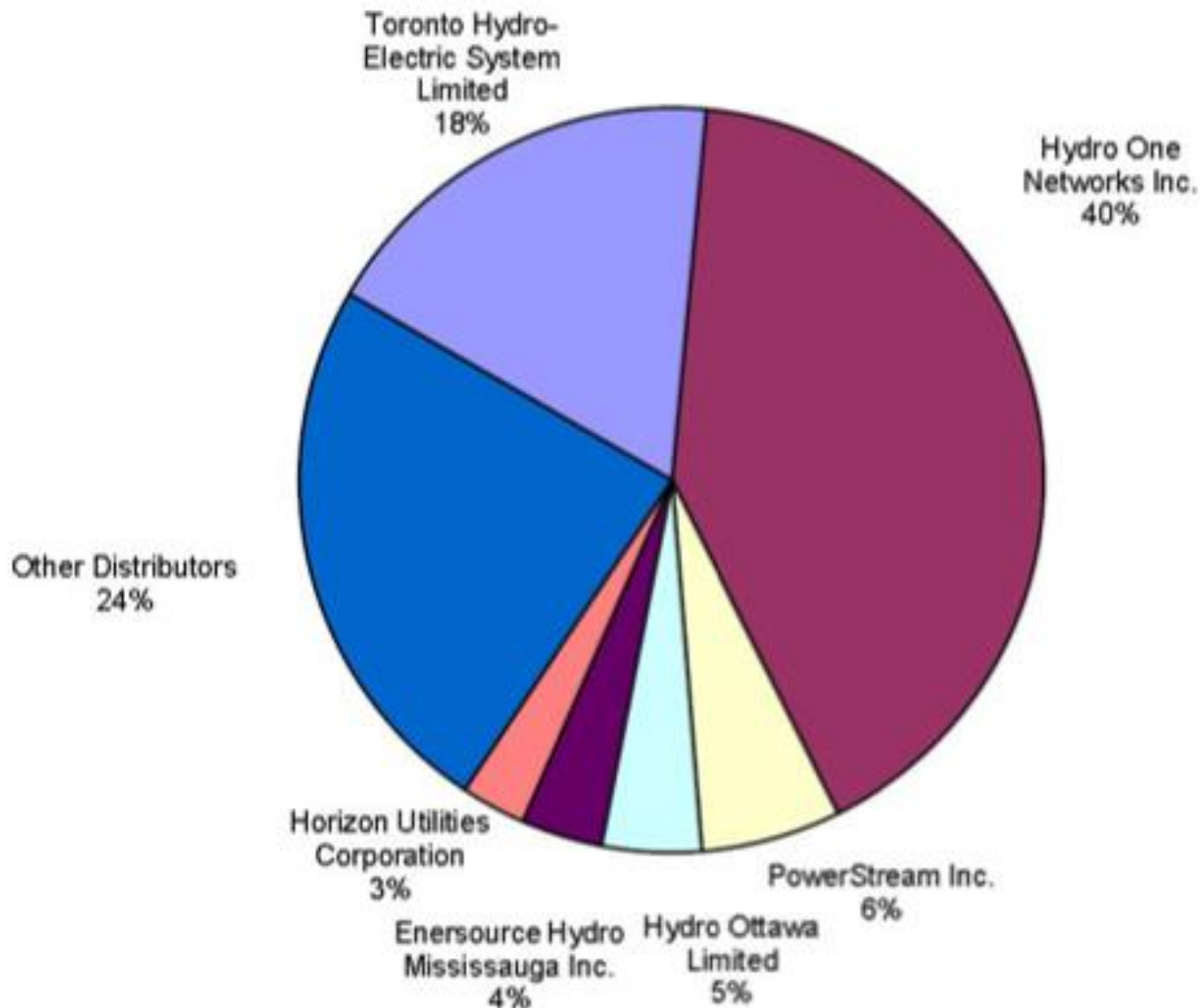
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Appendix J1.5
Page 43 of 127
Filed: November 23, 2015



Ontario Electricity Distributors

Net Property Plant & Equipment by Distributor \$14.3 billion

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Appendix J1.5
Page 44 of 127
Filed: November 23, 2015



Income Statement For the year ended December 31, 2012	Total Industry
Power and Distribution Revenue	\$14,116,949,581
Cost of Power and Related Costs	\$10,806,019,401
	\$3,310,930,180
Other Income	\$38,296,368
Expenses	
Operating	\$314,868,172
Maintenance	\$408,058,908
Administrative	\$790,283,585
Depreciation and Amortization	\$783,141,384
Financing	\$382,222,463
	\$2,678,574,511
Net Income Before Taxes	\$670,652,036
PILs and Income Taxes	
Current	\$85,359,462
Deferred	\$3,979,219
	\$89,338,682
Net Income (Loss)	\$581,313,354
Other Comprehensive Income (Loss)	-\$1,663,325
Comprehensive Income (Loss)	\$579,650,029



Change
Just Ahead

- Increasing Grid Price
- Behind the Meter Solutions Evolving and Happening, Price Dropping
- Conservation
- Environmental Concerns (Storms, Floods, GHG, Nuclear)
- Shale Gas Reserves

What Are The Real Issues?

“Business As Unusual” is the new Norm

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Page 49 of 127
Filed: November 23, 2015

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WWW.ANDERSTOONS.COM



“As you can see, it’s business as unusual.”

