



# BPA, Public Power and the Sixth Power Plan

March 17 ▪ 9:45 am  
Multnomah/Holladay Room

# The 6<sup>th</sup> Power Plan . . . and You

Tom Eckman  
Manager, Conservation Resources  
Northwest Power and Conservation Council

BPA Utility Energy Efficiency Summit  
March 17, 2010

# The 6th Northwest Power and Conservation Plan

## Now Playing!

Guaranteed to Make Your Life More ***Interesting!***

# But First . . . What's Happened Since We Last Left Our Hero's



Mike W.

... and of course



"Cap'n" Tom

Public Power



Josh



Mike R.

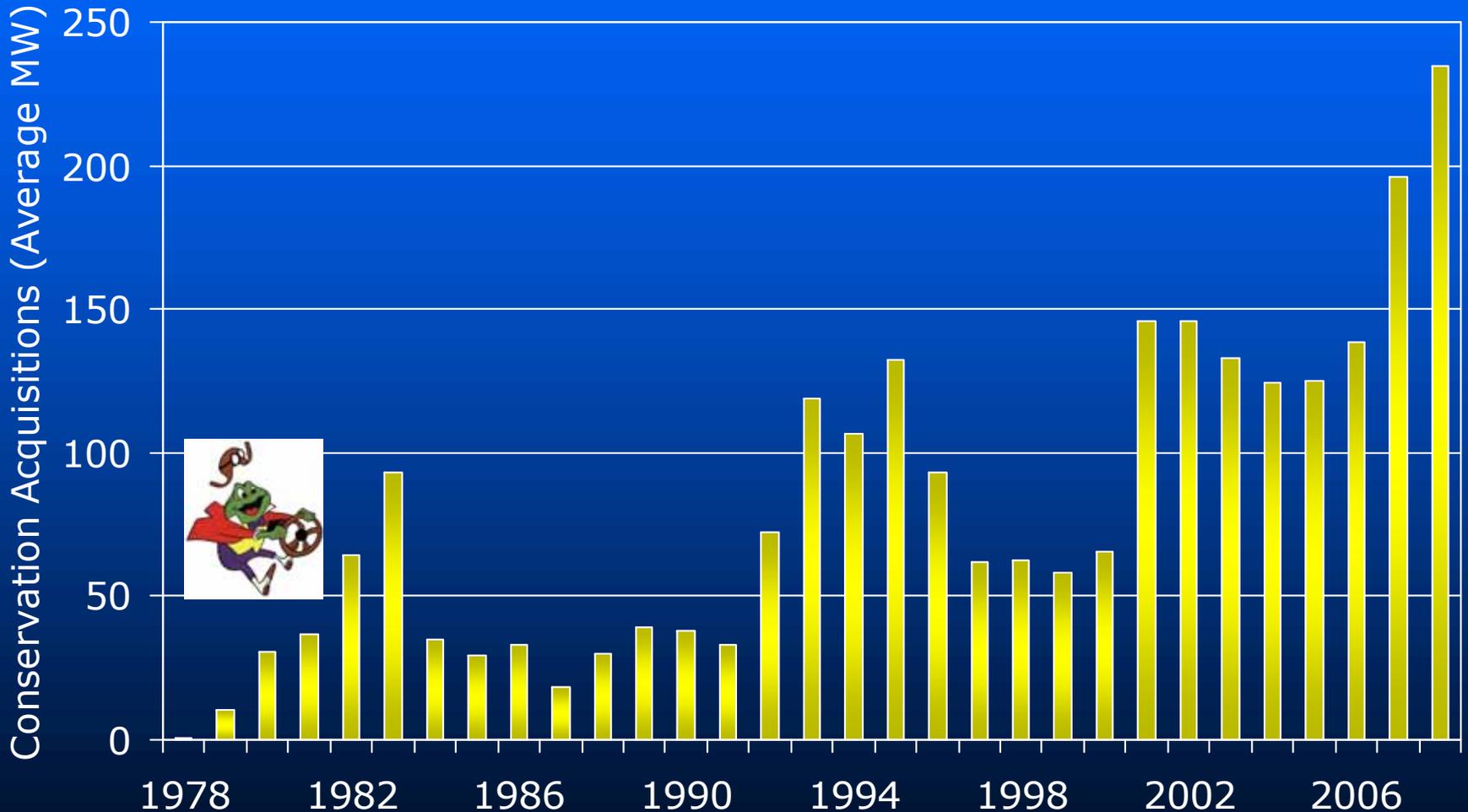


Karen

# The Region Has Exceeded the 5<sup>th</sup> Plan's Targets Every Year



# Mr. Toad\* Is Riding The Longest Sustained Period of Utility Conservation Program Savings in Three Decades

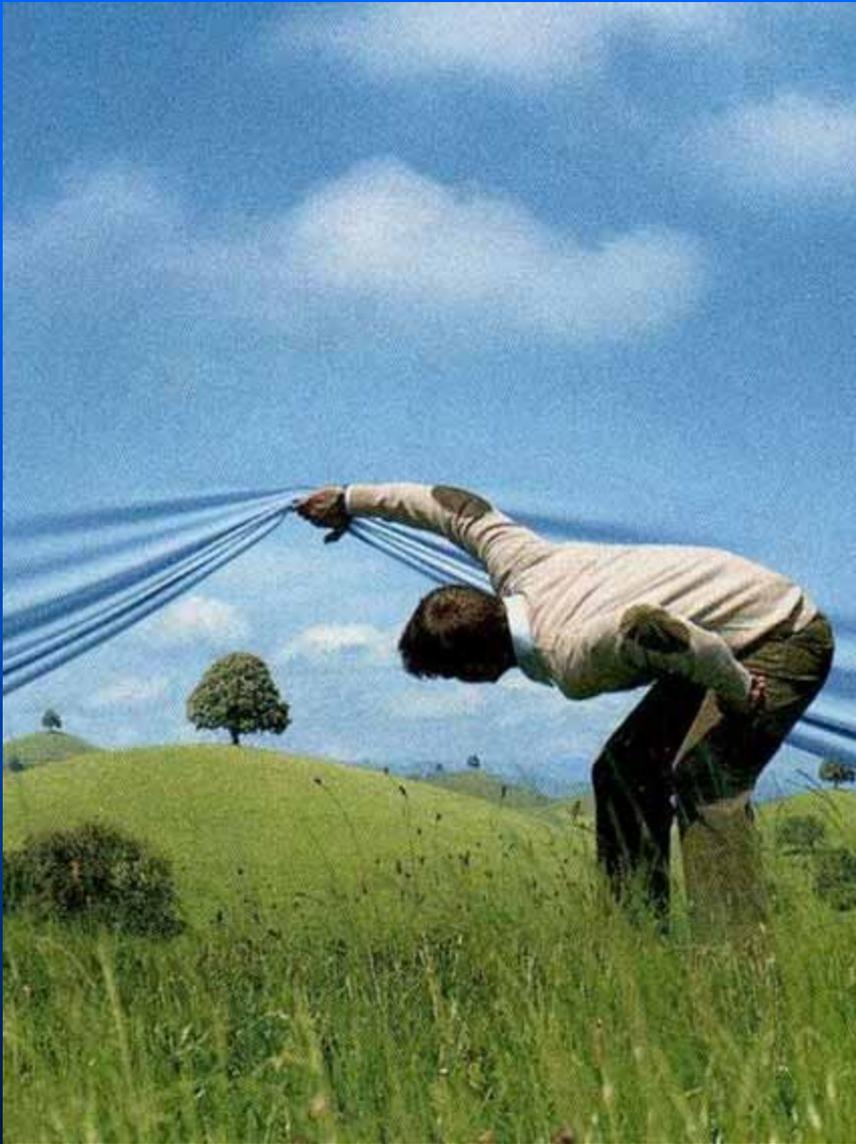


See: "Mr. Toad's Wild Ride" [http://en.wikipedia.org/wiki/Mr.\\_Toad's\\_Wild\\_Ride](http://en.wikipedia.org/wiki/Mr._Toad's_Wild_Ride)

# Energy Efficiency Is The Region's Third Largest Resource

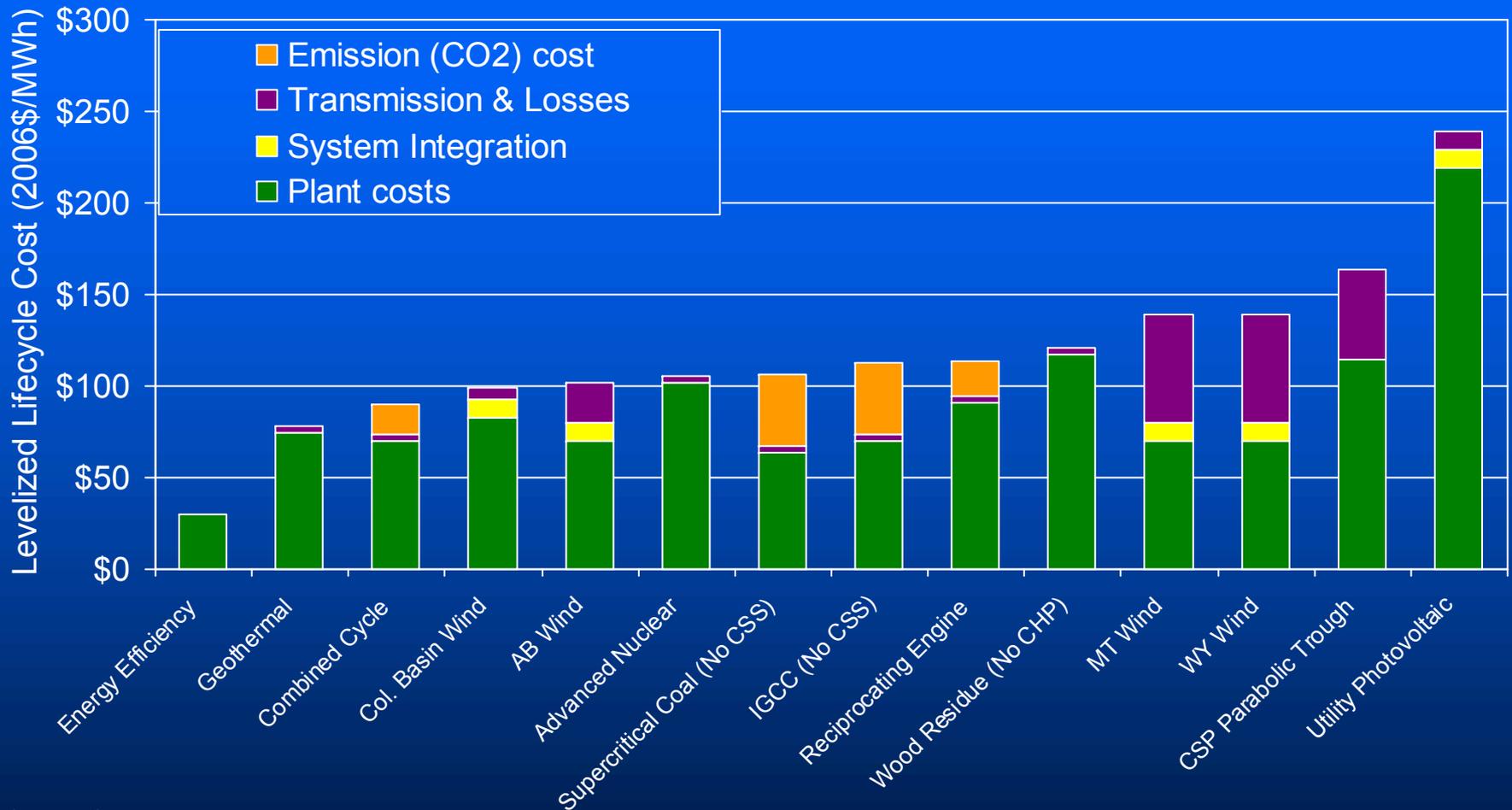


We're Saving The Annual Firm Energy Output of  
Two Grand Coulee Dams



So  
What's  
Next?

