

Energy Efficiency in the Northwest Progress and Promise

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Northwest Power and
Conservation Council

Presented at Affordable Comfort Northwest
February 21, 2007

What You're About To Hear

■ A Short History

- *What We've Accomplished in the past 25 years*

■ Some Recent Events

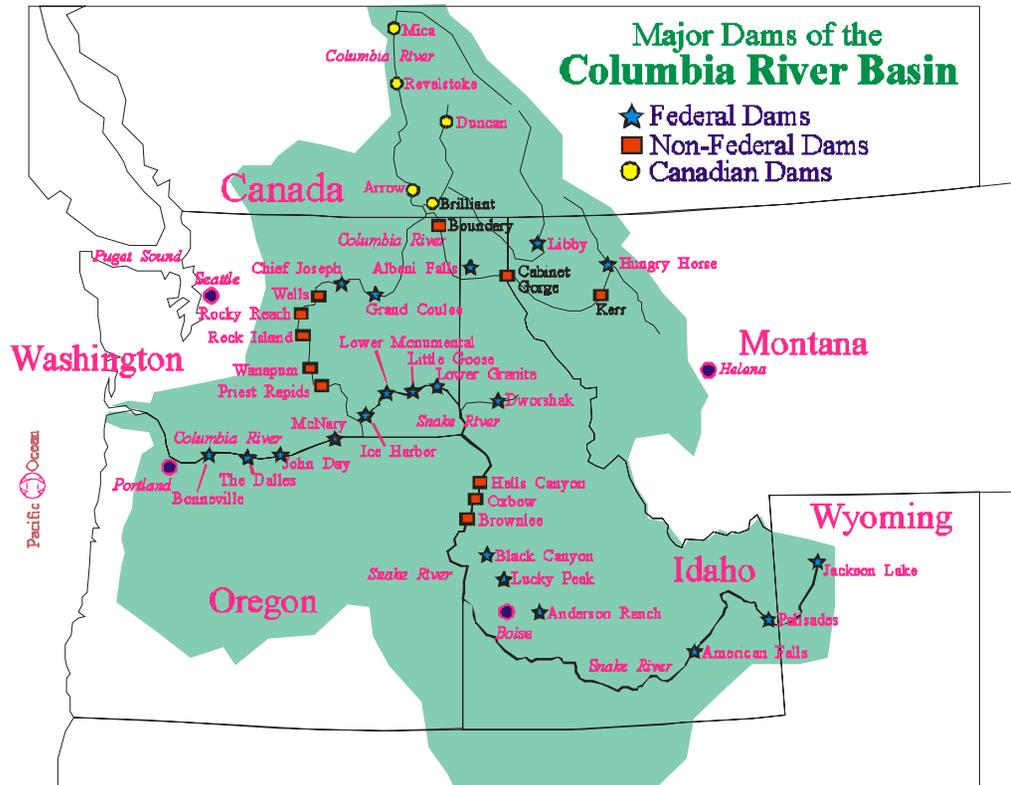
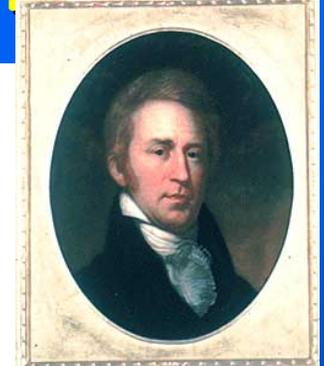
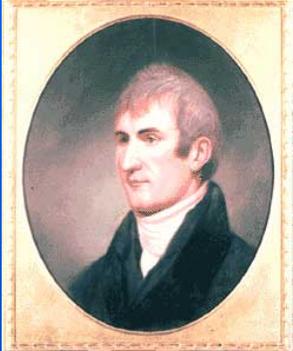
- *What's Left to Do?*

■ The Road Ahead

- *How We're Doing on the 5th Plan's Targets*
- *Are We In for Another "Mister Toad's Wild Ride?"*

To Understand the Present,
You Need to Know Our Past

What Happened After Lewis and Clark Left?



The First Three “Eras” of Power Planning in the PNW

- “New Deal” Mysticism (1930-1950)
 - Politicians plan using “chicken entrails and crystal balls” legislate what’s needed and when
- Engineering Determinism (1950- 1970)
 - Engineers, using graph paper and rulers schedule the next power plants
- Economic Determinism (1970 to April 27, 1983)
 - Economist, using price elasticity slow the engineer’s construction schedules

Actions Taken in Response to “Engineering and Economic Determinist’s” Forecasts

- Utilities planned and/or started construction on 28 coal and nuclear power plants to be completed over a 20-year period.
- Native American tribes sued the state and federal government over loss of salmon
- Environmental groups sued Bonneville Power Administration over plans to turn the Columbia River into “Wave World”

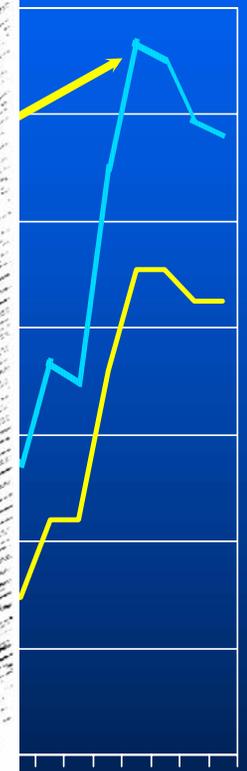
Imp

De

Response
nic
Plans



1938
1940



82
1984
1986

Reaction to Impact of Actions Taken in Response to “Engineering and Economic Determinist’s Forecasts and Plans