THE THIRD INDUSTRIAL REVOLUTION

HOW LATERAL POWER
IS TRANSFORMING ENERGY,
THE ECONOMY, AND THE WORLD



NEW YORK
TIMES
BESTSELLER

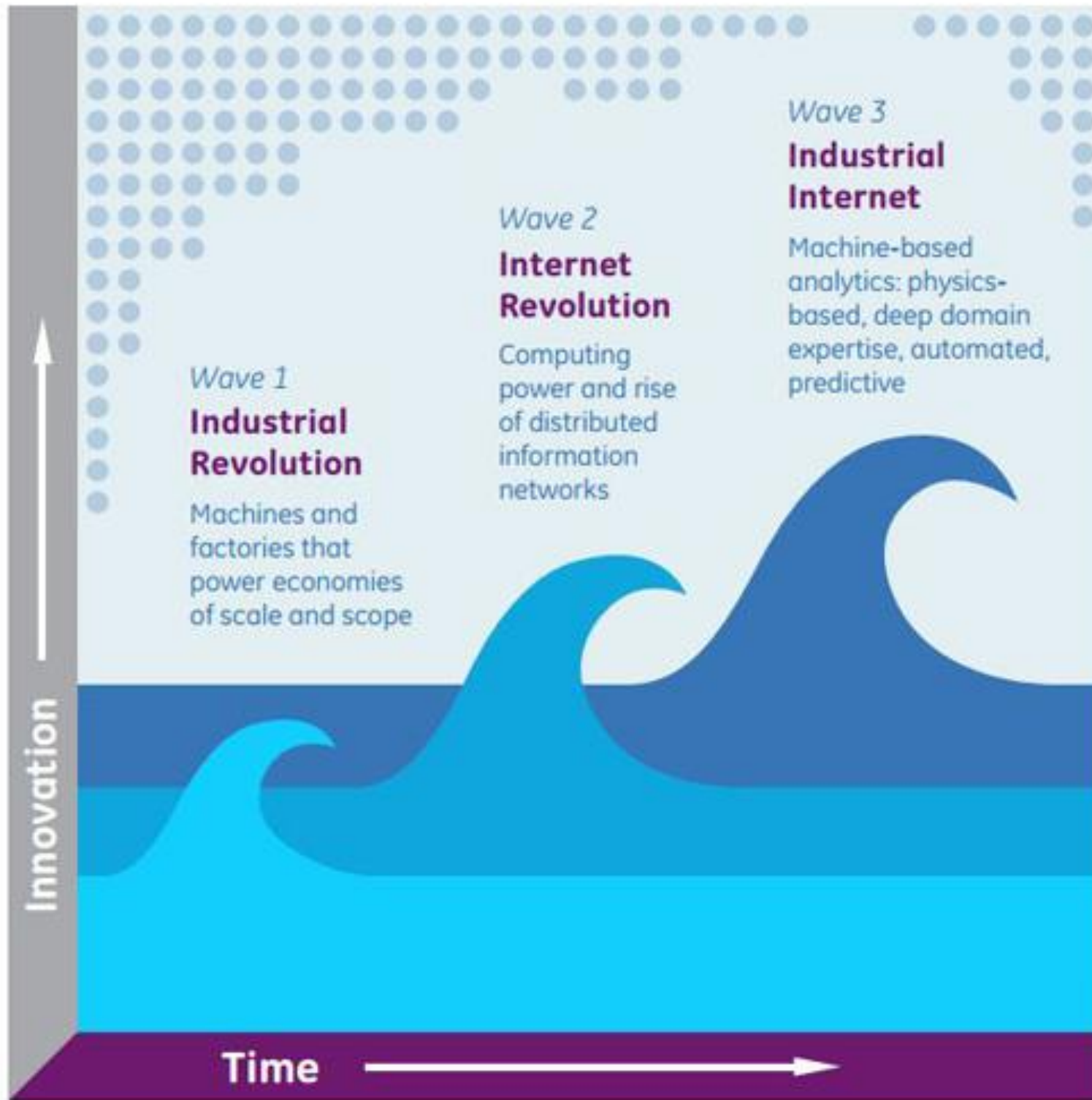
JEREMY RIFKIN




**GEQuest.com/
Industrial Internet**

Industrial Internet: Pushing the Boundaries of Minds and Machines

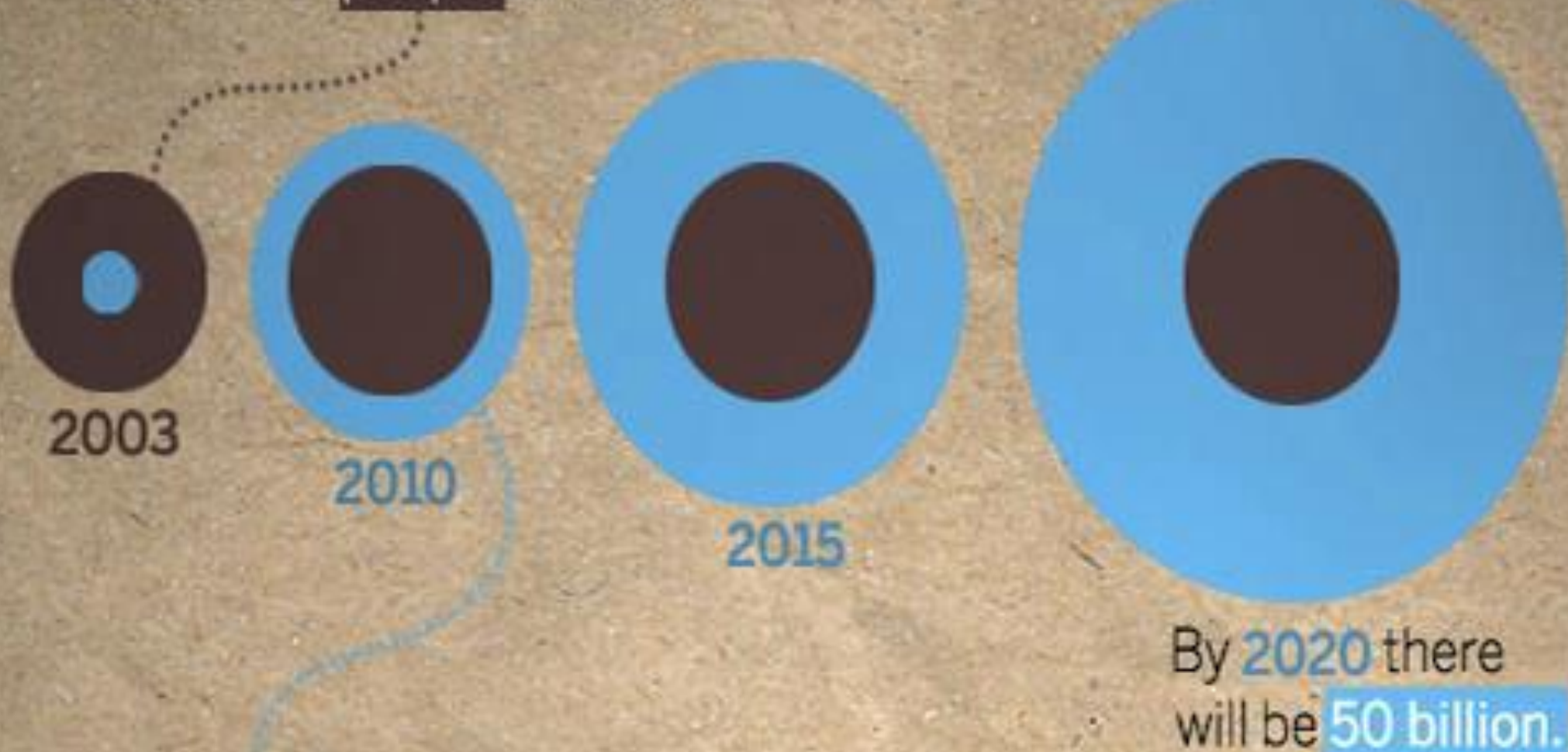
Rise of the Industrial Internet



The **INTERNET** *of* **THINGS**

The logo for 'The Internet of Things' features the words 'The' and 'of' in a blue script font, and 'INTERNET' and 'THINGS' in a bold blue sans-serif font. Below the word 'THINGS', each letter is connected by a vertical line to a blue square icon. The icons are: an alarm clock under 'T', a train under 'H', a cow under 'I', a house under 'N', a shoe under 'G', and a leaf under 'S'.

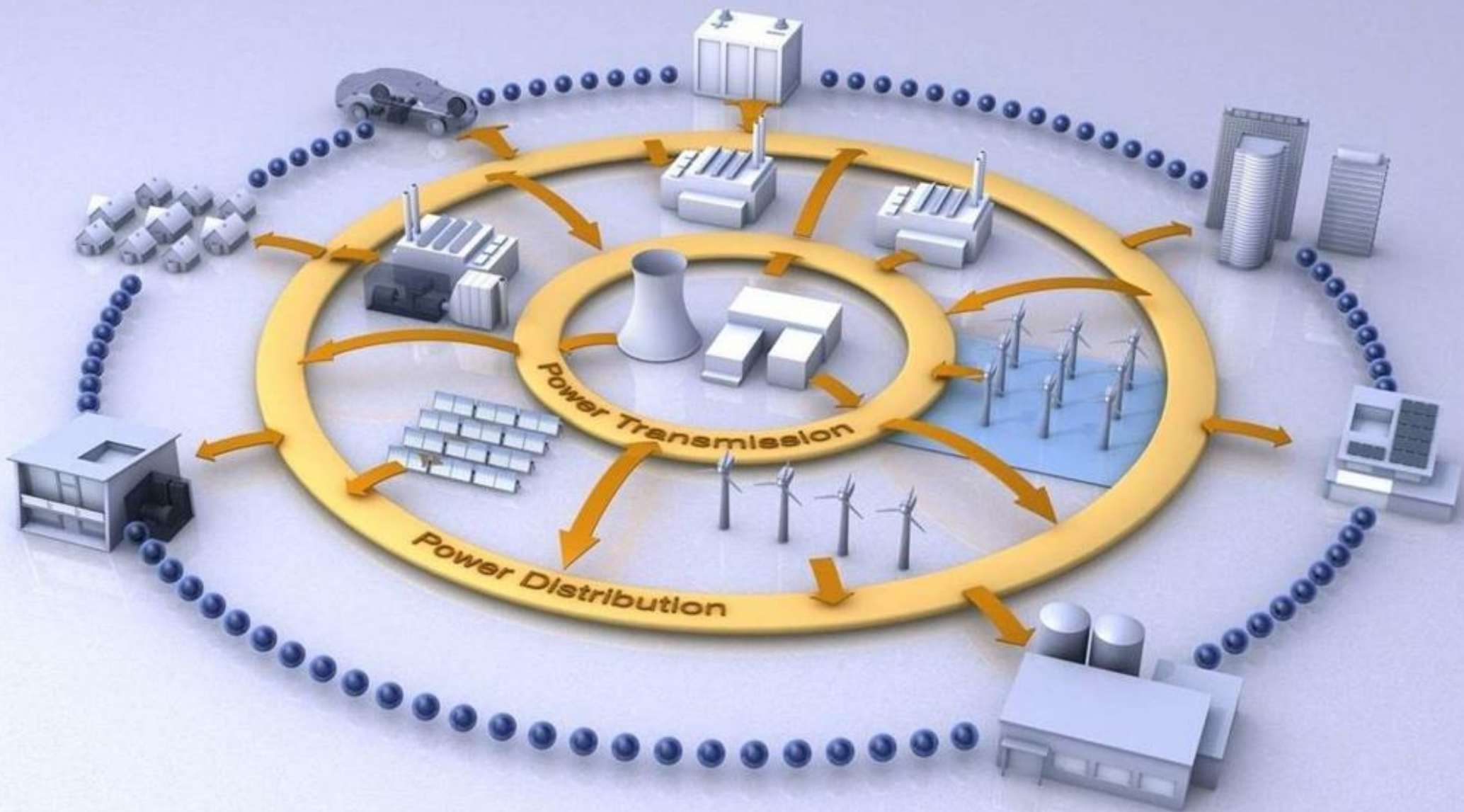
During 2008, the number of **things** connected to the Internet exceeded the number of **people** on earth.



These **things** are not just smartphones and tablets.

Are you Smart Grid Ready?

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Appendix J1.5
Page 55 of 127
Filed: November 23, 2015



Siemens AG



Let's build a smarter planet.





Edison Electric
Institute

Power by Association®

Disruptive Challenges:

Financial Implications and Strategic Responses to a Changing Retail Electric Business



Prepared by: Peter Kind
Energy Infrastructure Advocates

Prepared for: Edison Electric Institute



January 2013

“The threat to the centralized utility service model is likely to come from new technologies or customer behavioural changes that reduce load”

“Recent business history has provided many examples of companies and whole industries that either failed or were slow to respond to disruptive forces and suffered as a result”

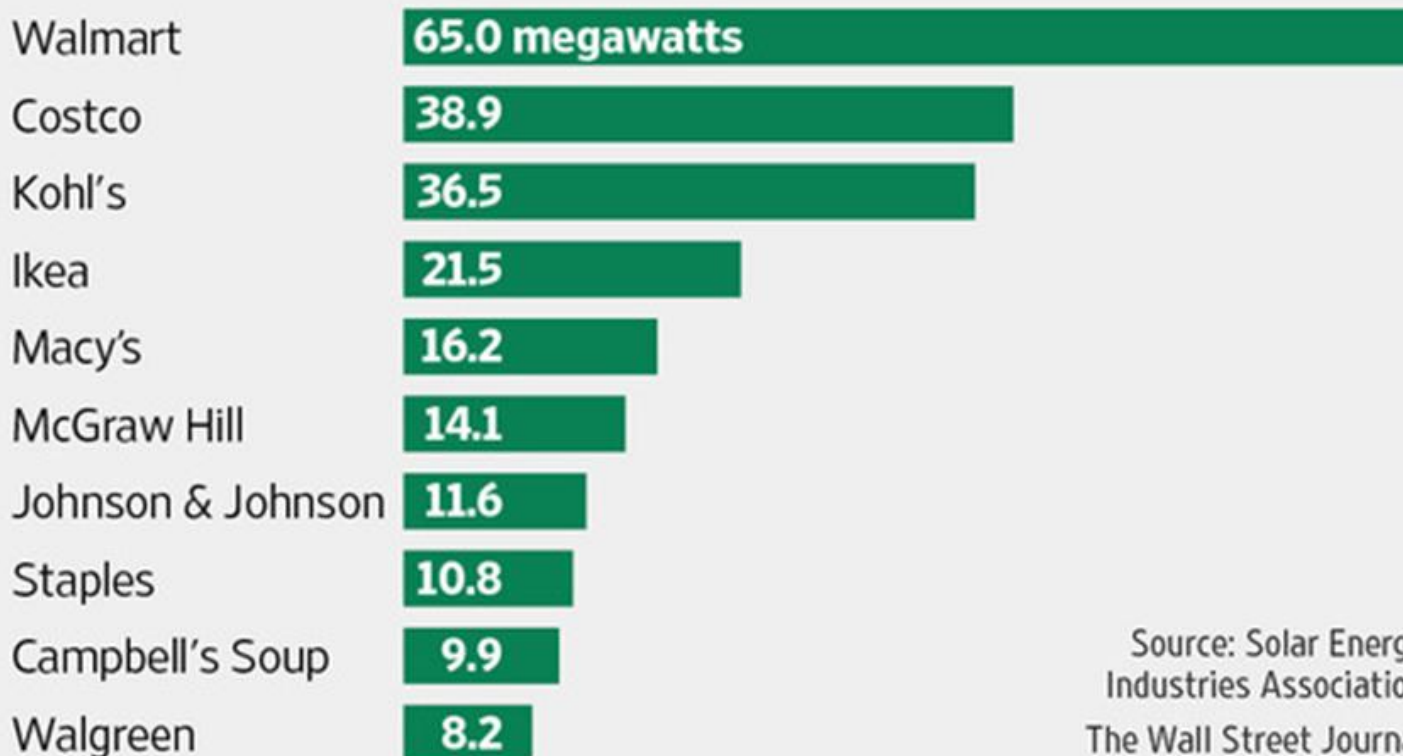
Energy Infrastructure Advocates Report
prepared for EEI, January 2013

THE WALL STREET JOURNAL.