# Energy Efficiency is Still the Cheapest Option



## Assumptions :

Efficiency Cost = Average Cost of All Conservation in Draft 6<sup>th</sup> Power Plan Under \$100 MWh

Transmission cost & losses to point of LSE wholesale delivery

2020 service - no federal investment or production tax credits

Baseload operation (CC - 85%CF, Nuclear 87.5% CF, SCPC 85%)

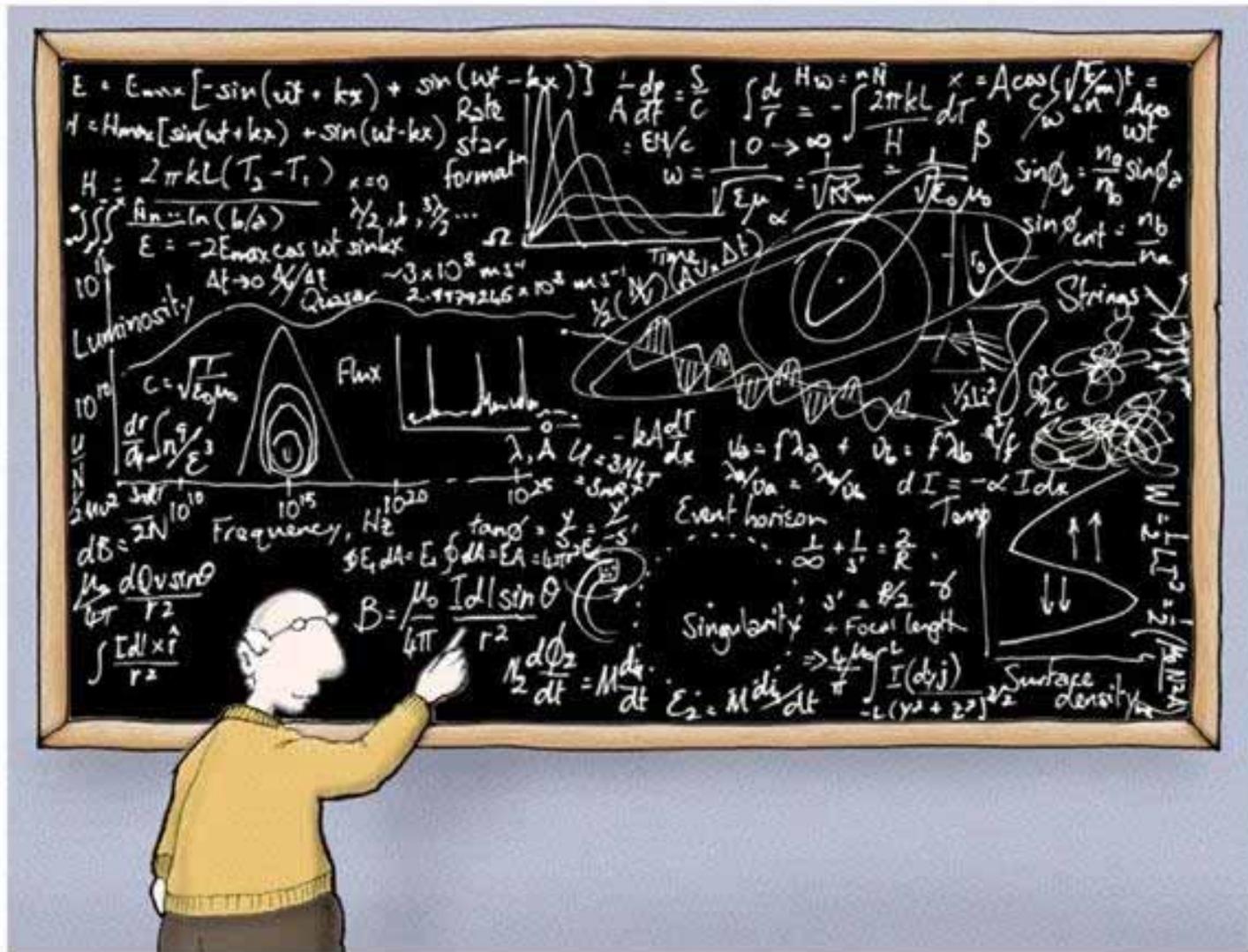
Medium NG and coal price forecast (6<sup>th</sup> Plan draft)

6<sup>th</sup> Plan draft mean value CO2 cost (escalating, \$8 in 2012 to \$47 in 2029).

# There's Still "Mass Quantities"

6th Plan Technically Achievable Conservation Potential by Sector





**How Much More Efficiency Should We Develop?**

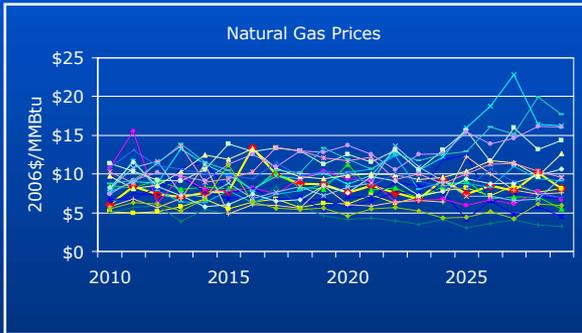
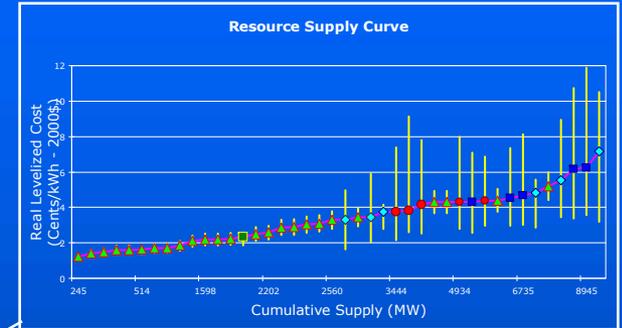
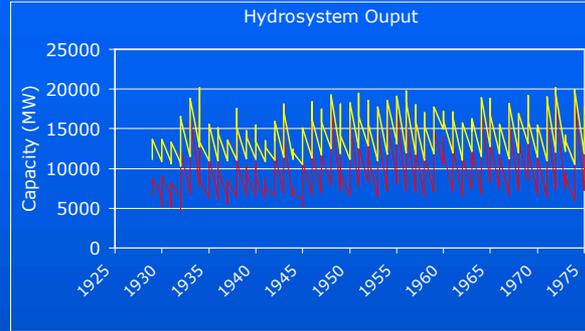
# Council Uses "Gump Model"



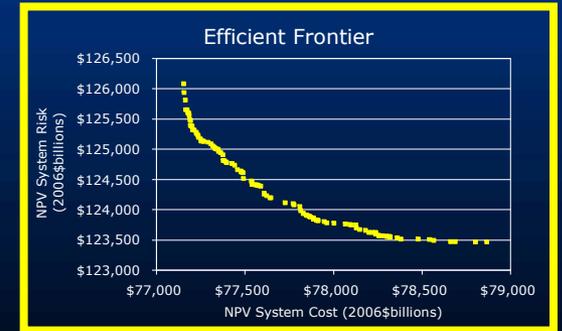
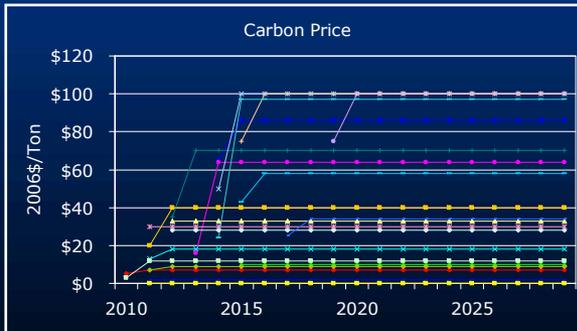
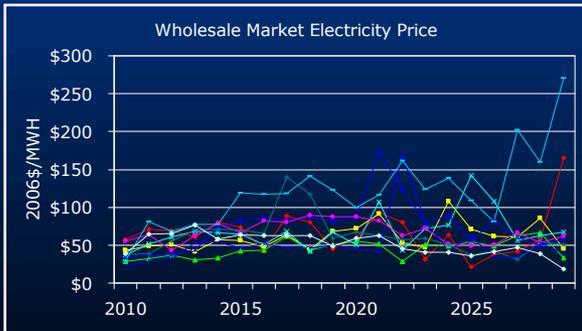
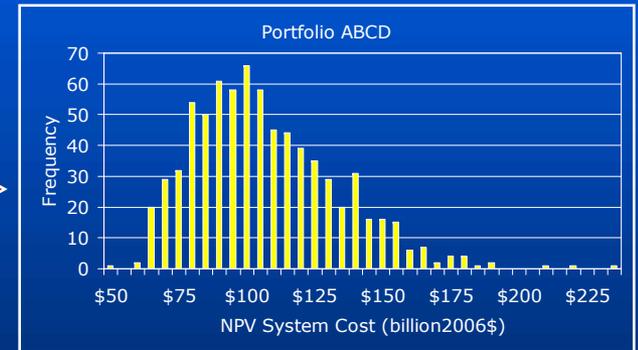
*The Future's Like A Box of Chocolates.*

*You Never Know What You're Gonna Get.*

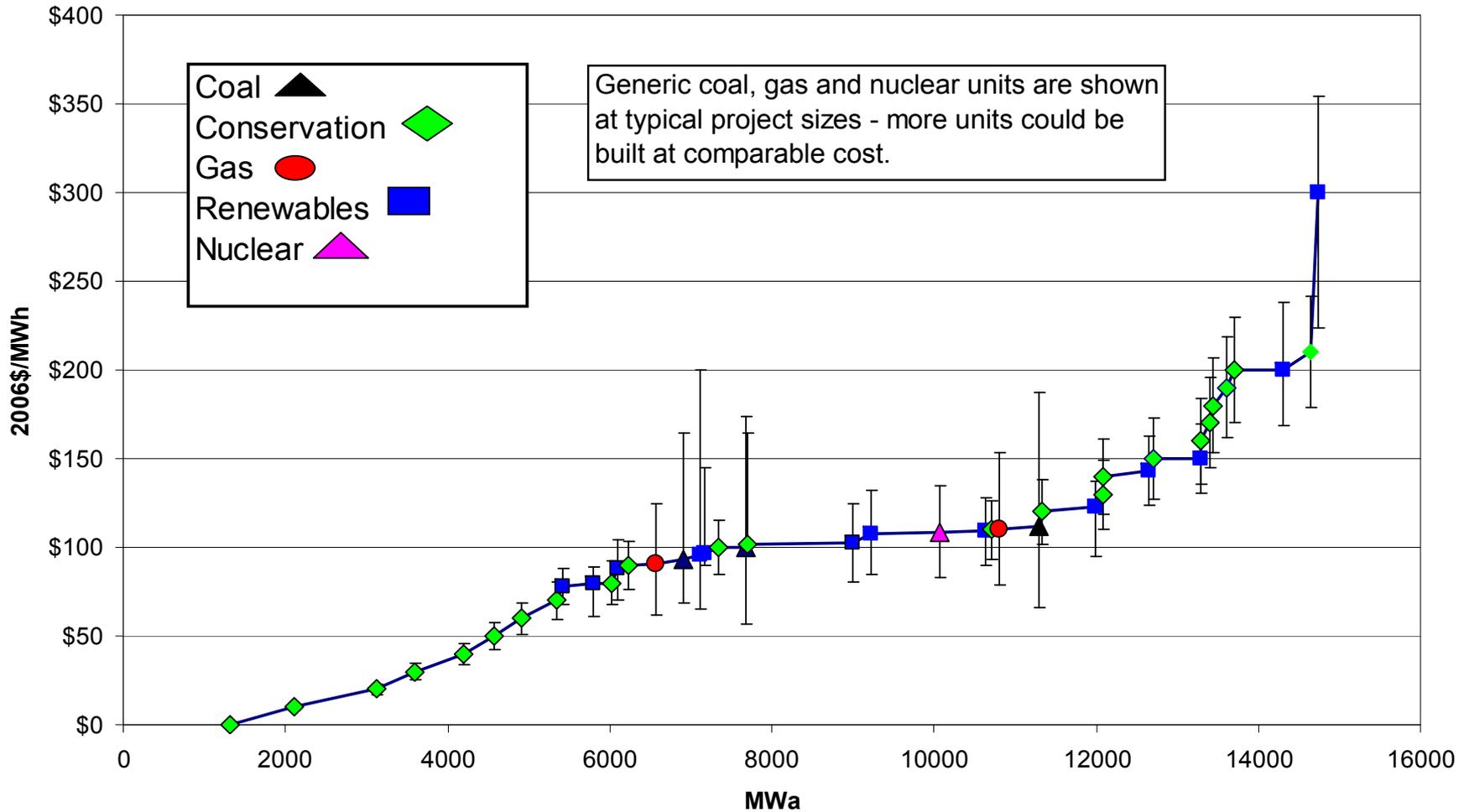
# Council IRP Analysis => Test Lots of Chocolates