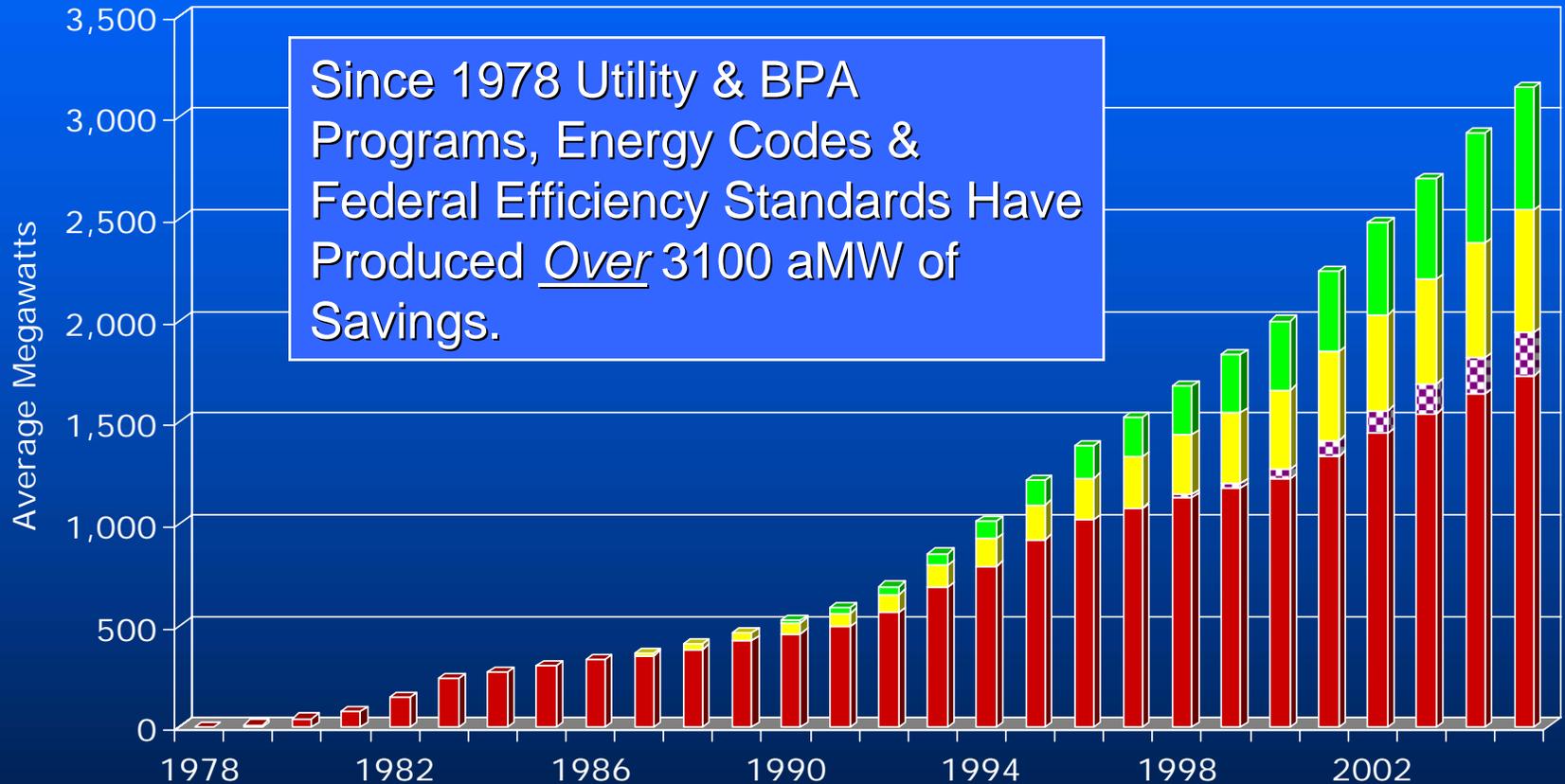
- Terminate or mothball 9 nuclear and 5 coal plants at a cost to the region’s consumers of more than *\$7 billion.*
- Motivated the region’s politicians, utilities, larger industries and public interest groups to accept the “deals” embodied in the *Northwest Power and Conservation Planning Act of 1980*

The Fourth Era - Northwest Power and Conservation Planning Act of 1980 (PL96-501)*

- Authorized States of ID, OR, MT and WA to form an “interstate compact” (aka, the “Council”)
- Directed the Council to develop 20-year load forecast and resource plan (“The Plan”) and update it every 5 – years
 - Plan shall call for the development of the least cost mix of resources
 - Plan shall consider conservation (energy efficiency) its highest priority resource equivalent to generation with a 10% cost advantage over power generating resources
- Mandated public involvement in Council’s planning process.

How Has It Worked?