Companies Unplug From the Electric Grid, Delivering a Jolt to Utilities

U.S. Companies Tap More Sunlight

Companies that have installed the most solar panels, by capacity



Source: Solar Energy
Industries Association
The Wall Street Journal



At Kroger's food-distribution center in Compton, Calif., a tank system converts organic waste into biogas to produce electricity used by the facility.



[Read the Walmart press release >>](#)

By Jesse Berst



At first glance, the Walmart press release on page 2 sounds like just another greenwashing announcement bragging about the things the company will do to improve the environment.

Look a little closer, and you'll see that it is not that at all. And you'll see that it has some challenging implications for the current utility business model.

First, consider these key points made by CEO Mike Duke at Walmart's annual Global Sustainability Milestone Meeting. The company intends to:

- Produce or procure 7 billion KWh of renewable energy every year (up 600% from 2010 levels!)
- Reduce the energy intensity of its buildings by 20% compared to 2010 levels
- Install solar on at least 1,000 rooftops by 2020 (it has 200 in place or in development now)
- Increase LED usage indoors and outdoors
- Be supplied 100% by renewable energy by 2020

Why fuel cells may finally make grid divorce a reality

Aug 16, 2013

[Talk Back](#)

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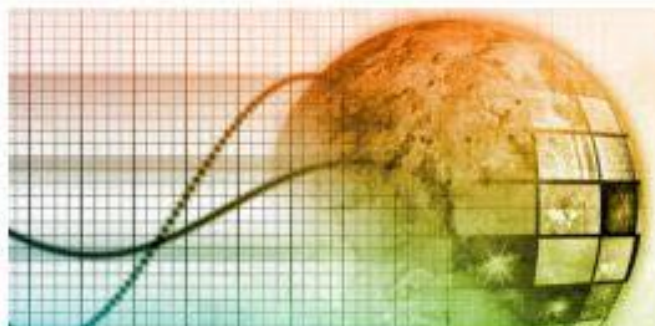
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Quick Take: A long-time reader wrote in to give me a heads up on the very real progress being made on fuel cell-powered micro combined heat and power (micro-CHP). Companies such as Ceramic Fuel Cells Limited, Hexis Technology and Baxi are making small devices that create power plus hot water. He thinks we're close to the day when homes and small businesses can combine micro-CHP with solar PV with energy storage and be off the grid forever.

What say you? Use the Talk Back form at the bottom to share your view. - **By Jesse Berst**



Sales of fuel cell micro-CHP have overtaken those of conventional micro-CHP worldwide. The strongest sales are in Japan. However, one emerging application in the UK may be applicable around the world.

Ceramic Fuel Cells Limited (CFCL) is targeting the market for social housing, shared accommodation, schools and small businesses

for its BlueGen 1.5 kW solid oxide fuel cell. The economics make the most sense when customers can use all of the electricity produced behind the meter – therefore, the company is targeting buildings where the electrical demand is higher than that found in a single occupancy dwellings.

The company has even made arrangements with financing companies to install units in apartment buildings for free. Payments combine selling excess electricity back to the grid in return for the United Kingdom's favorable feed-in tariff.

Future of electric power: Net zero homes get a step closer

Apr 23, 2013 [Talk Back](#) [Free Alerts](#) [More On This Topic](#)

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Quick Take: The idea of net zero homes -- homes that produce as much power as they use -- has been around for a while. But they have always suffered from the difficulty of matching the load profile to the generation profile. At most homes, much of the load occurs early in the morning and then again in the evening, when people are home from work. Meanwhile, generation from the home's solar panels is often highest in the middle of the day.

Solving this mismatch requires energy storage, and that's too expensive. But wait a minute. What if you already had a stack of batteries sitting out in your garage? What if your electric vehicles

(EV) could store that solar electricity for you? Sure, you'd use some of it to run the car back and forth to the store. But you could also use those batteries to store energy for use by the house.



Recently I stopped by to warn about **the scary future posited by Walmart's future energy plans**. Now I urge you to think what might happen if, let's say 10 years from now, a substantial number of homeowners have solar panels and EVs. First, they'll need to buy far less power from their utilities. Second, they'll be able to time shift, so the power they do buy is at low time-of-use rates. -- **Jesse Berst**

Google to buy Nest for \$3.2B in quest for the 'conscious home'

The trendy startup that brought you smart thermostats and smoke detectors jumps into Google's ever-expanding embrace.



by Daniel Terdiman | January 13, 2014 1:16 PM PST

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783



365



247



466

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Comments

481



Among other smart-home devices, Nest Labs makes the Learning Thermostat.
(Credit: Nest)

Google said Monday it will acquire Nest Labs for \$3.2 billion in cash.

In a statement by Nest, the maker of the [Learning Thermostat](#) and the [Protect smoke and carbon monoxide detector](#) said that the company will continue to be run by current CEO Tony Fadell. "In other words, Nest will stay Nest," the company said.

"Why did we decide to partner with Google?" Fadell wrote in a blog post. "Google will help us fully realize our vision of the conscious home and allow us to change the world faster than we ever could if we continued to go it alone. We've had great momentum, but this is a rocket ship. Google has the business resources, global scale, and platform reach to accelerate Nest growth across hardware, software, and services for the home globally."

Google's march to become an energy company

Feb 4, 2014

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Quick Take: Google's \$3.2 billion acquisition of thermostat maker NEST has driven a lot of speculation, including this [thoughtful commentary by Tendril CEO Adrian Tuck](#).



Now [Utility Dive](#) is out with a meandering [article](#) that highlights some of the search giant's other energy plays. Add them all together, and it's hard to avoid the feeling that Google intends to get into energy in a big way. - **Jesse Berst**

Consider these developments from the past few years over and above the NEST acquisition:

- Google invests \$75 million in Clean Power Finance to help residential customers go solar October 2011
- Google invests \$94 million in solar plants December 2011
- Google invests \$12 million in South African solar PV plant May 2012
- Google invests \$75 million in Iowa wind farm November 2012
- Google invests \$200 million in Texas wind farm January 2013
- Google invests \$103 million in California solar farm October 2013
- Google invests \$75 million in Texas wind farm January 2014

Internet and Cable Giant Comcast Will Soon Sell Electricity in Pennsylvania



Comcast's Triple Play package bundles television, internet and phone. With the company's plans to sell electricity, it could soon become a quadruple play in some markets.

Katherine Tweed
January 23, 2014

December 2013

Shock to the system

Dealing with falling electricity demand

Tony Wood and Lucy Carter



What are the Drivers?

*Storms, Tsunamis and
Rethinking the Grid*

HURRICANE CENTRAL

HURRICANE SANDY

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Oral Hearing Undertakings
Appendix J1.5
Page 69 of 127
Filed: November 23, 2015



The
Weather
Channel

weather.com

29 Oct 2012 19:11 GMT / 29 Oct 2012 03:11 PM EDT

8 PM, Oct. 29

Sandy makes landfall near Atlantic City, N.J.

Number of people who live in the National Hurricane Center's track zone for Sandy

66,549,869

50–80

 mph

Maximum wind gusts across the entire Northeast I-95 corridor on the evening of Oct. 29