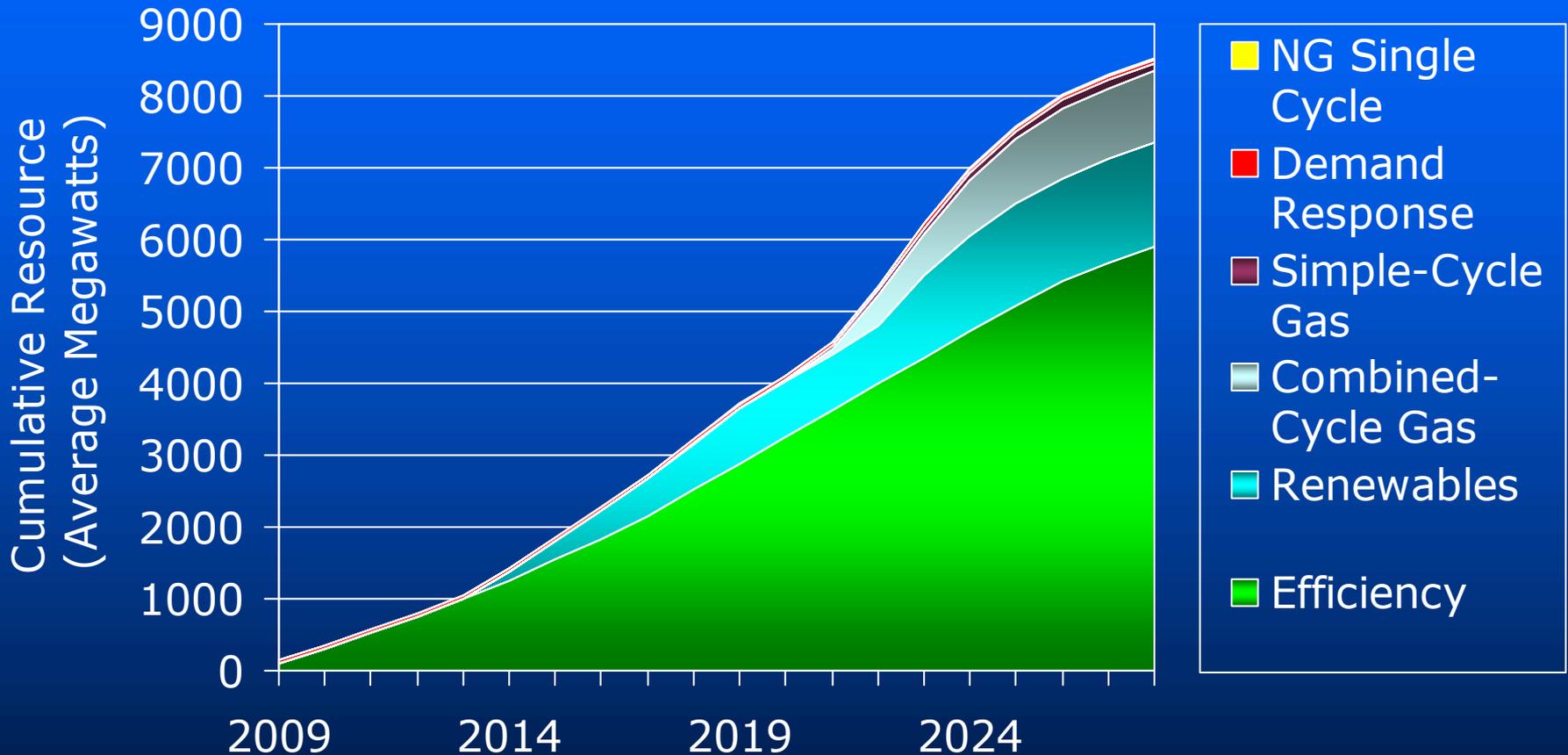
**Portfolio Analysis Model**



# Portfolio Analysis on One Slide

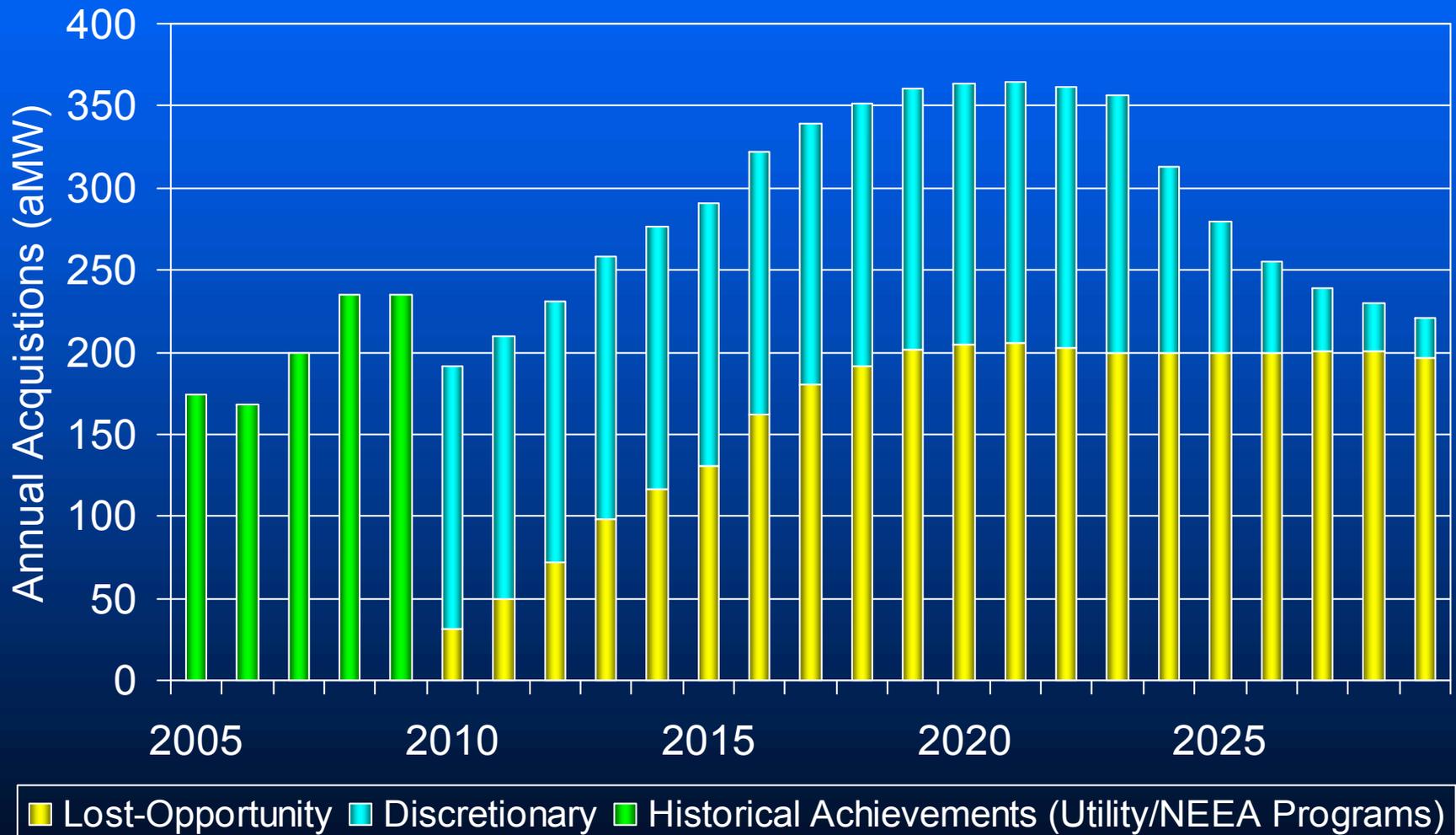


# Sixth Plan Resource Portfolio\*

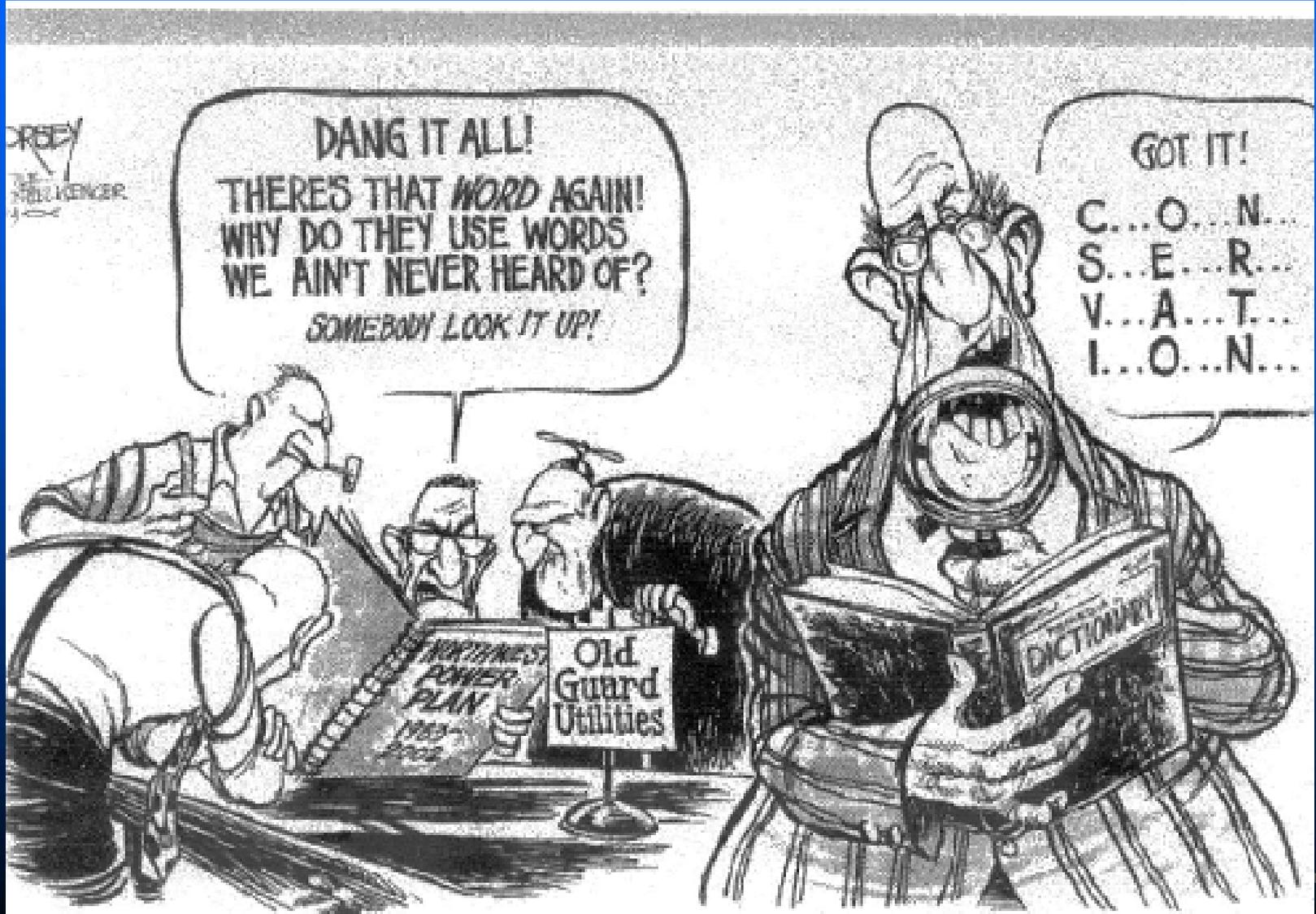


\*Expected Value Build Out. Actual build out schedule depends on future conditions