PNW Energy Efficiency Achievements 1978 – 2005



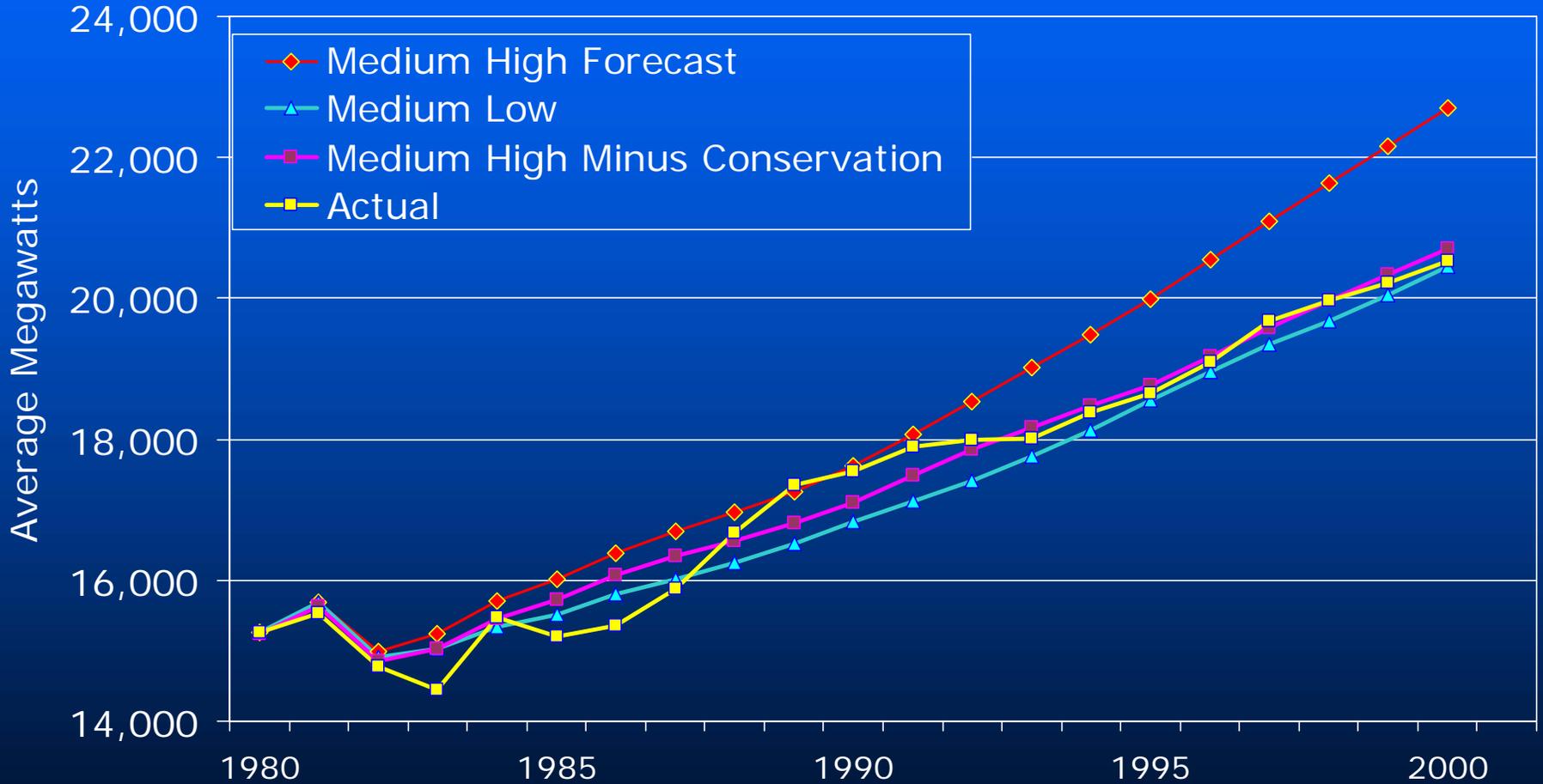
■ BPA and Utility Programs

▣ Alliance Programs

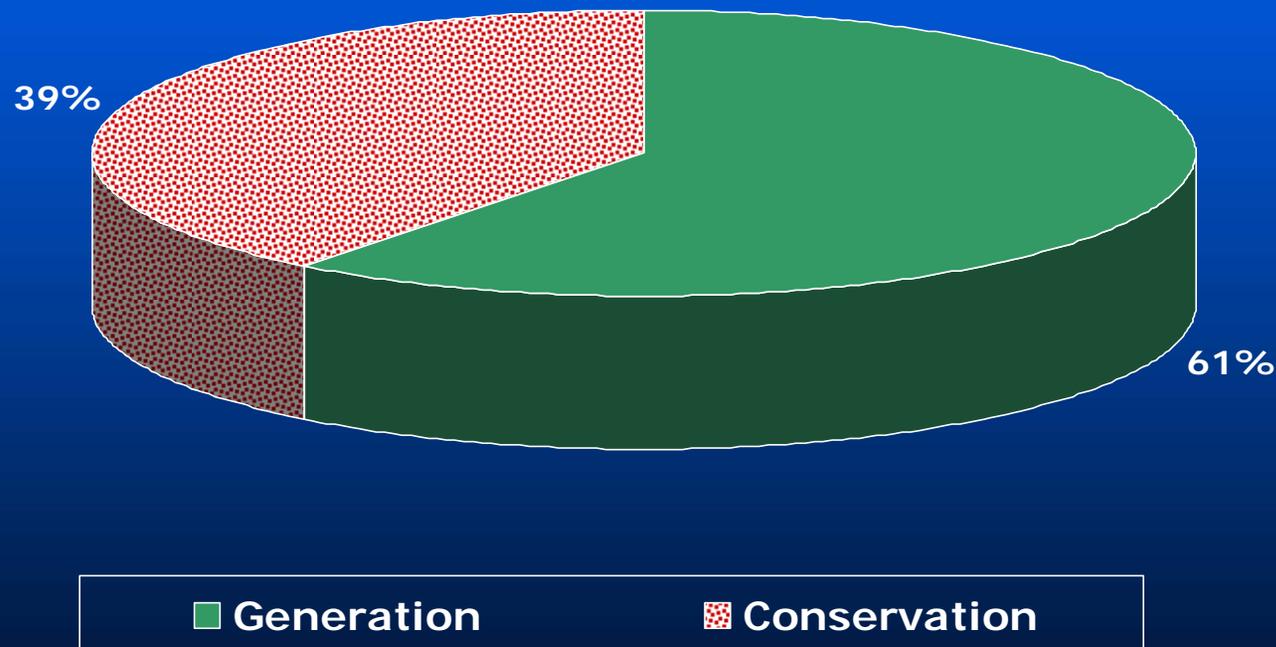
■ State Codes

■ Federal Standards

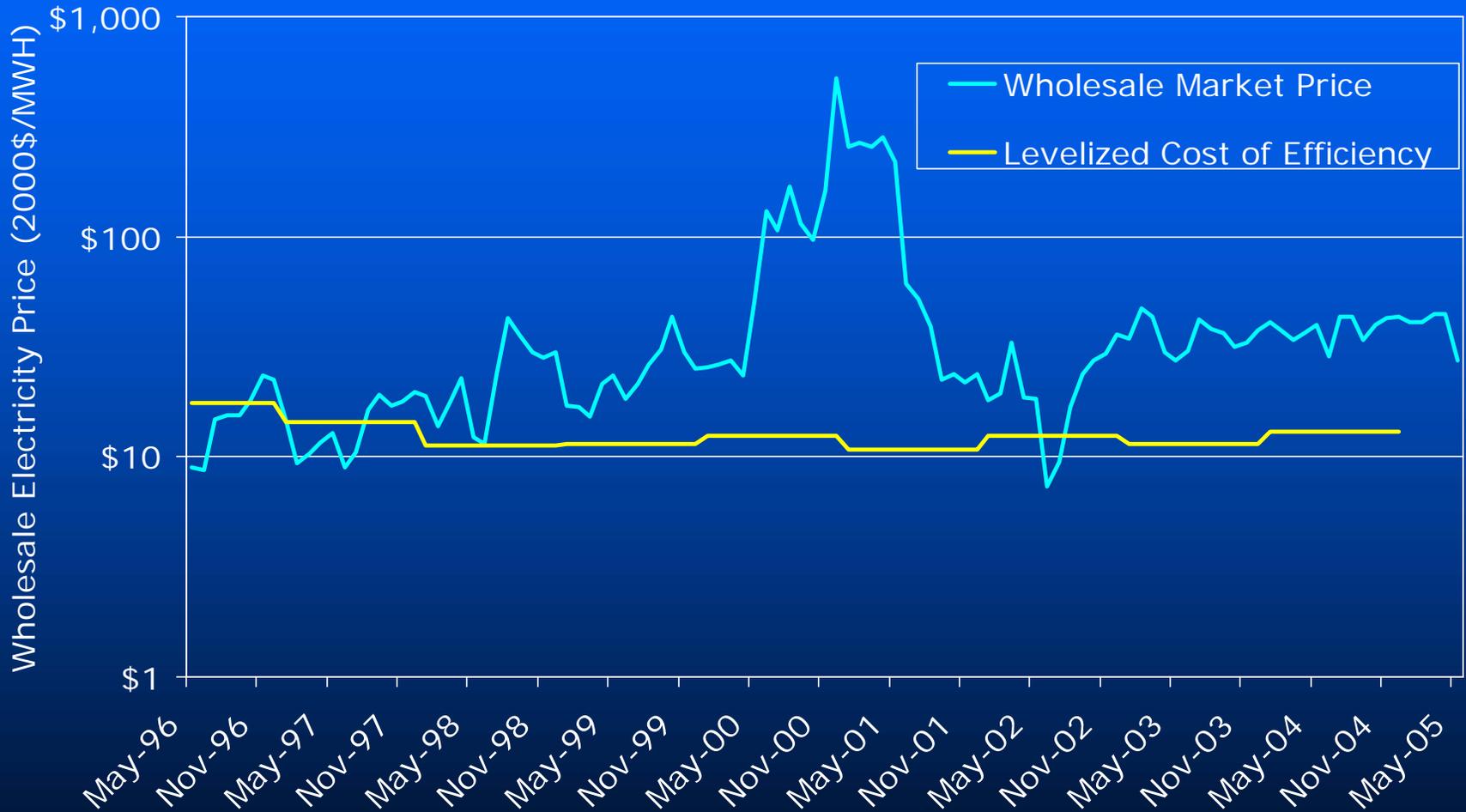
Energy Efficiency Resources Significantly Reduced Projected PNW Electricity Sales



Energy Efficiency Met Nearly 40% of PNW Regional Firm Sales Growth Between 1980 - 2003



Utility Acquired Energy Efficiency Has Been Cost-Competitive with Market Purchases