At least

14,000

Number of flights canceled across the U.S. for Oct. 29 and 30

Snow accumulation in West Virginia due to Sandy

18–24

 inches

18

 states

slammed by Sandy

5

election battleground states in Sandy's path

Span of Sandy's reach

1,000

 miles

Estimated cost of Sandy

\$10–20

 billion

55

Death toll of Sandy in the U.S. as of 6 AM, Oct. 31

8

 million

Number of electric utility customers without power because of Sandy

11

 feet

Height of wall of water caused by Sandy along Delaware coast

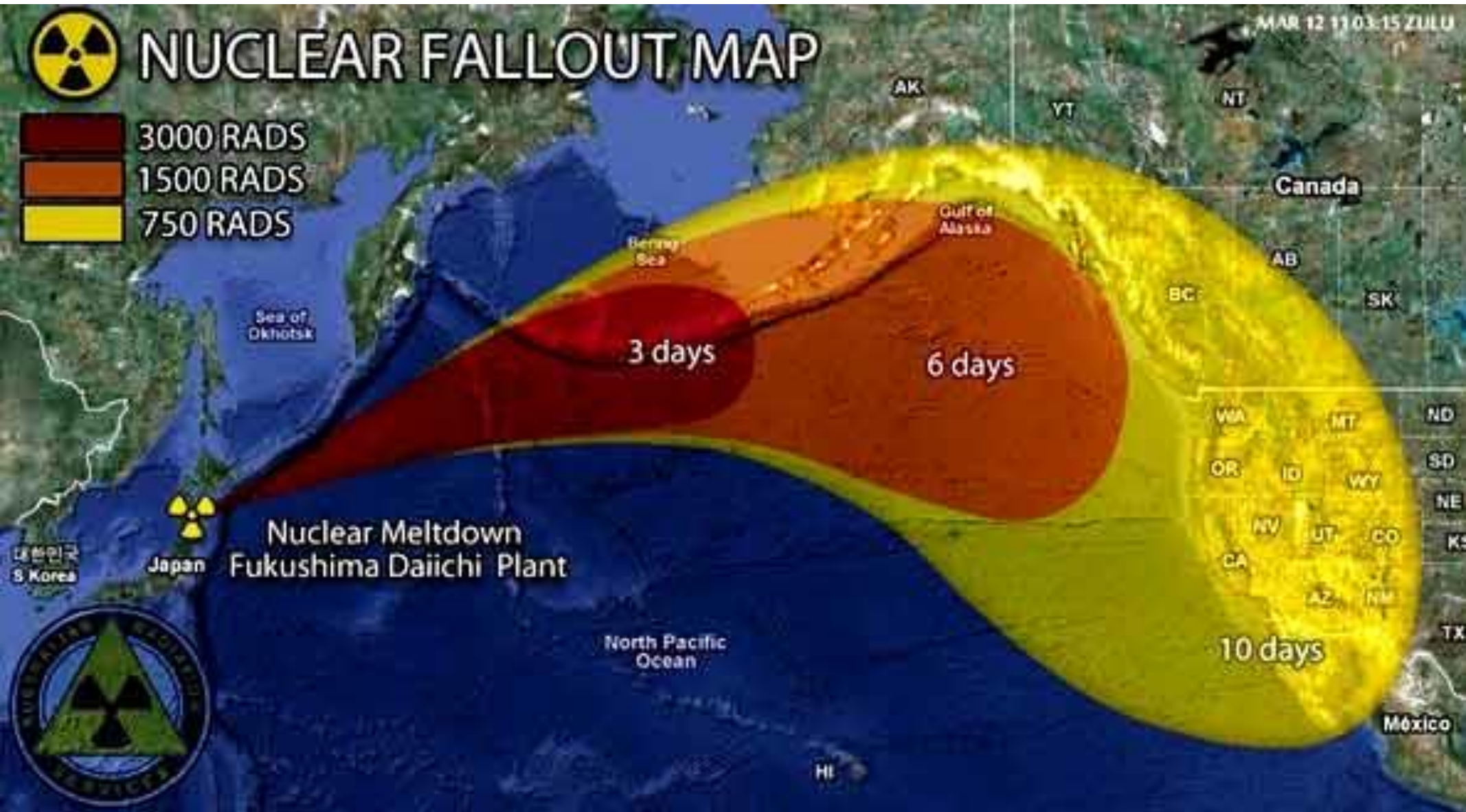




FUKUSHIMA
DAIICHI



Fukushima, Japan



Grid divorce, Japanese style. Will it come to a country near you?

Sep 25, 2013

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Quick Take: A grid divorce movement is strongly underway in Japan, mostly in reaction to the Fukushima nuclear disaster, which tainted the trustworthiness of Japanese electric power utilities. Could this phenomenon spread to other countries? Will it reach enough volume to create economies of scale, driving down prices for the necessary technologies? Use the Comment form to record your opinion. - **By Jesse Berst**



Rightly or wrongly, utilities in the U.S. and Europe don't worry much about grid divorce – the idea that more and more businesses and consumers will opt to become self-sufficient.

I can certainly argue that they should be nervous. Consider, for instance, that:

- [Walmart plans to reduce its energy use by 20% and self-generate as much of its electricity as it can](#)
- [Philadelphia's GridSTAR demonstration project seems to be a proving ground for grid divorce](#)
- [An Austin-based IT consultancy has just published a short guide on how to "take your office off the grid"](#)
- [Some experts think we are close to the day that fuel cells combined with energy storage combined with solar PV can take homes and small businesses off the grid](#)

Grid Divorce???

Consumers Are Disconnecting Not Full Divorce or Islanding (But Could Be...)

THE WALL STREET JOURNAL.

**In Post-Tsunami Japan, Homeowners
Pull Away From Grid**

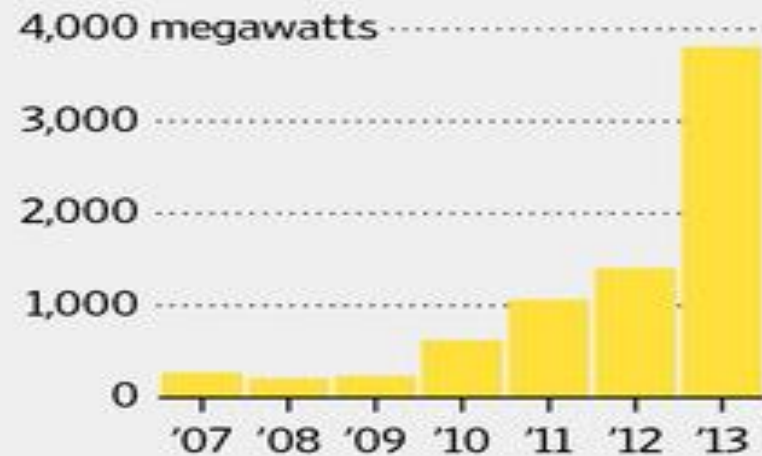


Tens of thousands of Japanese homeowners have turned to solar units and fuel cells for power since the 2011 Fukushima nuclear disaster.



Sunny Days

Use of solar panels in Japan has sharply up. Volume of panels shipped, measured by capacity.



Note: For fiscal years ending in March
Source: Japan Photovoltaic Energy Assn.
The Wall Street Journal

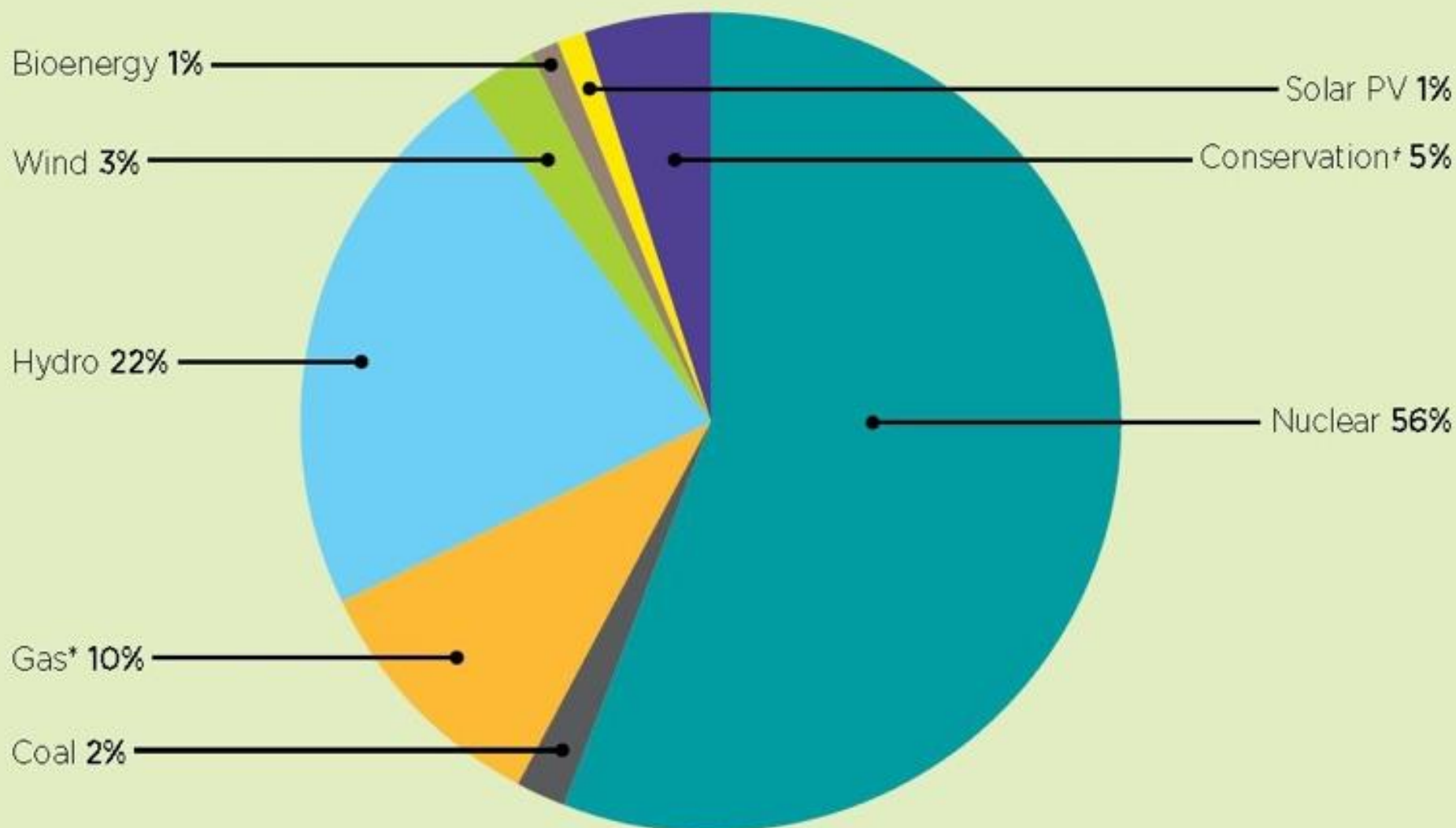
Solar panels have become a popular feature on Japanese homes. Shown, model home built by Sanyo Homes Corp. has panels on the side of the house.