# 6<sup>th</sup> Plan Conservation Goals 1200 aMW Over Five Years



# Reaction to Council's 1st Plan's Conservation Goal Was "Mixed"



# Reaction To 6<sup>th</sup> Plan Goal Doubling of Efficiency Savings Over Next Decade Was Front Page News!

## The Sunday Oregonian

SUNRISE EDITION ★★★ ++H

\$2.00

BREAKING NEWS AT [OREGONLIVE.COM](http://OREGONLIVE.COM)

WINNER OF SEVEN PULITZER PRIZES

SEPTEMBER 13, 2009

### Embassy contractor has record of troubles

**Afghanistan** | Drunken parties bring attention to ArmorGroup, but U.S. officials knew of wider problems

By **GINGER THOMPSON**  
and **MARK LANDLER**  
NEW YORK TIMES NEWS SERVICE

WASHINGTON — When a security guard at the U.S. Embassy in Kabul was leaving

With a goal of doubling the region's energy saving in the next 20 years, Northwest businesses and homeowners are urged to find ...

## The power in CONSERVATION

### Energy efficiency is cheapest source of energy

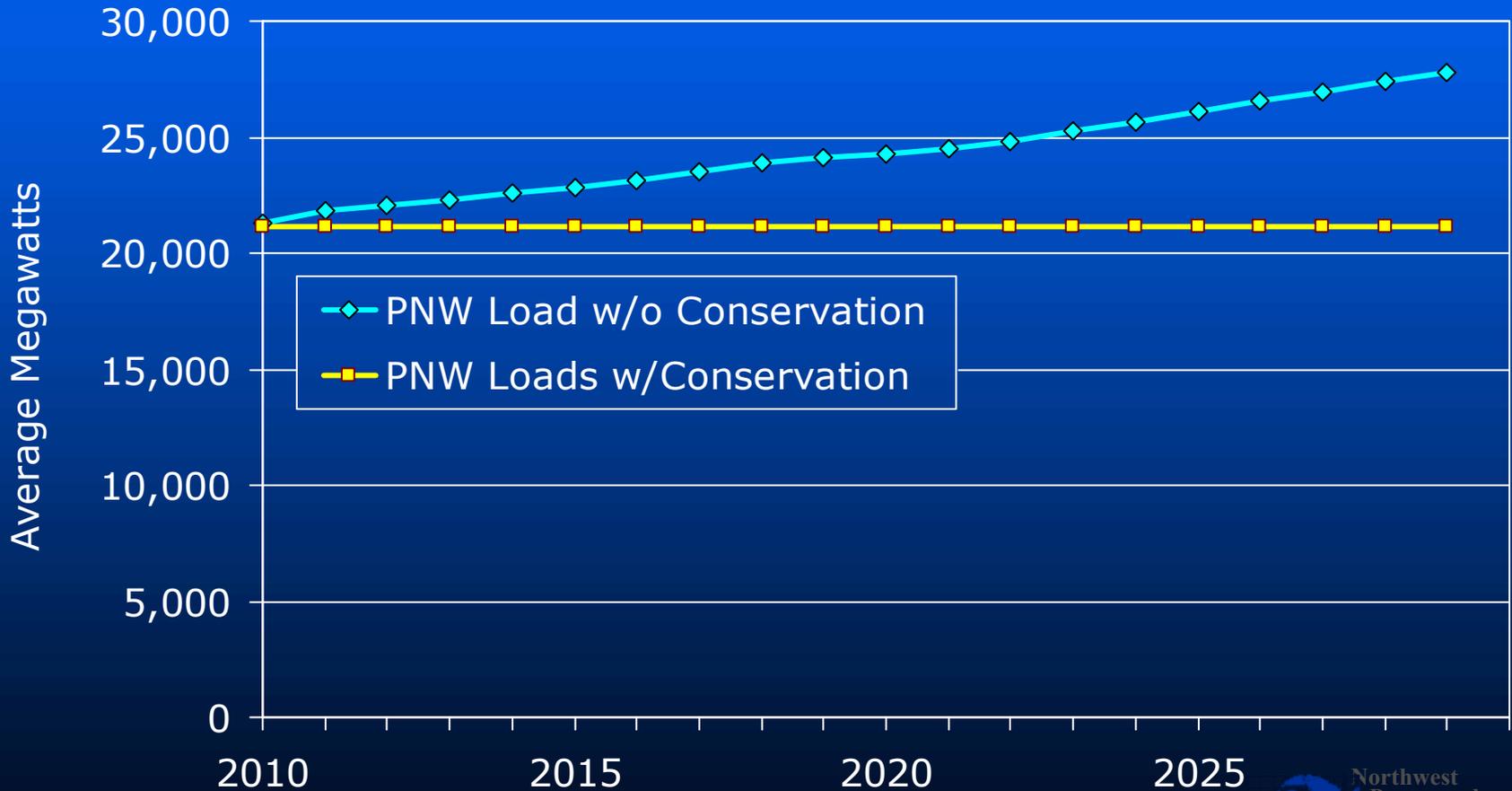
| New energy sources                  | Monthly investment cost on the average homeowner's utility bill                           |
|-------------------------------------|---|
| Energy efficiency*                  | \$32  |
| Natural gas plant w/o carbon charge | 66    |
| Advanced coal w/o carbon charge     | 66    |
| Geothermal                          | 69    |
| Columbia Basin wind                 | 89    |

By **TED SICKINGER**  
and **SCOTT LEARN**  
THE OREGONIAN

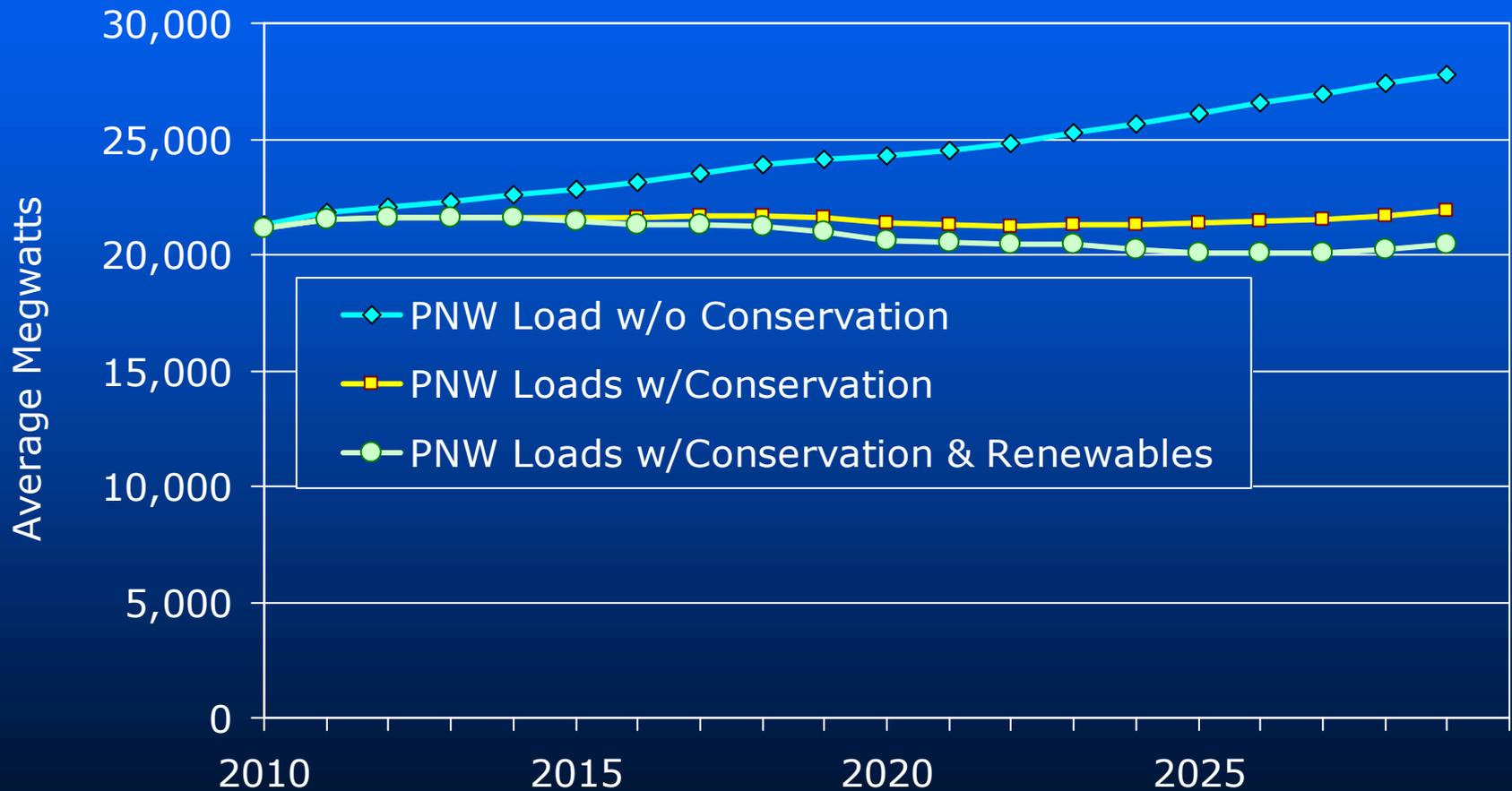
The big white house near Reed College was screaming for an energy upgrade: almost 100 years old, scanty insulation, nearly triple the drafts of a modern home.