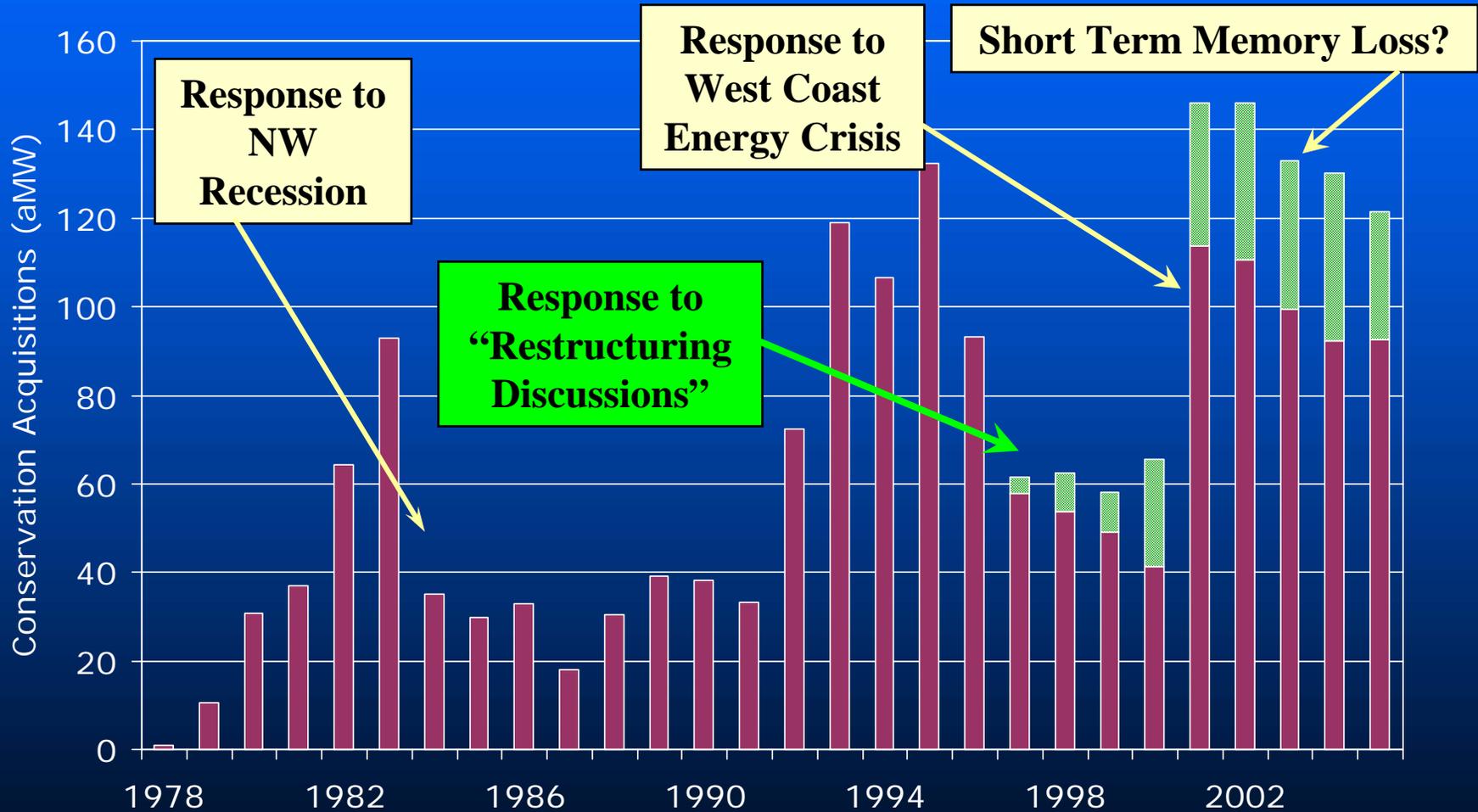
Note: Vertical Axis is in Log Scale!

Let's Be Clear: Utility Acquired Energy Efficiency Have Been **A % * & ? ! BARGAIN!**



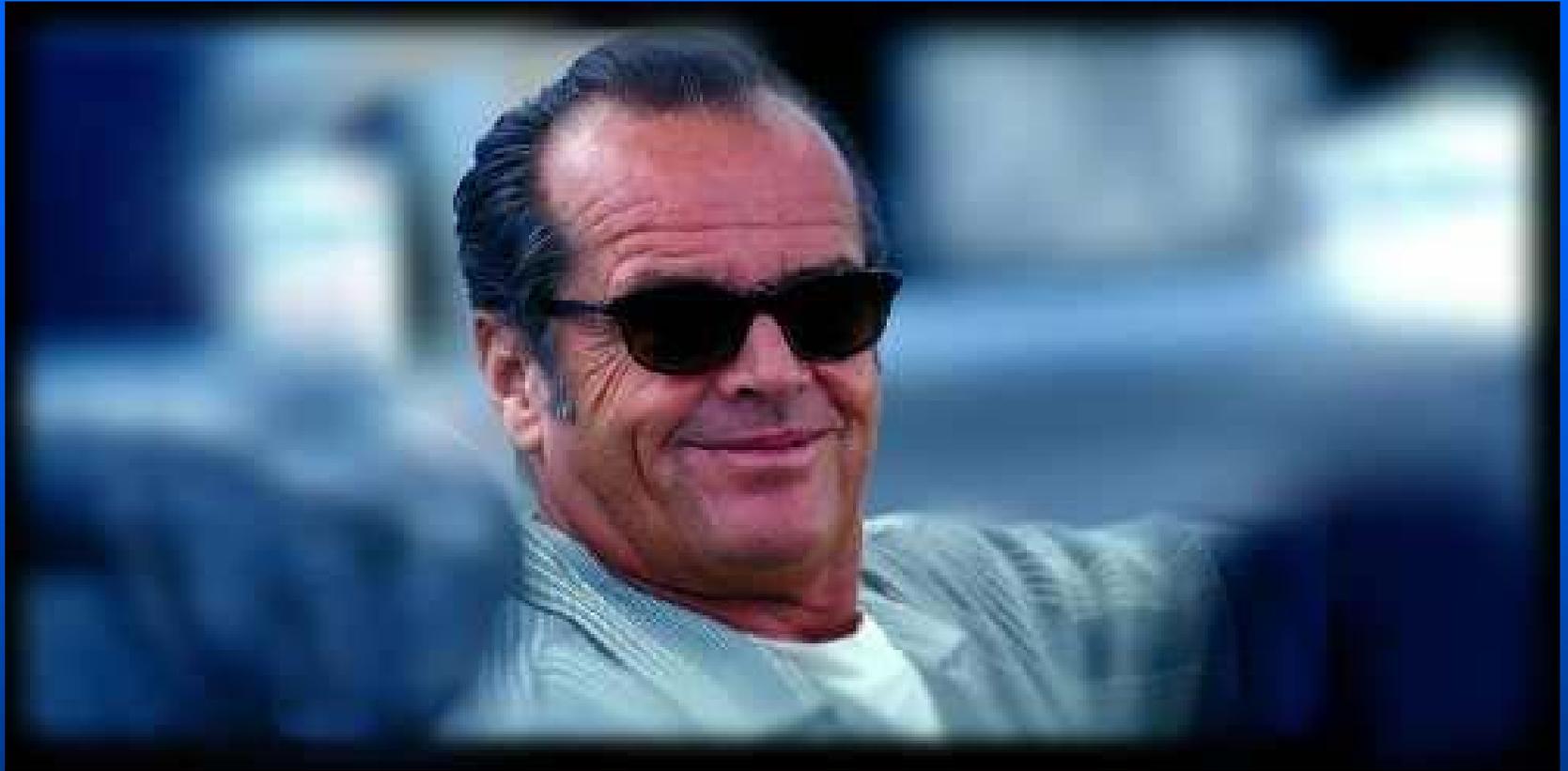
Regional Utility Conservation Acquisitions Have Also Helped Balance Loads & Resources

Creating Mr. Toad's Wild Ride for the PNW's Energy Efficiency Industry



So What's 3100 aMW?