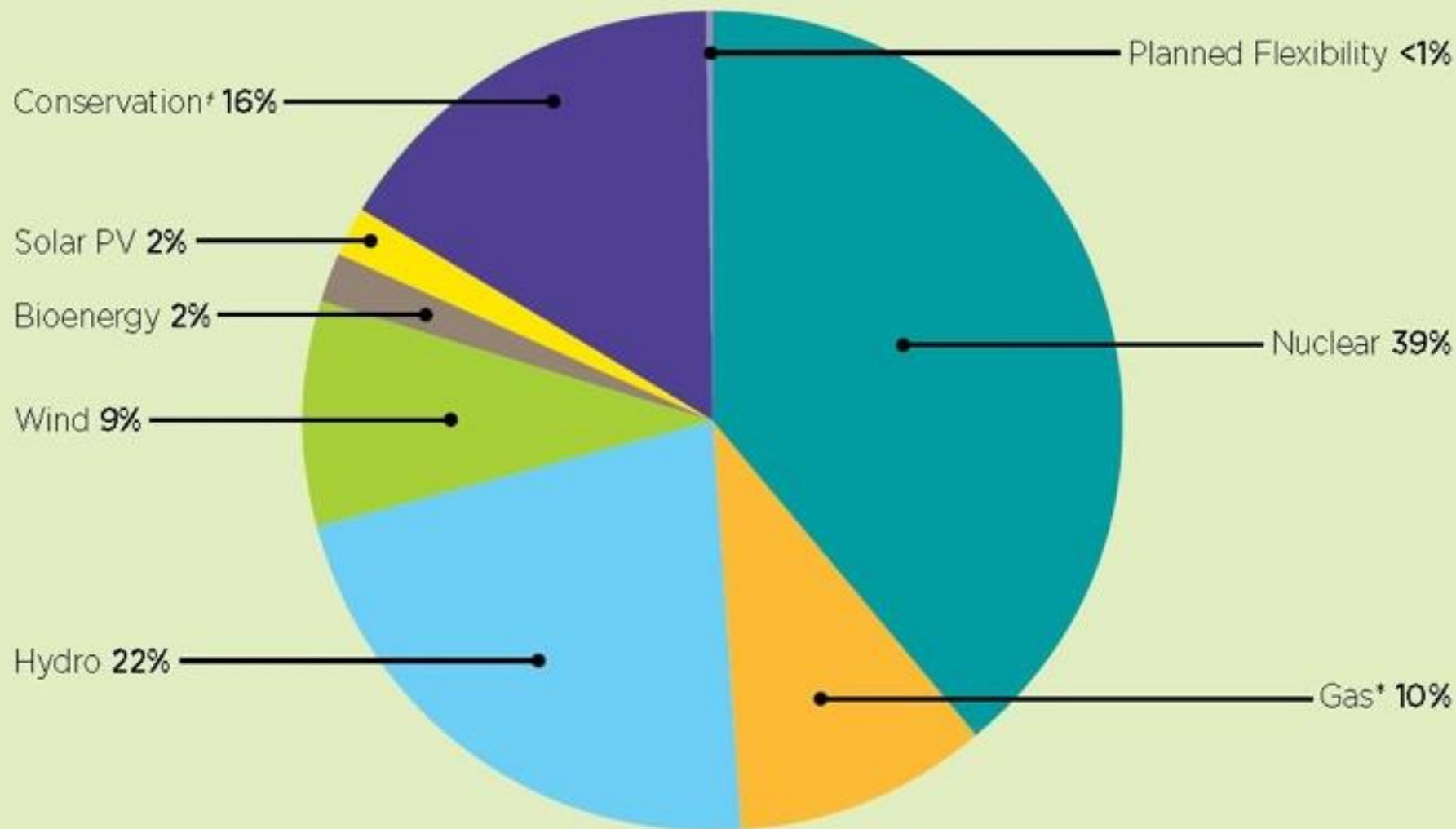


Figure 11: The Role of Conservation is Growing

Forecast Energy Production (TWh) 2013



Forecast Energy Production (TWh) 2032



Note: Charts represent total forecast energy production. For comparative purposes, total production has been increased by the amount of energy conserved to demonstrate the role of conservation.

† Conservation is forecast to contribute 30 TWh of energy efficiency in 2032, which is equal to 16% of the forecast gross demand.

** Includes Lennox Generating Station - dual fueled with natural gas and oil.*

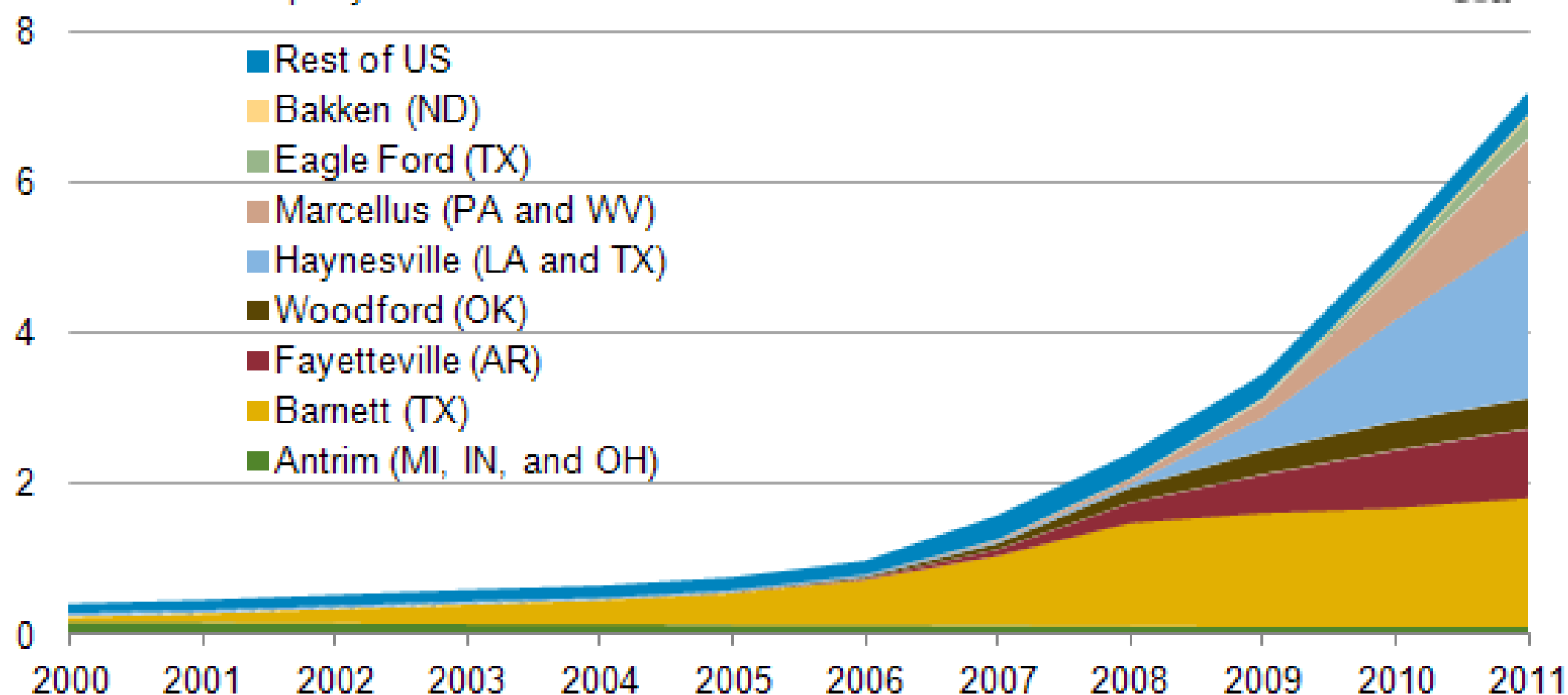
The Shale Gas Revolution

North American shale plays (as of May 2011)

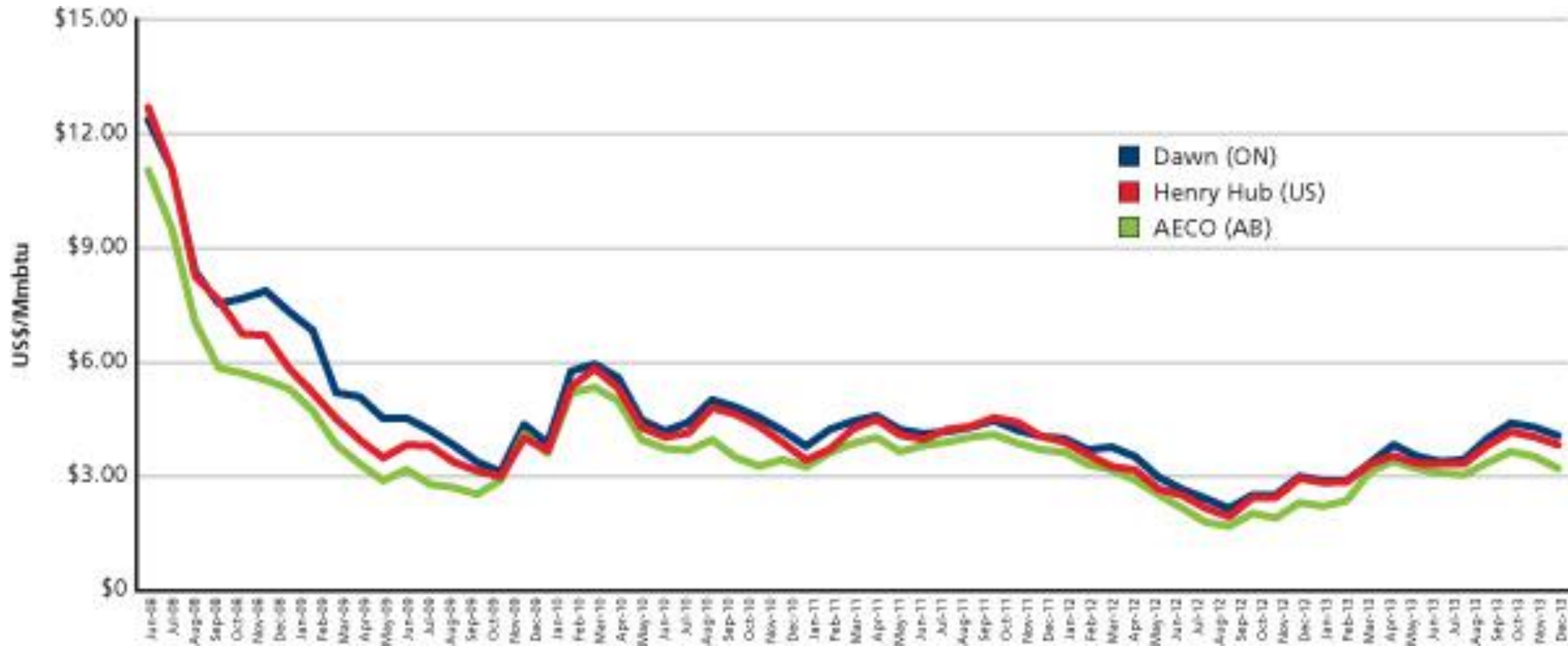
EB-2015-0003
PowerStream Inc.
Oral Hearing Undertakings
Appendix J1.5
Page 84 of 127
Filed: November 23, 2015



trillion cubic feet per year



Monthly Average Natural Gas Spot Prices



Infrastructure is Harder to Build

Anti-Wind Turbines



Anti-Gas Plants

EB-2015-0003
PowerStream Inc.
Oral Hearing Undertakings
Appendix J1.5
Page 89 of 127
Filed: November 23, 2015