Last month, it got one — with the help of two energy audits, federal

# 6<sup>th</sup> Plan Goal 1: Meet 90% of Load Growth with Conservation



# 6<sup>th</sup> Plan Goal 2: Meet 22% of Load Growth with Wind & Other Renewable Resources



# What?

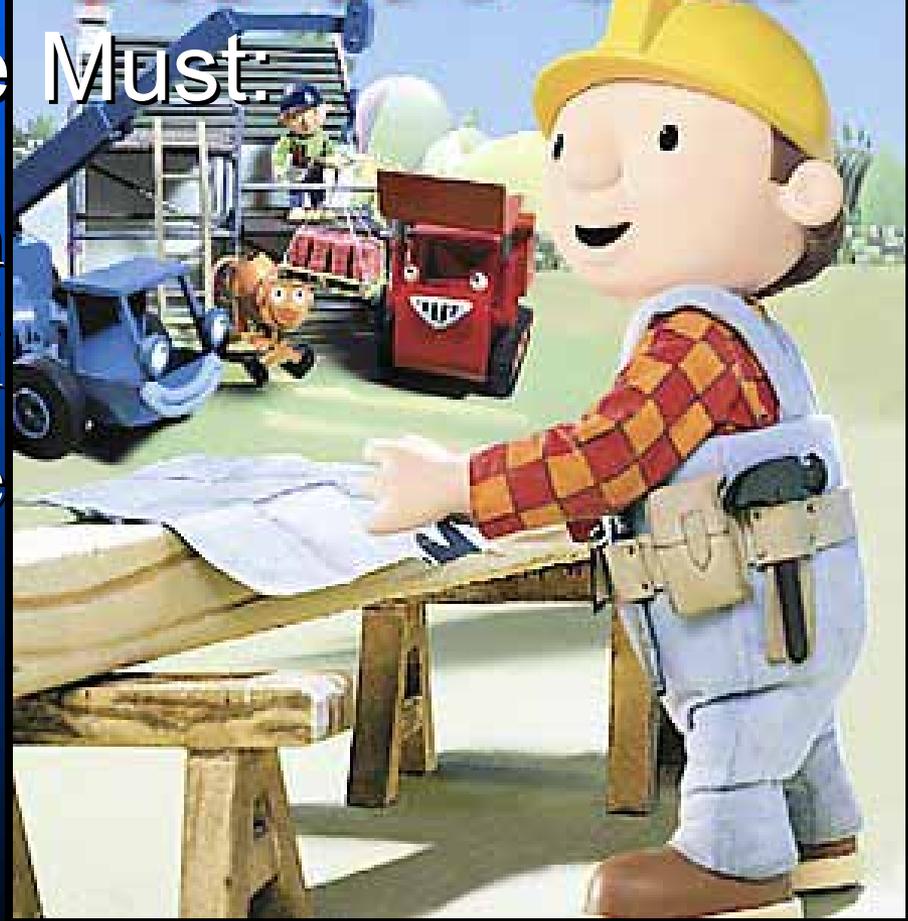


*You Can't Meet More Than 100%  
of Load Growth!*

# Bob The Builder

DVD

## Yes We Can!

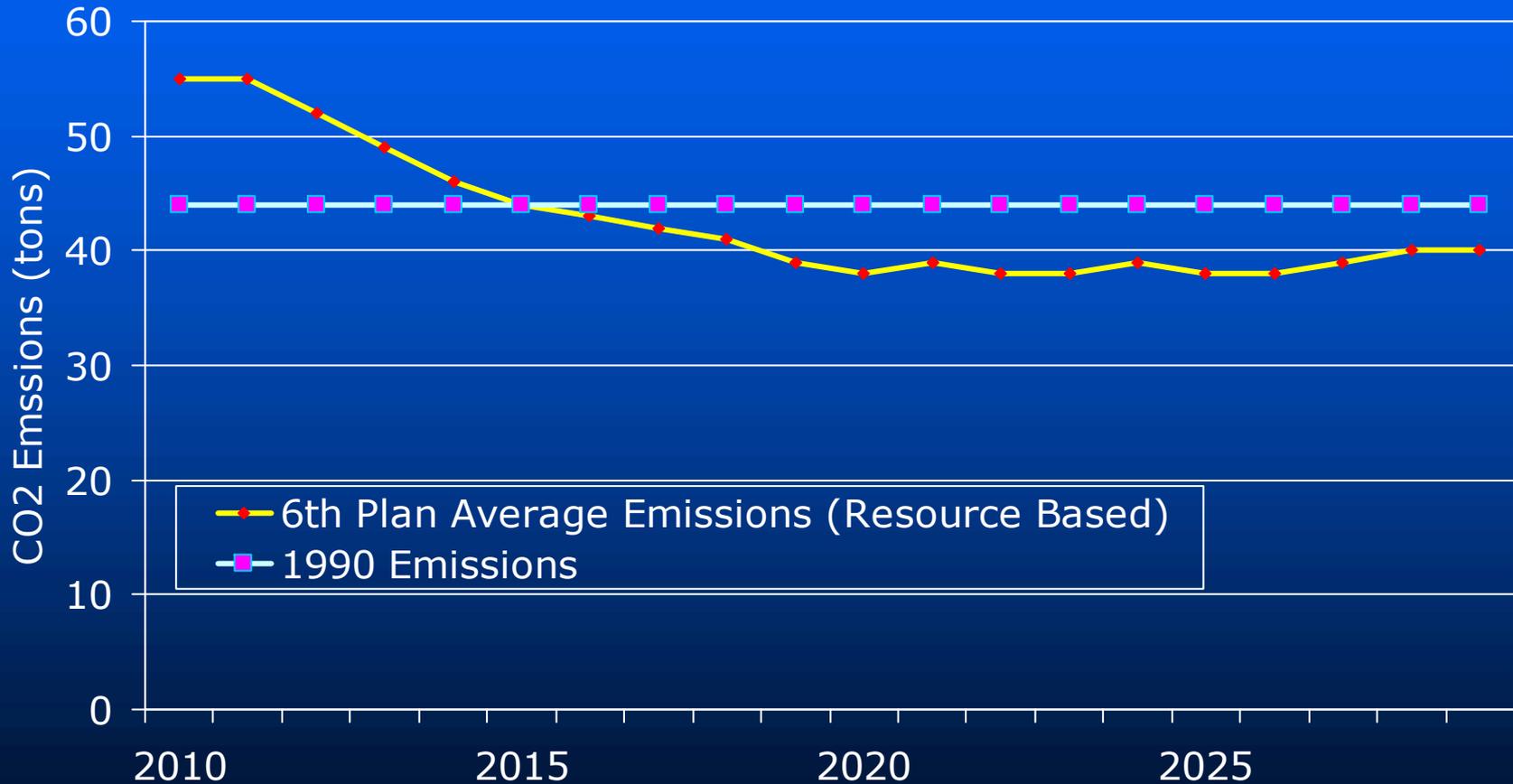


Why We Must:

Meeting m  
energy effi  
displaces e

wth with  
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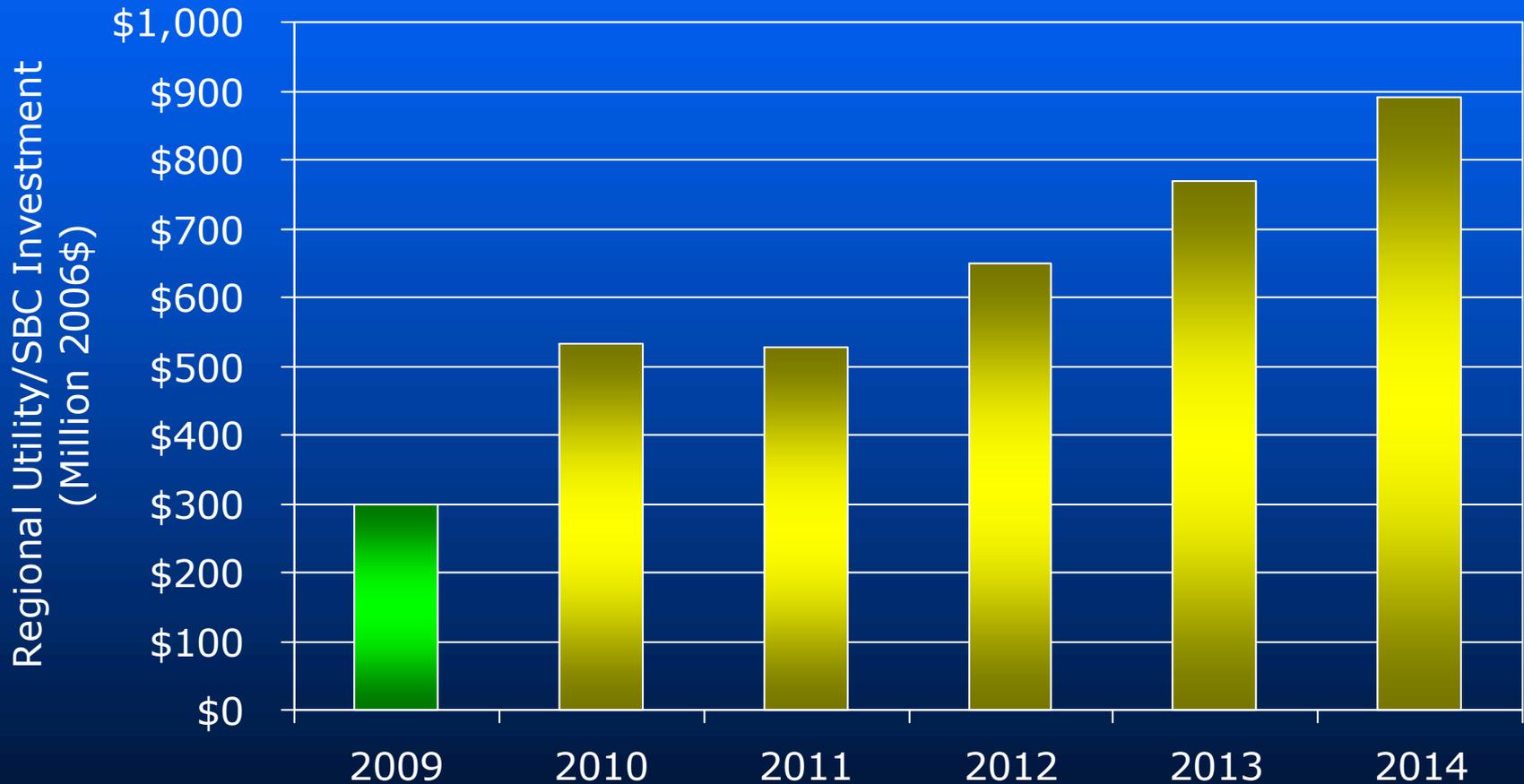
# Meeting These Goals Drops Carbon Emissions 15% Below 1990 Levels by 2020



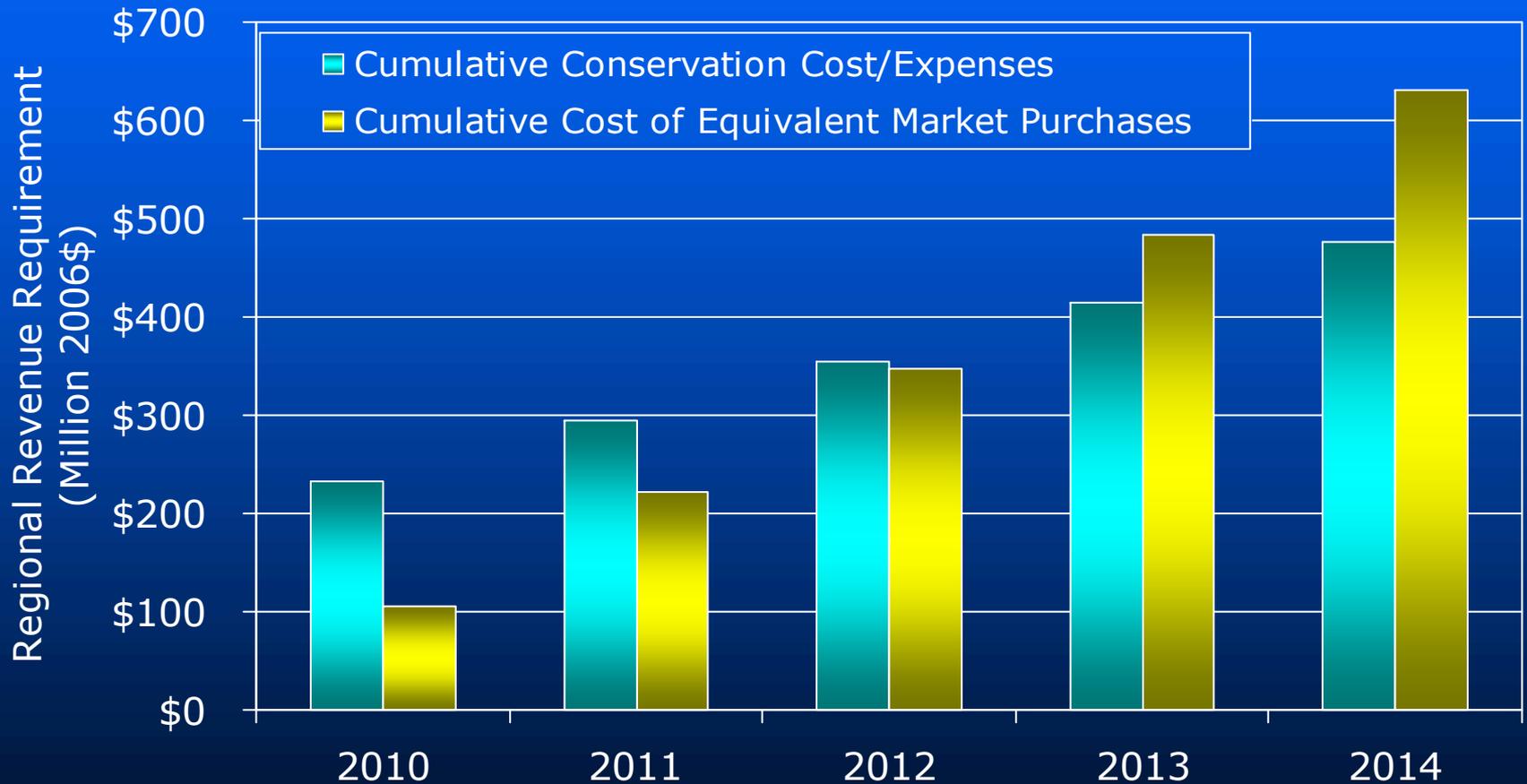
So Yeah See,  
*You're On A Mission from God*