- It's enough electricity to serve the entire state of Idaho and all of Western Montana
- It saved the region's consumers nearly than \$1.3 billion in 2005
- It lowered 2005 PNW carbon emissions by an estimated 13.5 million tons.



IS THAT AS GOOD AS IT GETS?

WILLIAM FULD Talking Board Set



YES

OUIJATM
MYSTIFYING ORACLE

NO



ABCDEFGHIJKLM
NOPQRSTUVWXYZ

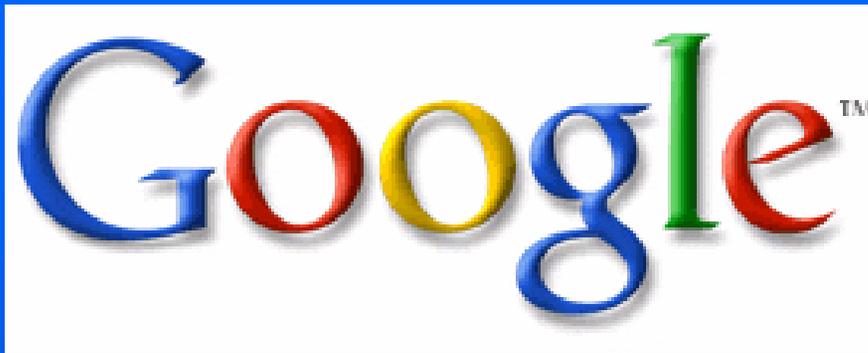
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GOOD BYE

"OUIJA", "WILLIAM FULD", "MYSTIFYING ORACLE" AND THE DISTINCTIVE DESIGN OF THE BOARD, INDICATOR AND PEGS, ARE TRADEMARKS FOR THE TALKING BOARD SET BY
© 1995 PARKER BROTHERS, A DIVISION OF TONKA CORPORATION.





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PNW Conservation Potential

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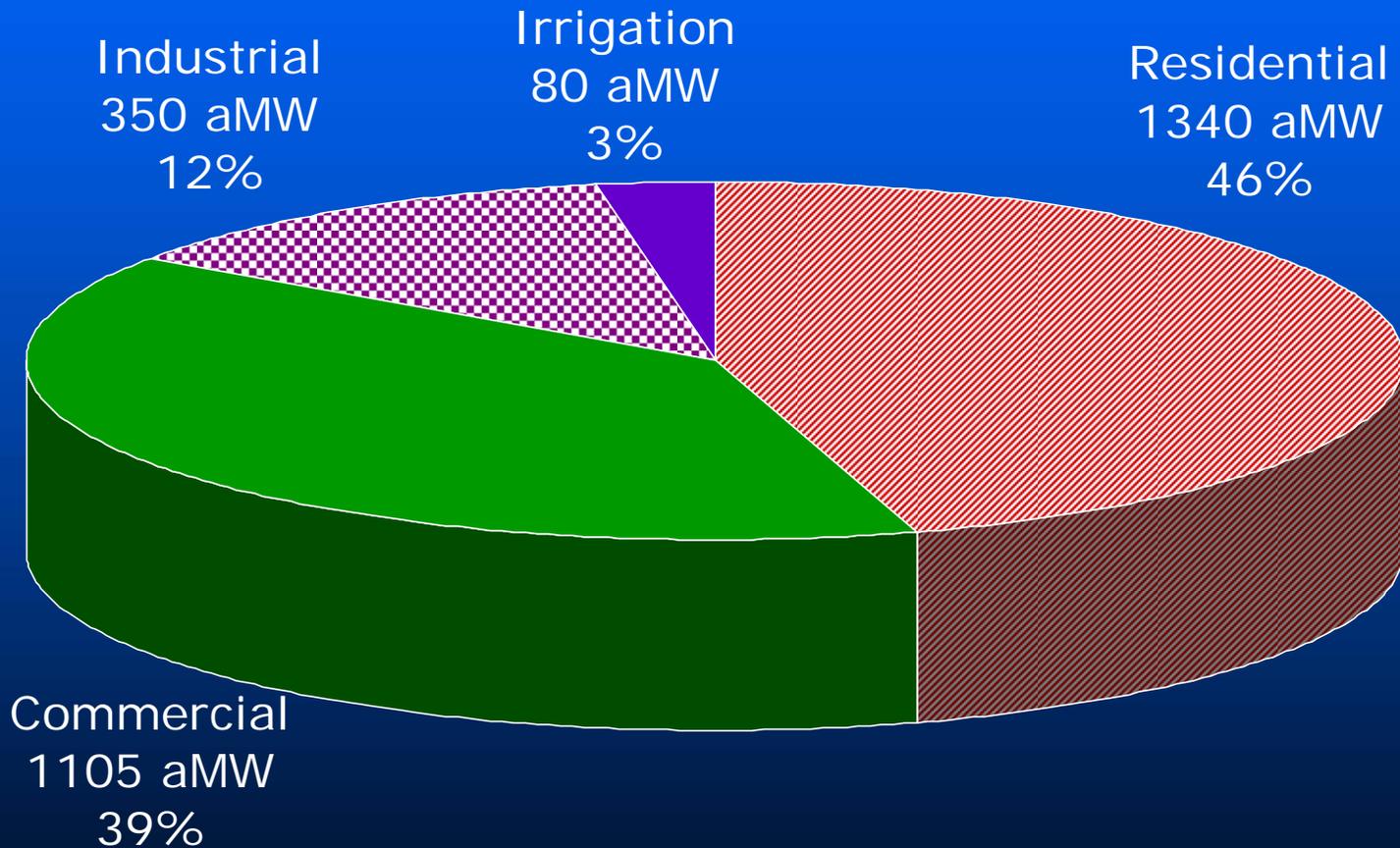
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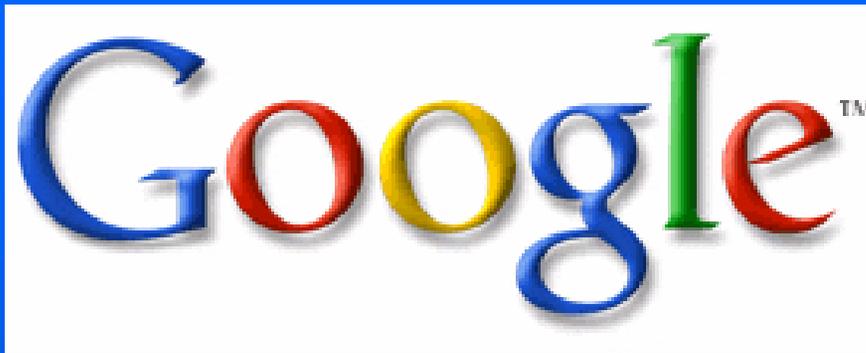
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Search Results: Cost-Effective Savings by Sector