Anti-Transformer Stations



[illegible]

EB-2015-0003
PowerStream Inc.
Oral Hearing Undertakings
Appendix J1.5
Page 91 of 127
Filed: November 23, 2015

EB-2015-0003
PowerStream Inc.
Oral Hearing Undertakings
Appendix J1.5
Page 91 of 127
Filed: November 23, 2015

The Cost of our Product is Going Up

Ontario drives manufacturers away with overpriced electricity

EB-2015-0003
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Orla Learning undertakings
Appendix J1.5
Page 93 of 127
Filed: November 23, 2015

[BARRIE MCKENNA](#)

OTTAWA — The Globe and Mail
Published Sunday, Oct. 13 2013, 7:18 PM EDT

Hydro rate hike to hit consumers Friday

BY MATTHEW PEARSON, OTTAWA CITIZEN OCTOBER 31, 2013

Ontario electricity prices to rise next month due to higher production costs

The Canadian Press

Power plant cancellations could cost \$1.1B: Auditor general

By: [Richard J. Brennan](#) Provincial Politics, [Robert Benzie](#) Queen's Park Bureau Chief,

Published on Tue Oct 08 2013

The Growth Opportunity

Long Term Energy Plan (LTEP) 2013

- Conservation First
- Nuclear new construction not proceeding at this time
- Renewable Energy (details on next slide)
- Competitive Procurement
 - Large renewables and bioenergy
 - Combined Heat and Power
 - Clean Imports
- Rate Mitigation and Efficiency
- Enhanced Regional Planning and Municipal involvement
- Transmission Enhancements
- Aboriginal Engagement
- Energy Innovation

Long Term Energy Plan (LTEP) 2013

Renewable Energy

- Target of half of installed capacity in 2025.
- Phase in over longer period than in 2010 LTEP.
- 2014 Competitive procurement for Large renewable projects (>500 kW).
- Small FIT procurement of 150 MW.
- microFIT procurement of 50 MW.
- Potential for the microFIT program to evolve from a FIT program to a Net Metering program.

NIPIGON-GREENSTONE



The Nipigon-Greenstone area hosts several energy-related activities. Exploratory mining activity is on-going in the area. There is hydroelectric potential in the region including OPG's Little Jackfish hydroelectric project which would require a transmission line to connect the project to the

grid if it is developed. As the proponents for these and potentially other projects advance their plans, the government is prepared to address the needs of the area as conditions warrant to ensure options are evaluated from an integrated perspective.

KITCHENER-WATERLOO-CAMBRIDGE-GUELPH AREA

Refurbishment and Upgrade

Est. Cost: ~\$110M

Exp. In-Service: 2016

Transmission reinforcements in the growing Kitchener-Guelph-Waterloo-Cambridge area are part of an integrated plan that includes conservation and distributed generation.

Two projects are expected to be in-service in 2016: an upgrade to five-km of transmission line and the expansion of two Guelph area

stations, and an expanded transformer station in Cambridge.

These projects will reinforce electricity supply to South-Central Guelph and to the Kitchener/Cambridge areas. The projects will also accommodate the expected demand growth from new business development in the Hanlon Creek Business Park which, according to the City of Guelph, is expected to attract about 8,500 new jobs over the next eight years.

OTTAWA AREA



The Ottawa area has undergone substantial urbanization in the outlying districts, which are supplied by a relatively sparse electricity system. There are plans for a new transit line, the connection of new government or educational facilities, and the redevelopment of industrial lands.

Hydro One is making substantial improvements to the Hawthorne Transformer Station, and efforts are being focused on meeting requirements in downtown Ottawa, Kanata/Nepean and East Ottawa/Oakville.

YORK REGION



York Region is one of the fastest-growing areas in Ontario. Extensive urbanization means that growth in electricity demand has been greater than the provincial average.

Early planning work has identified two near-term projects: the installation of new equipment at the Holland Transformer Station, and new facilities along the existing Highway 407 transmission corridor.

Southern Ontario

Ottawa

Toronto

Kitchener

LEAMINGTON



The Windsor-Essex area has the largest concentration of greenhouse vegetable production in North America. As a result, the region's electricity needs are increasing.

Hydro One is in the early stages of planning for a new line and station to address load growth and anticipated expansion in the agricultural sector. Cost recovery for transmission expansion will be established during the approvals process.

CENTRAL-DOWNTOWN TORONTO



Toronto is the fourth largest metropolis in North America. Between 2006 and 2011, the population in parts of the city's downtown increased by more than 50 per cent.

A regional planning exercise on long term needs and options to accommodate future growth in electricity demand is underway and consultations are expected in the coming months.

Near-term investments by Hydro One and Toronto Hydro include line refurbishment projects in Midtown and along the lakeshore and a new station downtown.

YORK REGION



York Region is one of the fastest-growing areas in Ontario. Extensive urbanization means that growth in electricity demand has been greater than the provincial average.

Early planning work has identified two near-term projects: the installation of new equipment at the Holland Transformer Station, and new facilities along the existing Highway 407 transmission corridor.

Regional Planning

- 21 electricity regions in Ontario
- Regions will be assessed over the next 5 years
- OPA is developing comprehensive plans for 8 regions:
 - Greater Ottawa
 - Burlington to Nanticoke
 - GTA North and GTA West
 - Kitchener-Waterloo-Cambridge-Guelph
 - Toronto
 - Northwestern Ontario
 - Windsor-Essex

York Region Energy Plan

In summary, the population in PowerStream is expected to increase **22.6%** from 2011 to 2021, and **16.1%** from 2021 to 2031.

In summary, the households in PowerStream is expected to increase **31.4%** from 2011 to 2021, and **22.3%** from 2021 to 2031.

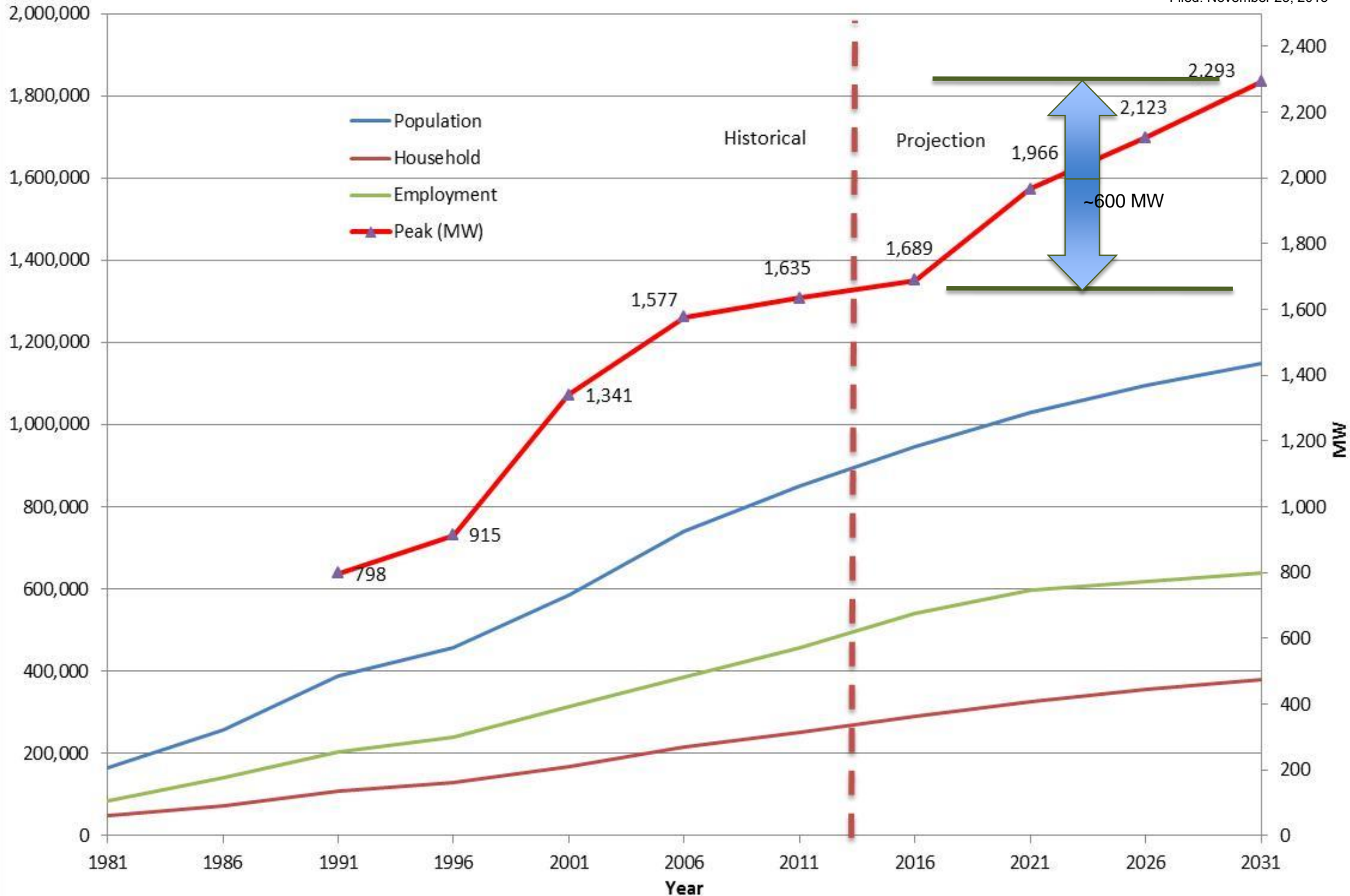
In summary, the employment in PowerStream's service territory is expected to increase **25.5%** from 2011 to 2021, and **8.3%** from 2021 to 2031.