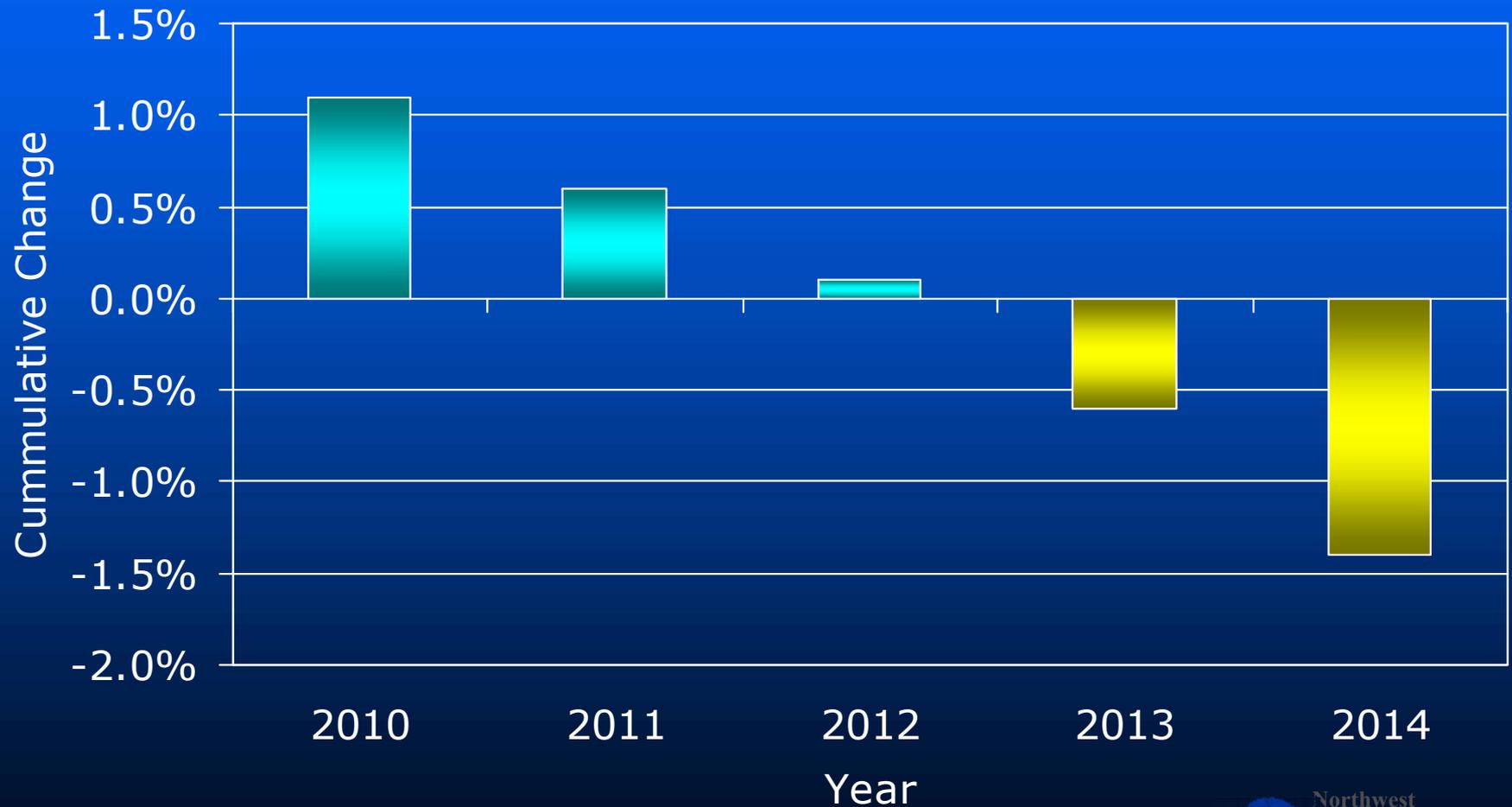
# Meeting 6<sup>th</sup> Plan Goal Will Require 2X – 3X Increase Investments in Energy Efficiency



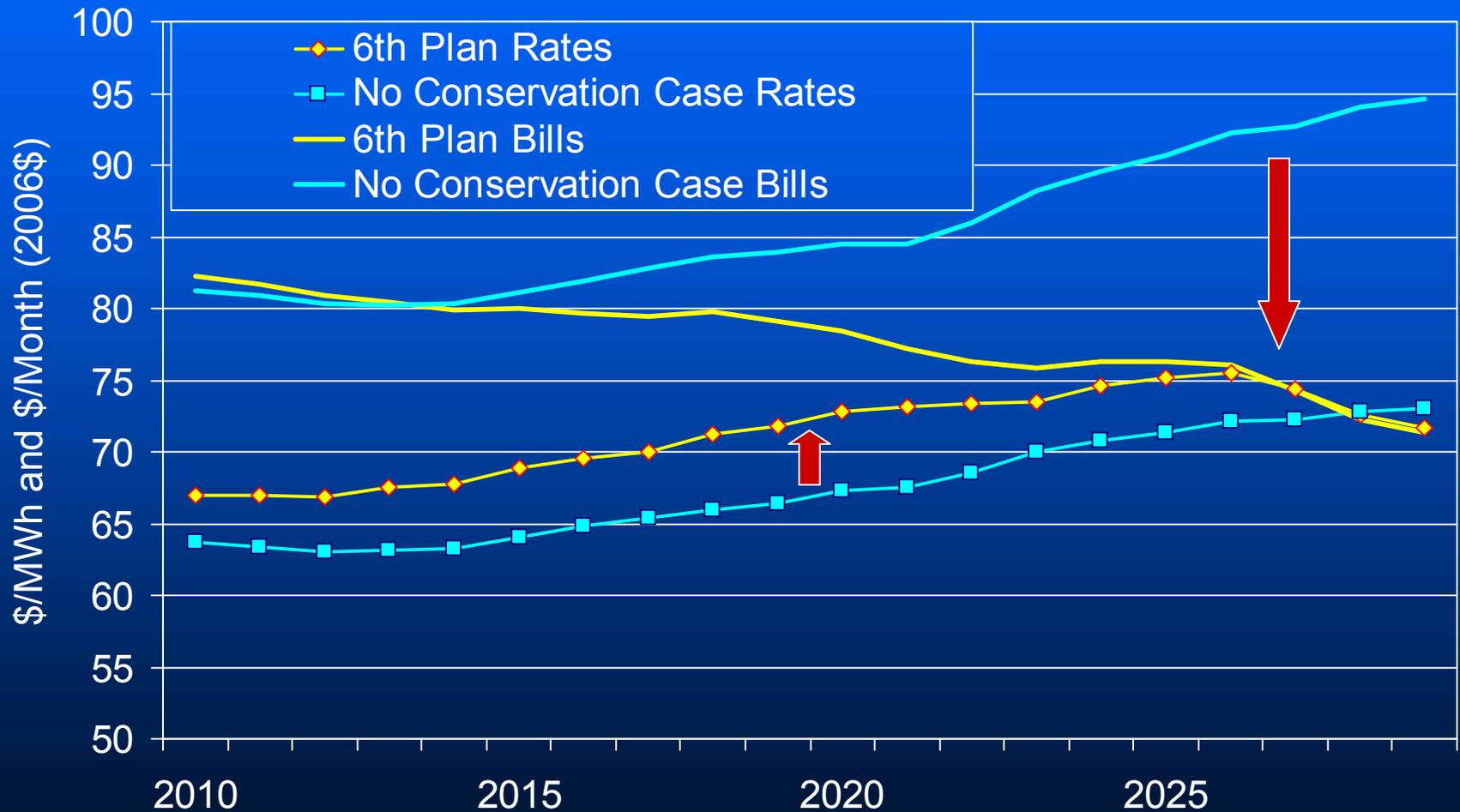
# Meeting 6<sup>th</sup> Plan Goal Will Reduce Reliance on More Expensive Resources



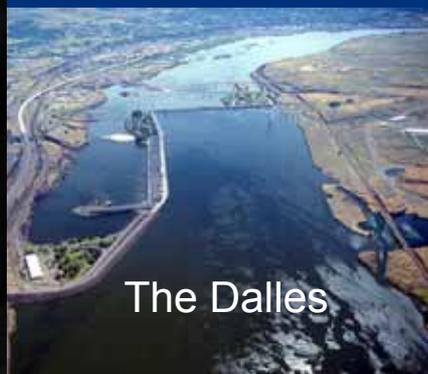
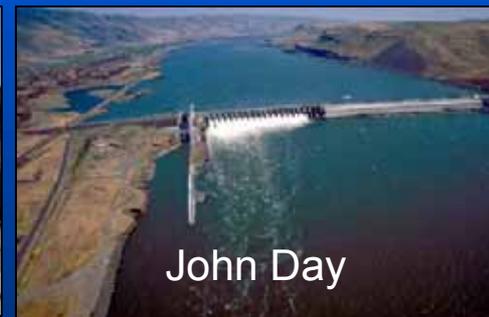
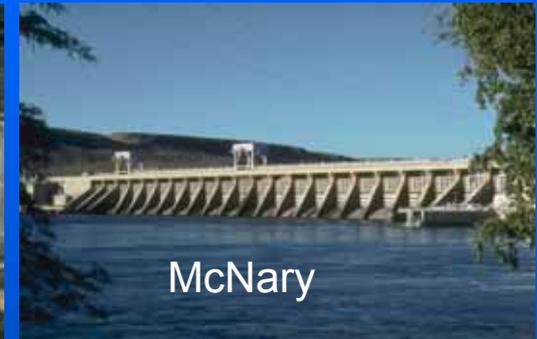
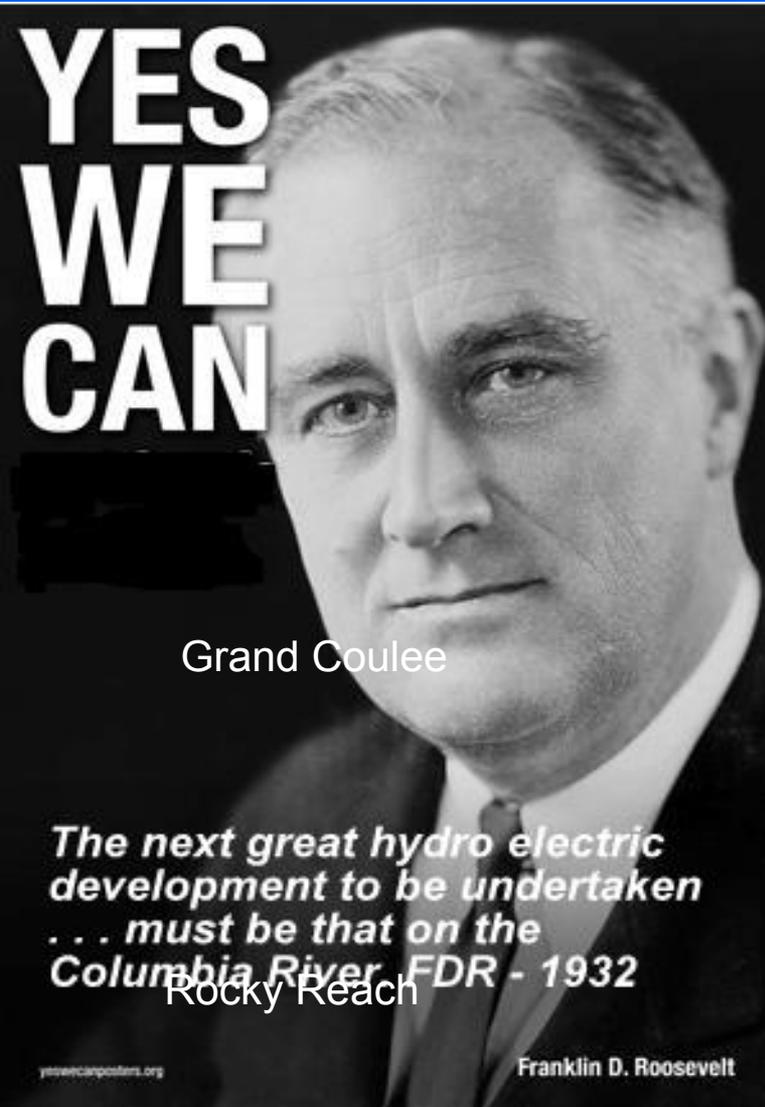
# In Fact, Meeting the 6<sup>th</sup> Plan's Goal Could Reduce Regional Revenue Requirements Below Today's Within Four Years