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Major Sources of Savings

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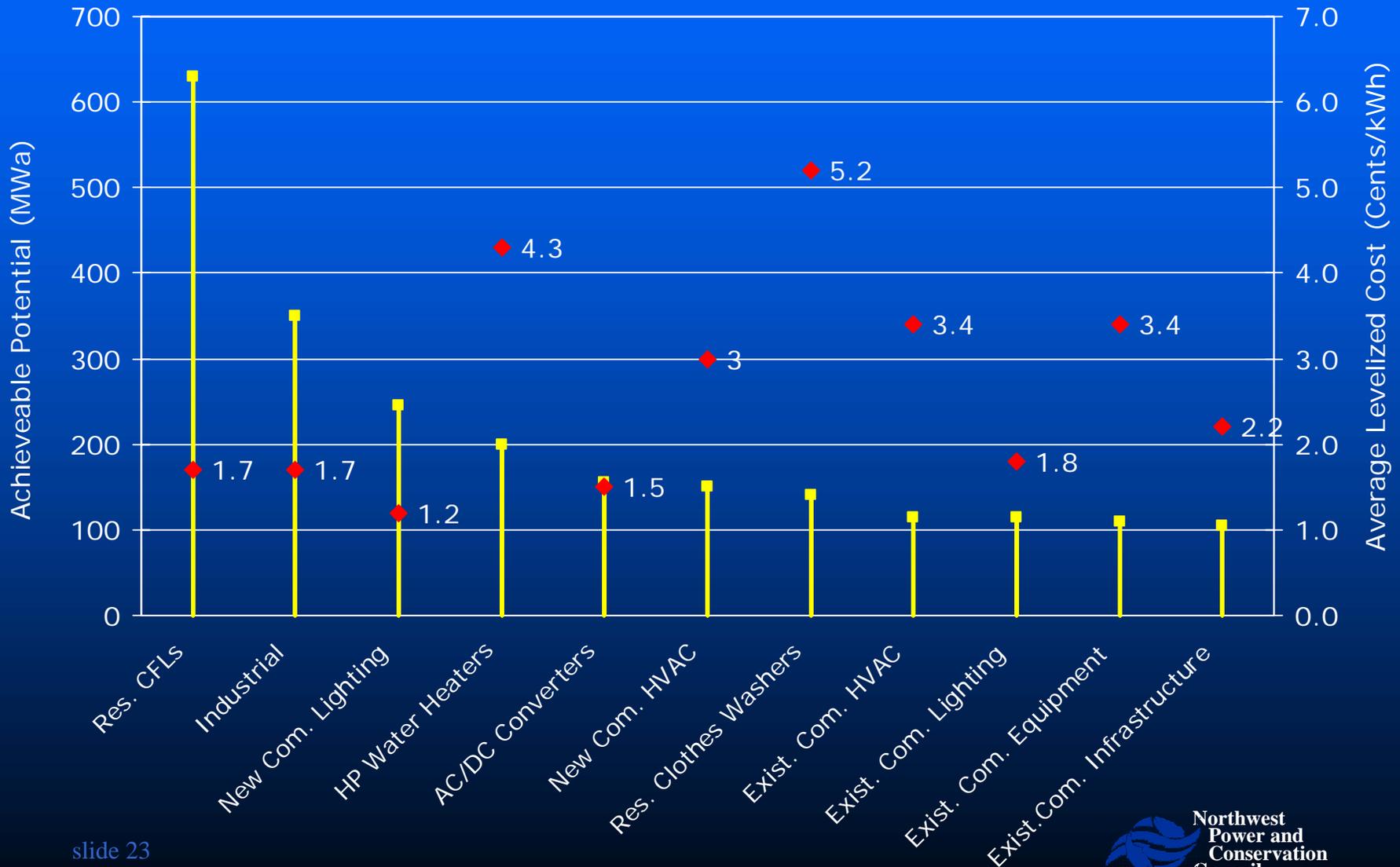
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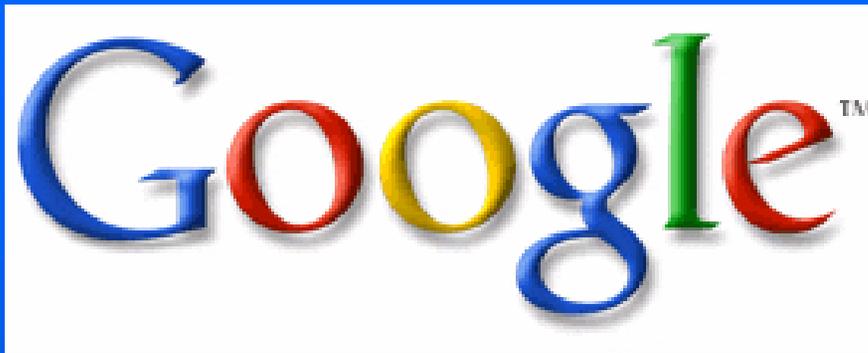
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Search Results: Major Sources of Cost-Effective Efficiency Potential





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Residential Sector Savings Potential