York Region Energy Plan

- There is a need to plan for electricity supply for York Region due to strong forecast growth
- Electricity infrastructure is required to support growth
- Efficient use of electricity and existing infrastructure is the first priority
- If additional supply is needed, there are two basic options:
 - Produce electricity locally
 - Bring power to the region by expanding wires

PowerStream South Population, Household, Employment and Peak Growth 1981-2031

(Aurora, Markham, Richmond Hill and Vaughan)





OUR VISION OF THE FUTURE



The Social Energy Network

This confluence of factors is driving a fundamental change in the business model to an integrated, intelligent, energy delivery network (i.e. the social energy network).

The Social Energy Network

EB-2015-0003
Powerteam, Inc.
Oral Hearing Undertakings
Appendix J
Page 106 of 107
Filed: November 23, 2015



A Generational Opportunity

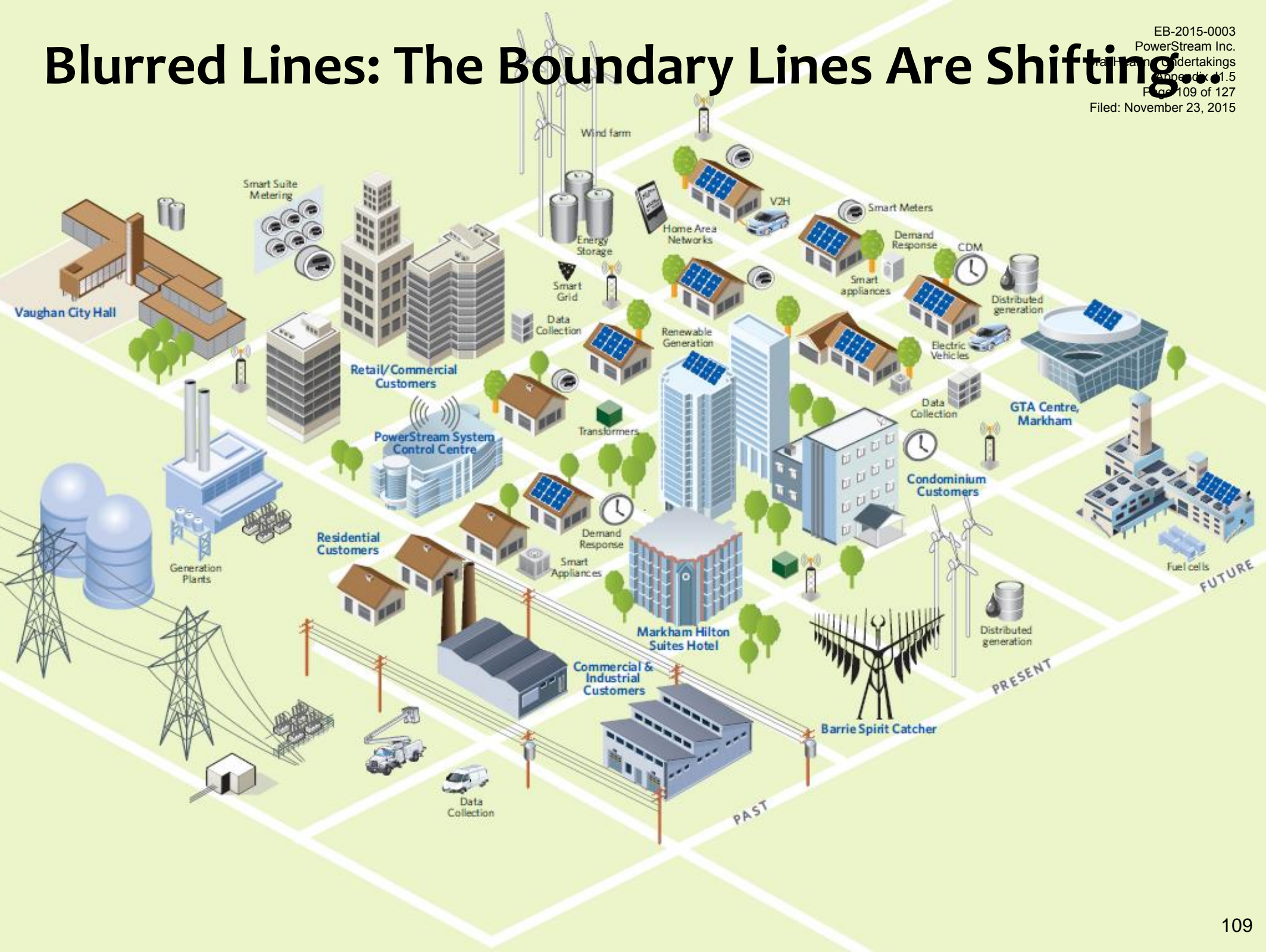
We have a once in a lifetime generational opportunity for the next 10-15 years.

The grid will be the hub
i.e. *the internet of energy*
and the enabler of
‘the social energy network’.

Our Business Model

Blurred Lines: The Boundary Lines Are Shifting

EB-2015-0003
PowerStream Inc.
Final Hearing Undertakings
Appendix 1.5
Page 109 of 127
Filed: November 23, 2015





OUR VISION

We will be a socially responsible company, committed to the environment and sustainable growth, leading the way into the future with boldness, innovation and best in class performance.

OUR MISSION

To deliver reliable power and related services safely and efficiently to support our customers' quality of life, and to provide value to our shareholders and the communities we serve.

2014 STRATEGY MAP

EB-2015-0003
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Oral Hearing Undertakings
Appendix J1.5
Page 111 of 127
Filed: November 23, 2015

OUR VISION

OUR MISSION

OUR STRATEGY

**Increase
Shareholder Value**

**Provide an Optimized
Rate of Return**

FINANCIAL

CUSTOMERS

PROCESSES

FOUNDATION

**CUSTOMER
FOCUS**

**OPERATIONAL
EXCELLENCE**

**REGULATORY
EXCELLENCE**

**GROWTH &
SUSTAINABILITY**

HIGH PERFORMANCE CULTURE

OUR VALUES: RESPECT TEAMWORK PERFORMANCE ACCOUNTABILITY INITIATIVE

Our Strategy Statement

By 2020, we will build on our core electricity distribution business to become Ontario's premier integrated energy services provider.

Vision 2020

*What Does the Vision
Begin to Look Like?*

- Full service ‘energy services and solutions’ provider
- Leading ‘customer service’ provider (technology and people)
- Total engagement with all stakeholders
- PS/PESI working in other provinces across Canada
- Customers find value

- \$2-3 B in total assets; at least 15-20% of net income from new businesses
- Grid Co. completes at least one major acquisition; 500,000-750,000 customers in 5 years

- Clearly the best utility in Canada
- Maintain positive culture and reputation - continue to draw people into the organization; highly motivated, positive staff
- Key drivers: dedication, innovation, results-oriented, focused, accountable, "walking the talk" on values

Why Did we Select This Strategy?

- Reduces per Unit Cost
- Facilitates Benchmarking With the OEB
- Helps to Fund CapEx Requirements
- Provides Funds for Investment in Technology
- Helps to Expand the Business Model to an Energy Services Provider
- Allows for Attractive Strategic Partnerships
- Increases Shareholder Value



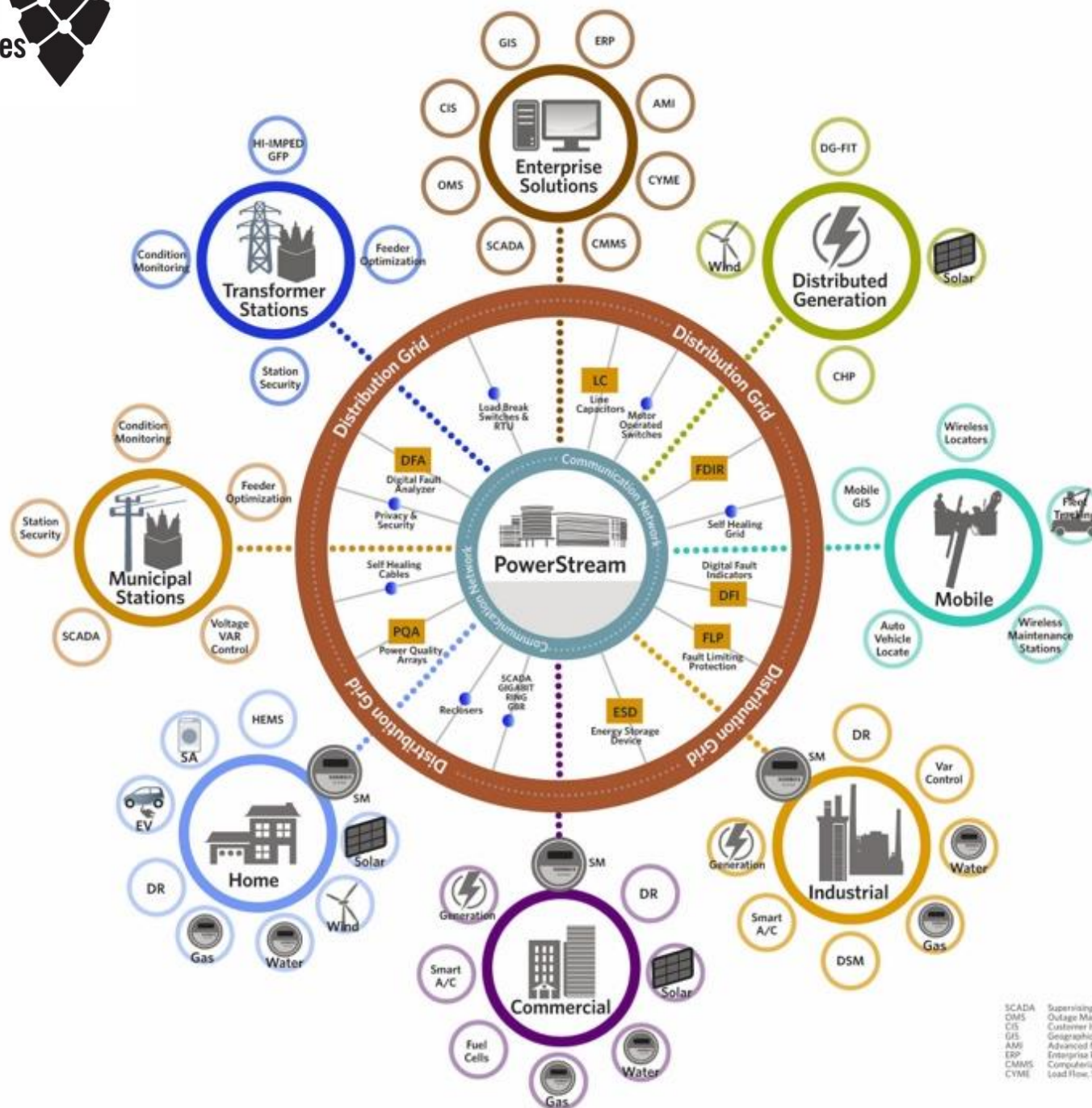
What Does the Strategy Allow us to Do?