# Energy Efficiency Increases Rates But Decreases Consumers' Bills



# Accomplishing the 6<sup>th</sup> Plan's Conservation Goal Will "Stretch" the Columbia River



**. . . and reduced the power systems carbon-footprint 15% below 1990 levels**

# Conservation – Cheap, But Worth It?



Any  
Questions?



Thanks for  
Listening



# Achieving 6<sup>th</sup> Power Plan Targets

Presented by:

Karen Meadows, Energy Services Director  
BPA Energy Efficiency



# Energy Efficiency Comes of Age

- More demands from more places:
  - National – EE as part of broad focus on energy & climate
  - Regional – EE as integral resource for future demand
  - Local – Consumer pull for EE to manage costs
- Historical success sets sites high
  - 5th Plan target: 700 aMW
  - 6th Plan target: 1,200 aMW
  - BPA share: 504 aMW (2010-2014): 2X prior target. 1.5X prior delivery.

Region relying on energy efficiency to meet load growth

- **58% over next 5 years**                      **85% over next 20 years**

# Energy Efficiency Comes of Age

- Since 1978, energy efficiency has made a material difference in the energy consumed in our region.

Power:  
3.9aGW



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CO<sub>2</sub>:  
16.2 Metric Tons



x 3.2M

# Starting Assumptions: 5-year Savings Targets - Public Power Share

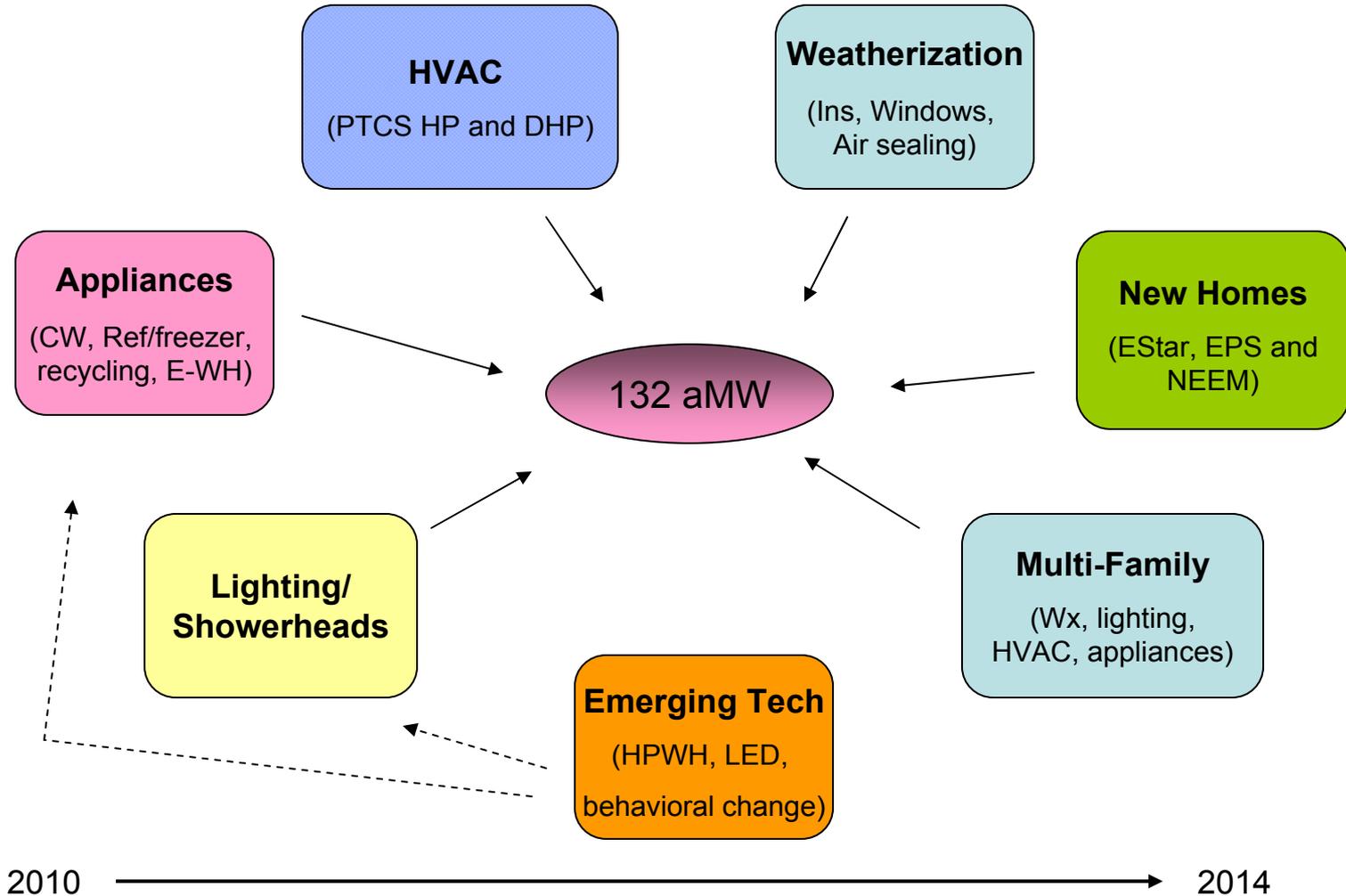
| Sector       | Total Target | Non-Programmatic | Market Transformation | Program Target |
|--------------|--------------|------------------|-----------------------|----------------|
| Residential  | 275          | 38               | 35                    | 132            |
| Commercial   | 90           | 22               | 20                    | 100            |
| Industrial   | 93           | -                | 19                    | 74             |
| Agriculture  | 20           | -                | -                     | 20             |
| DSEI         | 26           | -                | -                     | 20             |
| Federal      | -            | -                | -                     | 25             |
| <b>Total</b> | <b>504</b>   | <b>60</b>        | <b>73</b>             | <b>371</b>     |
| % of Target  | 100%         | 12%              | 14%                   | <b>74%</b>     |

Note - Program Target adjusted for achievability.

# How do we deliver on the targets?

- Strong utility, trade ally and NEEA coordination/partnership
- Scale-up existing programs; expand into new
- Flexible, regional programs
- Expand marketing efforts
- Ramp up emerging technology development
- Enhance RTF efforts – deemed and deemed calculated measures