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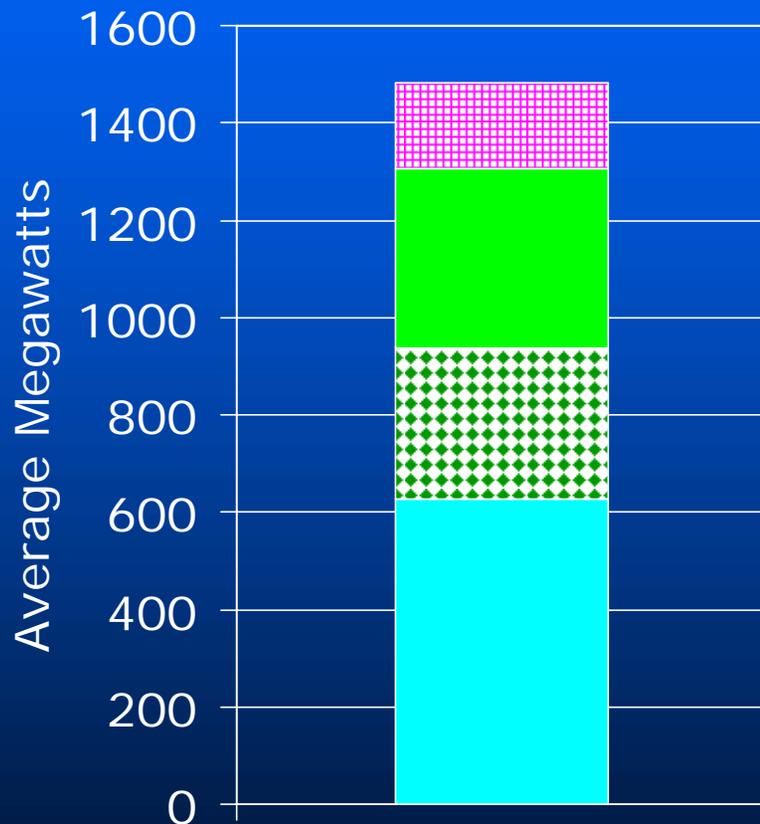
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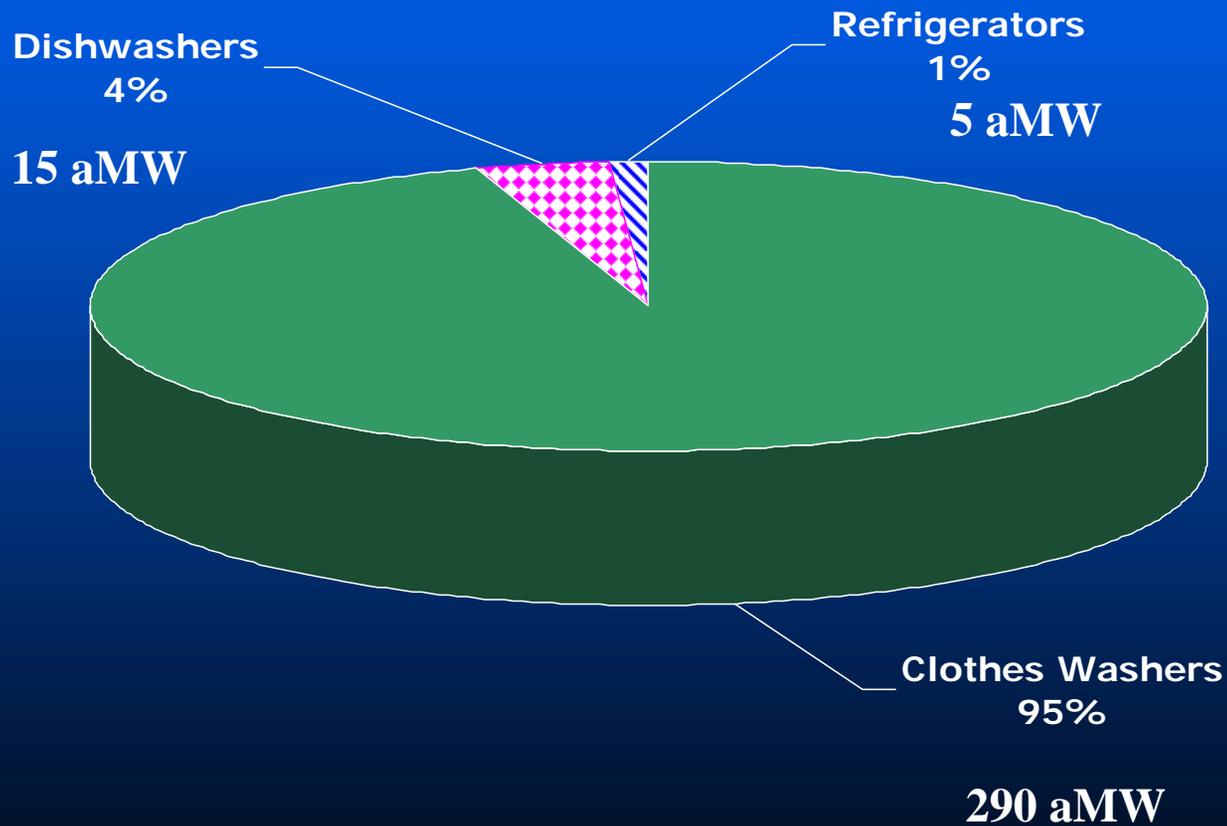
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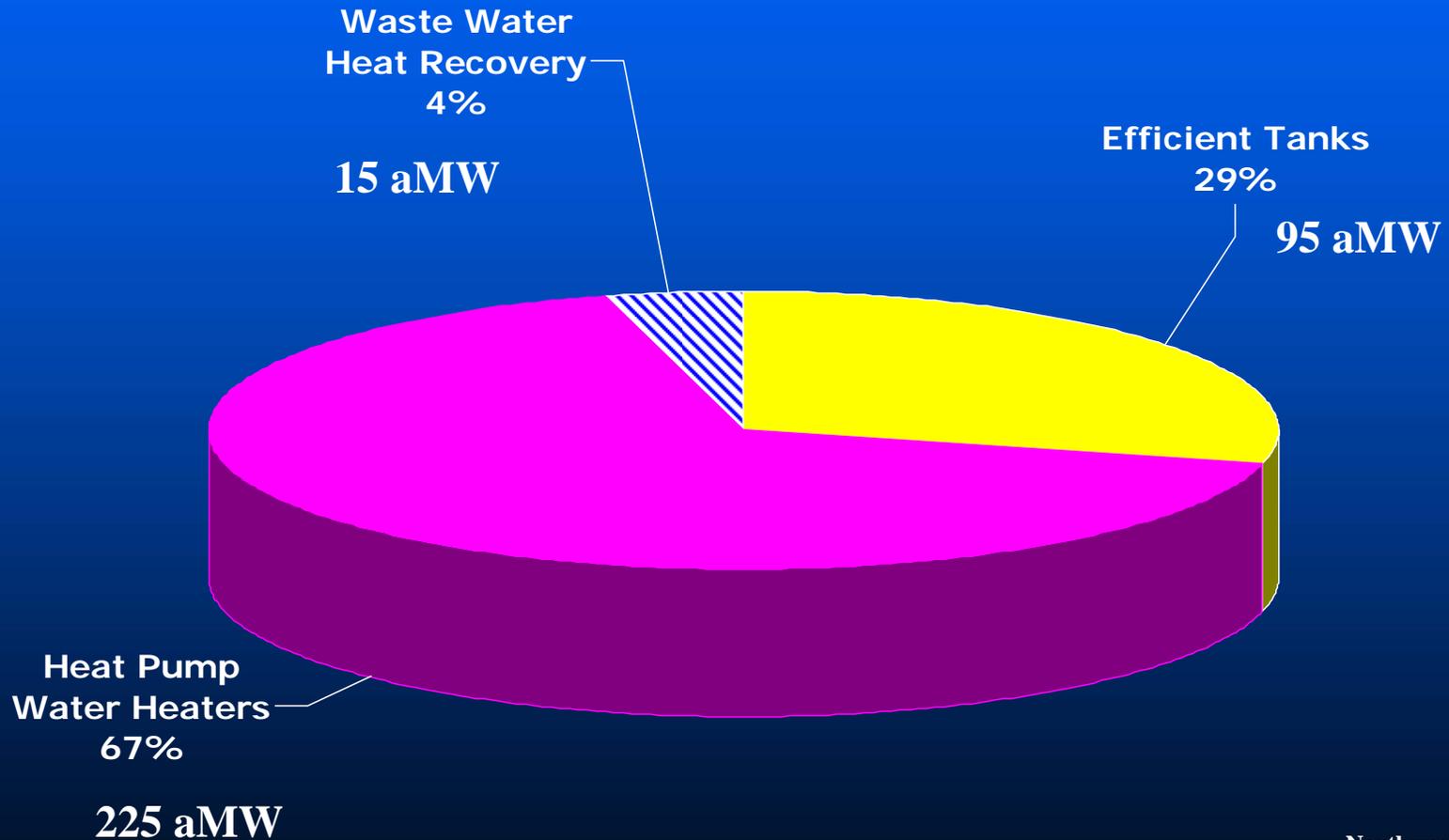
Total Residential Sector Cost-Effective Potential – 1475 aMW