EB-2015-0003
PowerStream Inc.
Order Hearing Undertakings
Appendix J1.5
Page 118 of 127
Filed: November 23, 2015

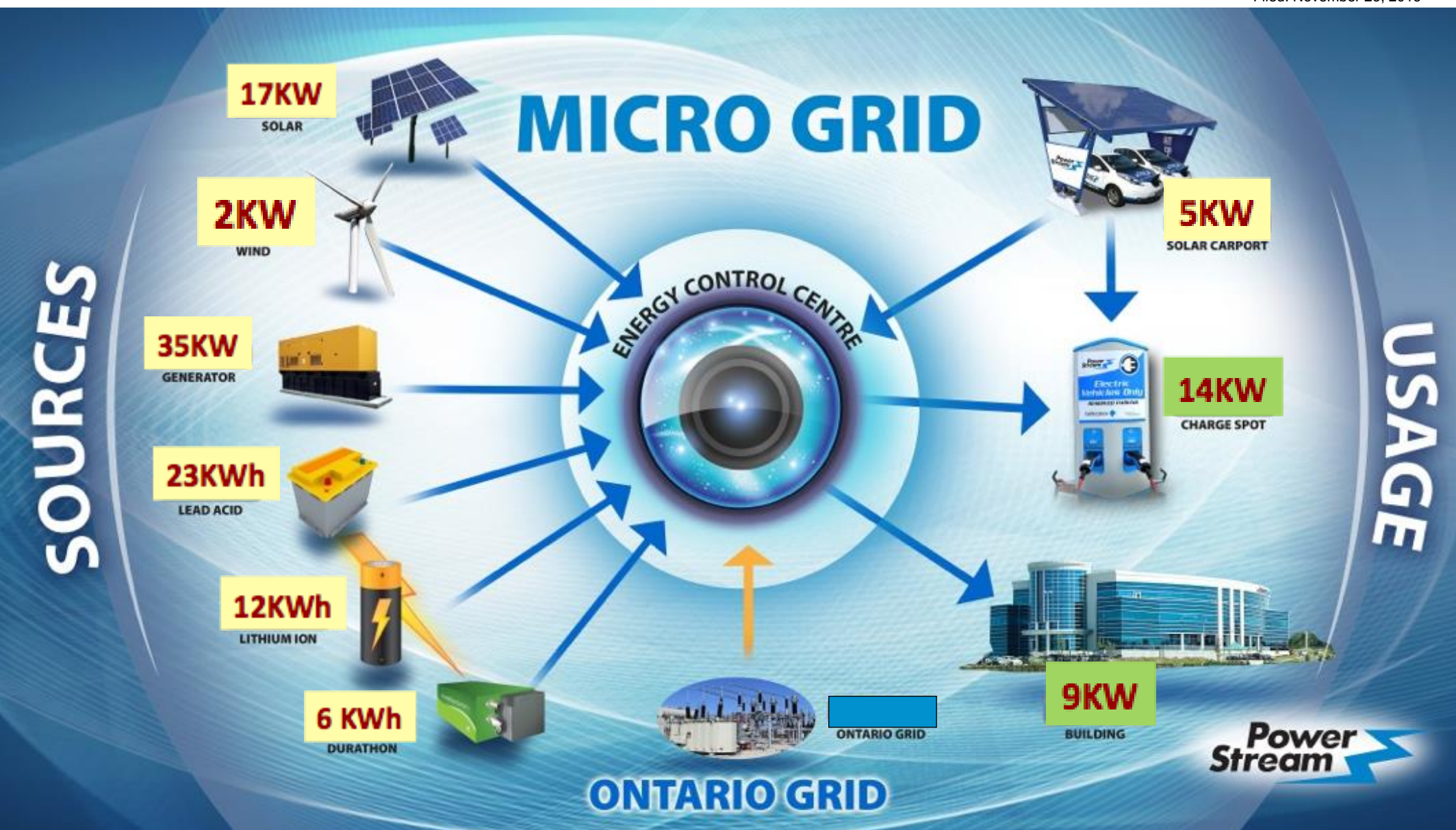
- Innovate
- Get Scale
- Leverage Technology

New Energy Solutions

- Reliability and Smart Grid
- Conservation and Demand Management
- Off-Grid, Micro Grid
- Renewables (Wind, Solar, Bioenergy...)
- Energy Storage
- Co-Generation, Combined Heat & Power
- Behind the Meter Products/Services

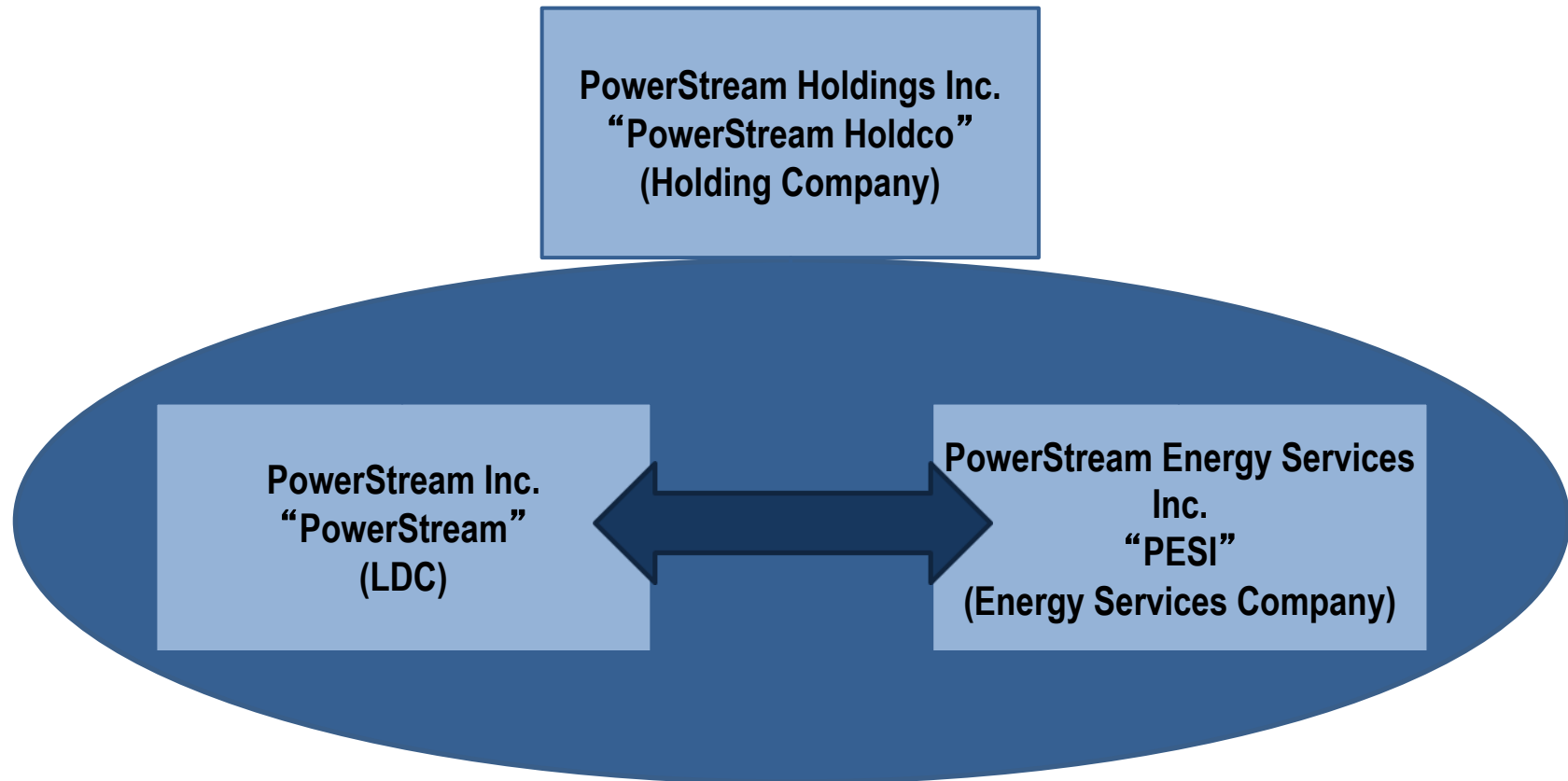


PowerStream Micro Grid



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EB-2015-0003
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Oral Hearing Undertakings
Appendix J1.5
Page 122 of 127
Filed: November 23, 2015



Conclusions

FIVE KEY MESSAGES

- Utility value is peaking
- Blurring the lines
(Opportunities abound)
- Watershed moment
- If not us, who?
- The PowerStream story
(The next chapter)



Board direction:

- Re-confirming the current PowerStream strategy
- Endorsing the 2020 Critical Success Factors
- Endorsing actions or initiatives to enable Structural and potential Financing Options to execute strategic growth

Importance Of The Decisions To Be Made

- Setting the future direction for the organization
- Continuing down the path of growth and innovation
- Developing and delivering an enhanced portfolio of product and service offerings for our customers

We may not get there today
or even tomorrow, but the
journey will be the great
adventure of our lives.

John F. Kennedy

FOCUSED ON **EXCELLENCE**