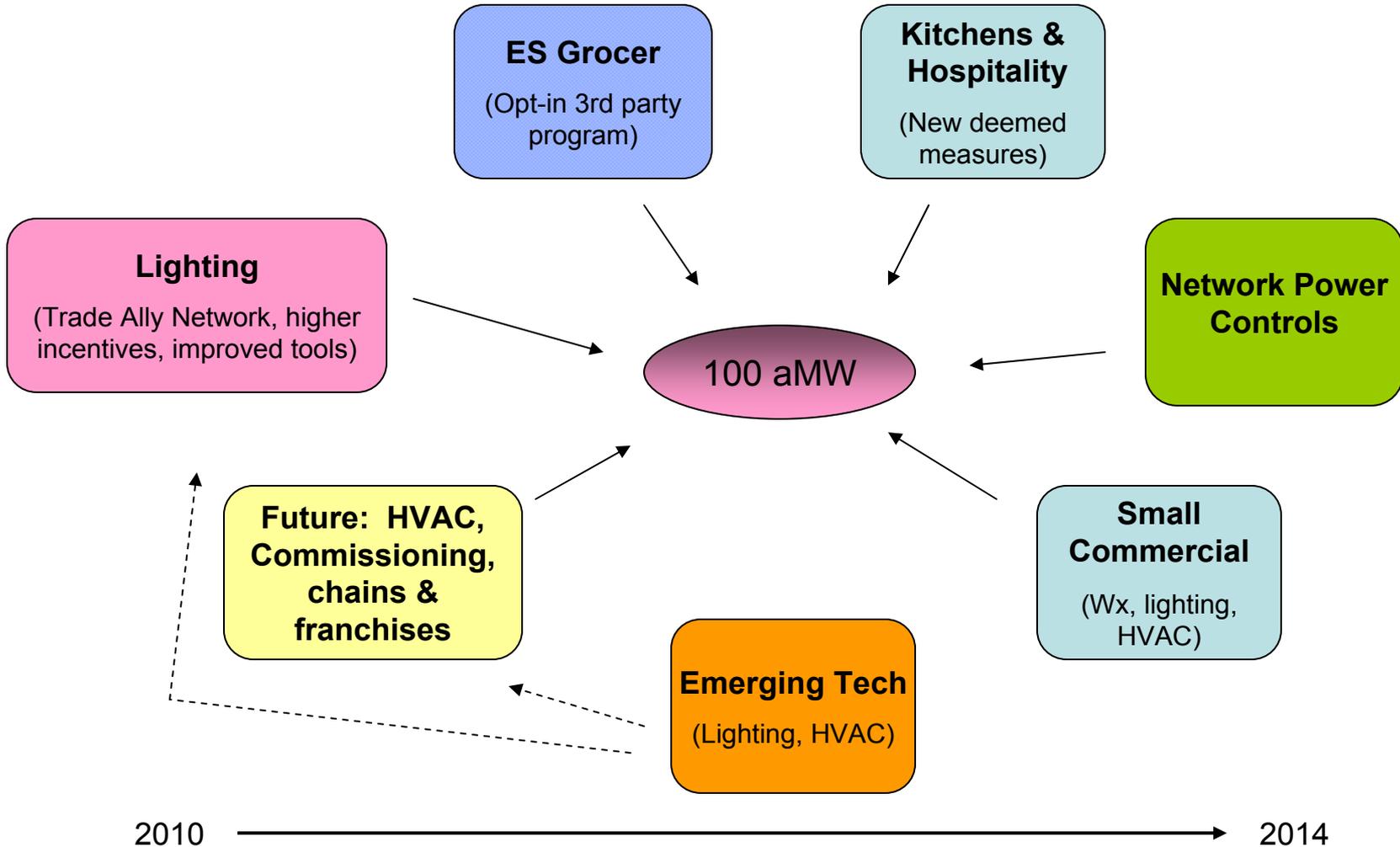
# Residential Strategy Overview



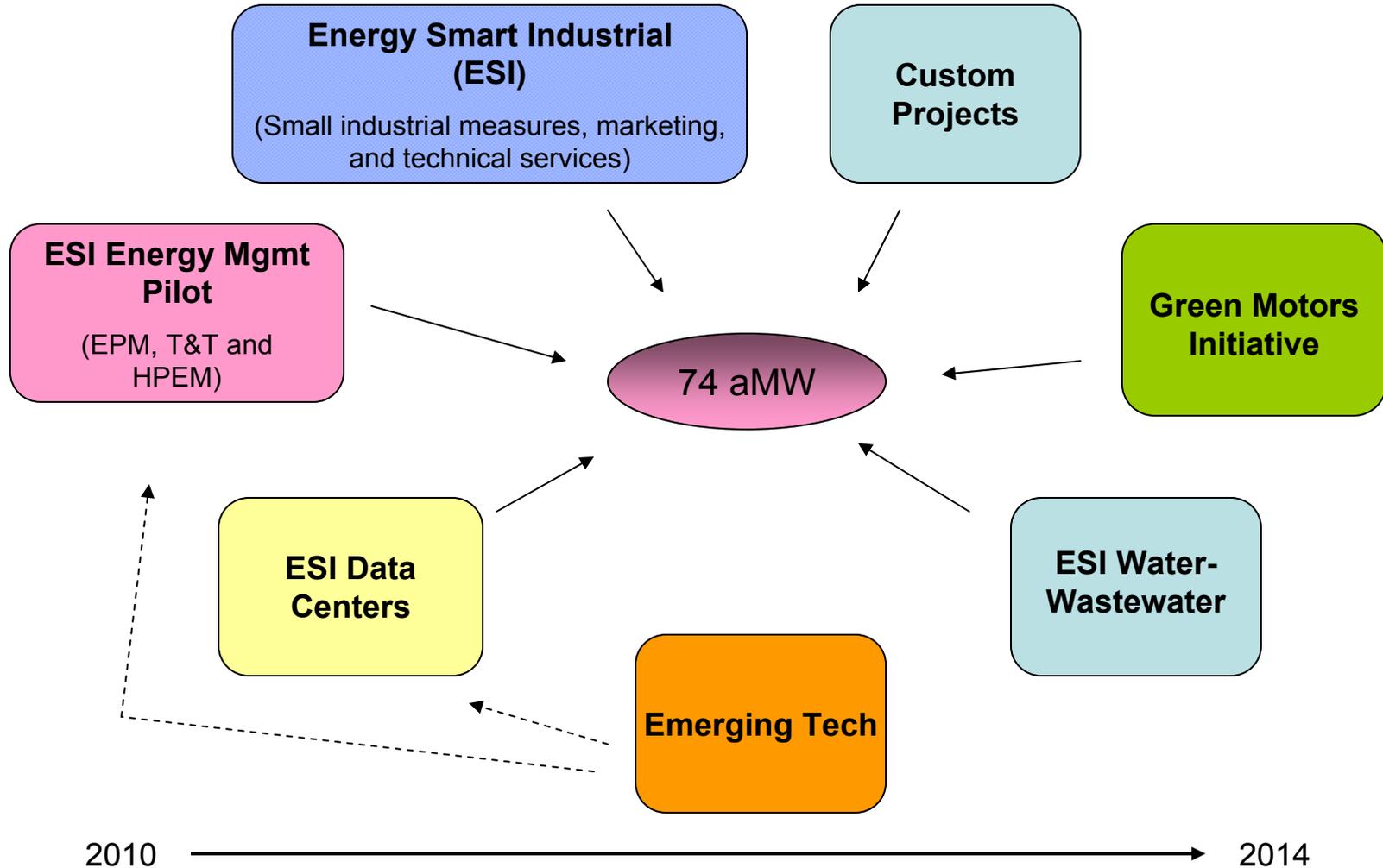
2010

2014

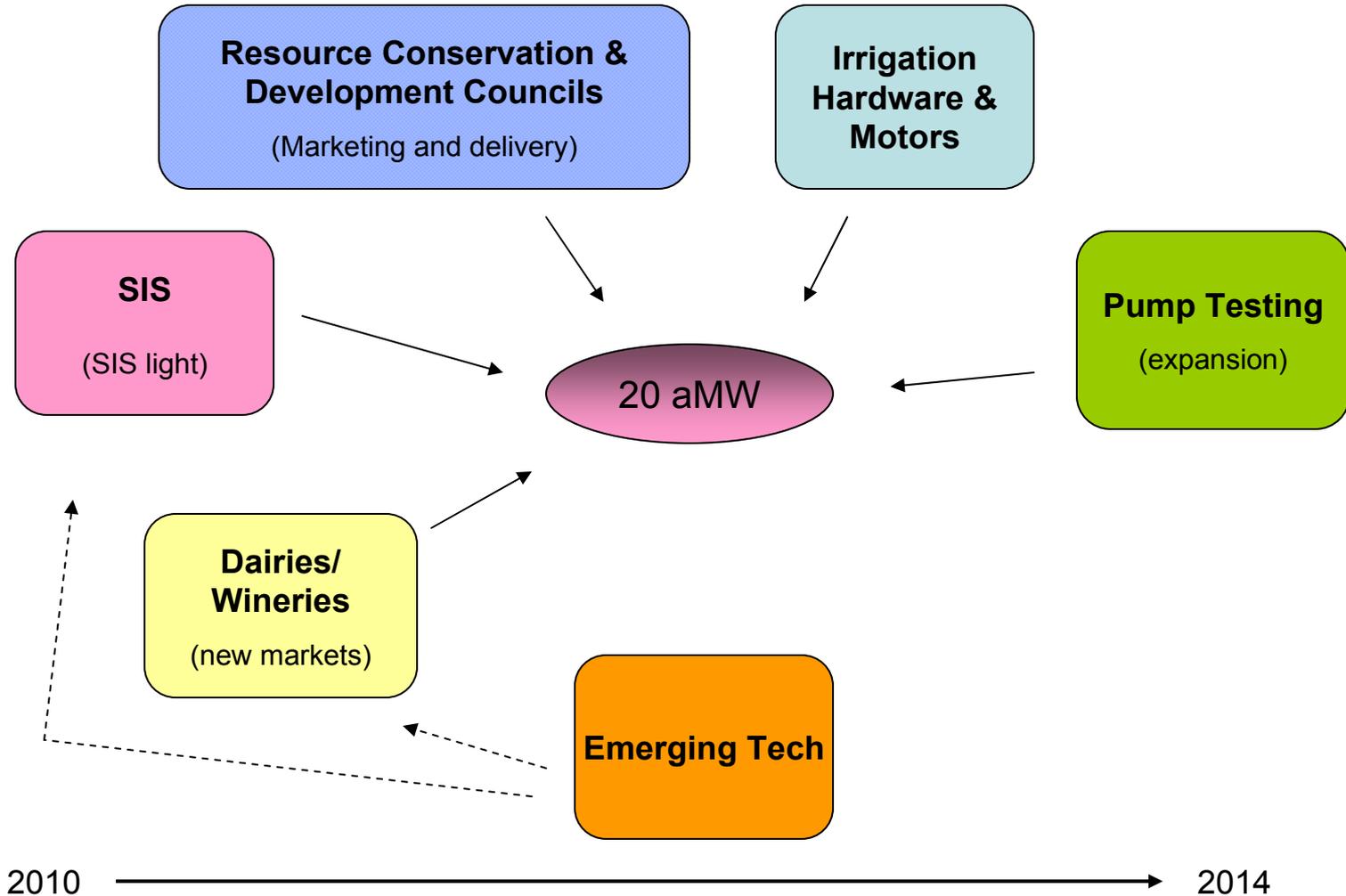
# Commercial Strategy Overview



# Industrial Strategy Overview



# Agricultural Strategy Overview



2010

2014



# Market Transformation Strategy

- ***Residential*** – consumer electronics, new construction, codes and standards
- ***Commercial*** – new construction, codes and standards
- ***Industrial*** – strategic energy management, 25 in10city challenge, training
- Market research & emerging technologies

# Regional Program Utility Participation

- Residential: **60+** (*CAL 63, DHP 78, PTCS 60*)
- Commercial Trade Ally Network: **101**
- Energy Smart Grocer: **90**
- Energy Smart Industrial: **82**
- Green Motors: **85**

*Other Regional Program Needs?*



# Enhanced Marketing

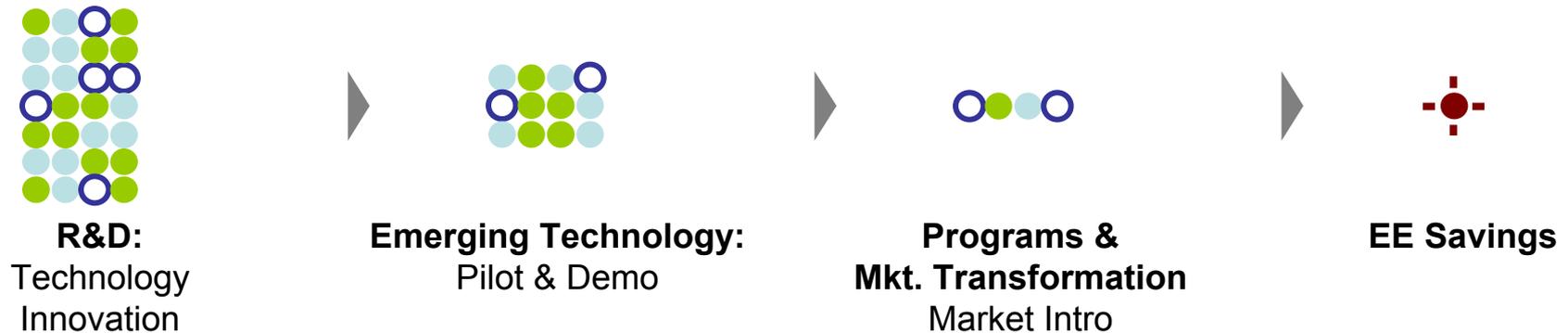
- New On-line Community, best practices
- Off-line community, engagement, information
- Customizable marketing materials for programs, technologies and markets

# Filling the EE Pipeline

- Of the 5-year targets:
  - 60% from measures not yet RTF approved
  - 20% from emerging technologies
- Of the 20-year targets:
  - 33% from technologies needing research and development
  - 47% from technologies needing program build-out

# Filling the EE Pipeline

- >200 new and emerging technologies in E3T pipeline
- Research agenda identified for 5-year horizon targeting 111 aMW
- Accomplishments:
  - NW Energy Efficiency Technology Roadmap complete
  - Regional Energy Efficiency Emerging Technology Framework established
  - ReTAC launched by NEEA



# What Success Looks Like

*Not business as usual!*

- Strong regional coordination
- Leveraged market (trade allies, consultants, 3rd parties)
- Continuous feeding the pipeline
- Strong local programs
- Streamlined, flexible, regional programs with choice in level of service
- Streamlined M&V = better balance of risk and rigor
- More deemed calculators & deemed measures
- Increased knowledge of potential from ground up (CPAs and field data collection)

# Best time ever to be in the Business!

- Significant drivers pushing EE
- Consumers demand is high
- EE is lowest cost resource
- Achieving EE targets will keep region viable and keep consumer bills low.

**AND**

As a region – we have the expertise and experience to achieve the targets!

# Contact

For more information, contact:

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(503) 230-3463