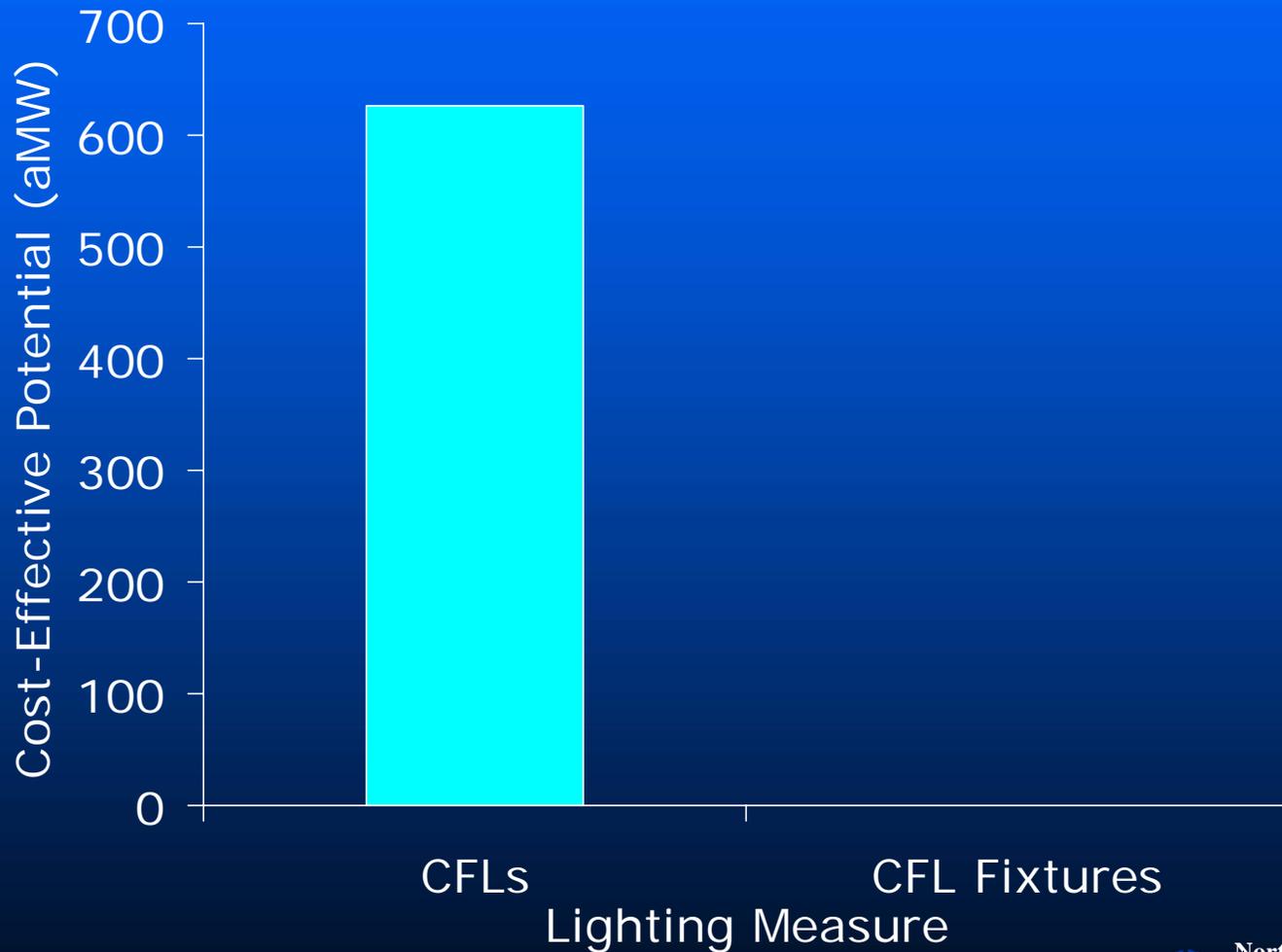
Search Results: Residential Sector Conservation Resource Potential for Appliances



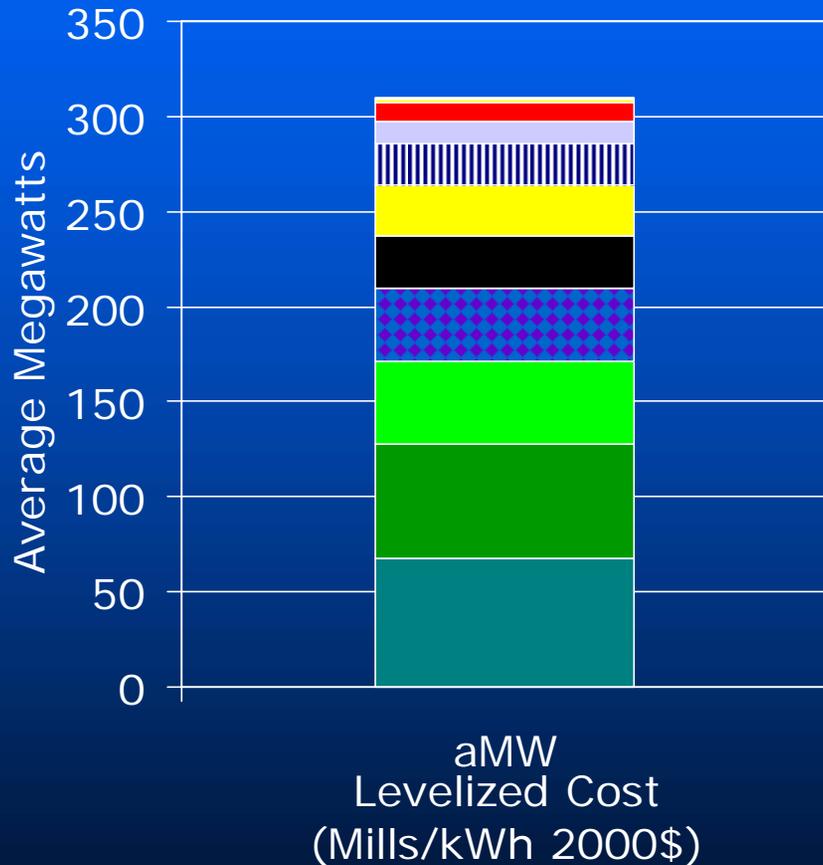
Search Results: Residential Sector Conservation Resource Potential for Water Heating



Search Results: Residential Lighting Potential



Search Results: Residential Space Conditioning Economic Potential

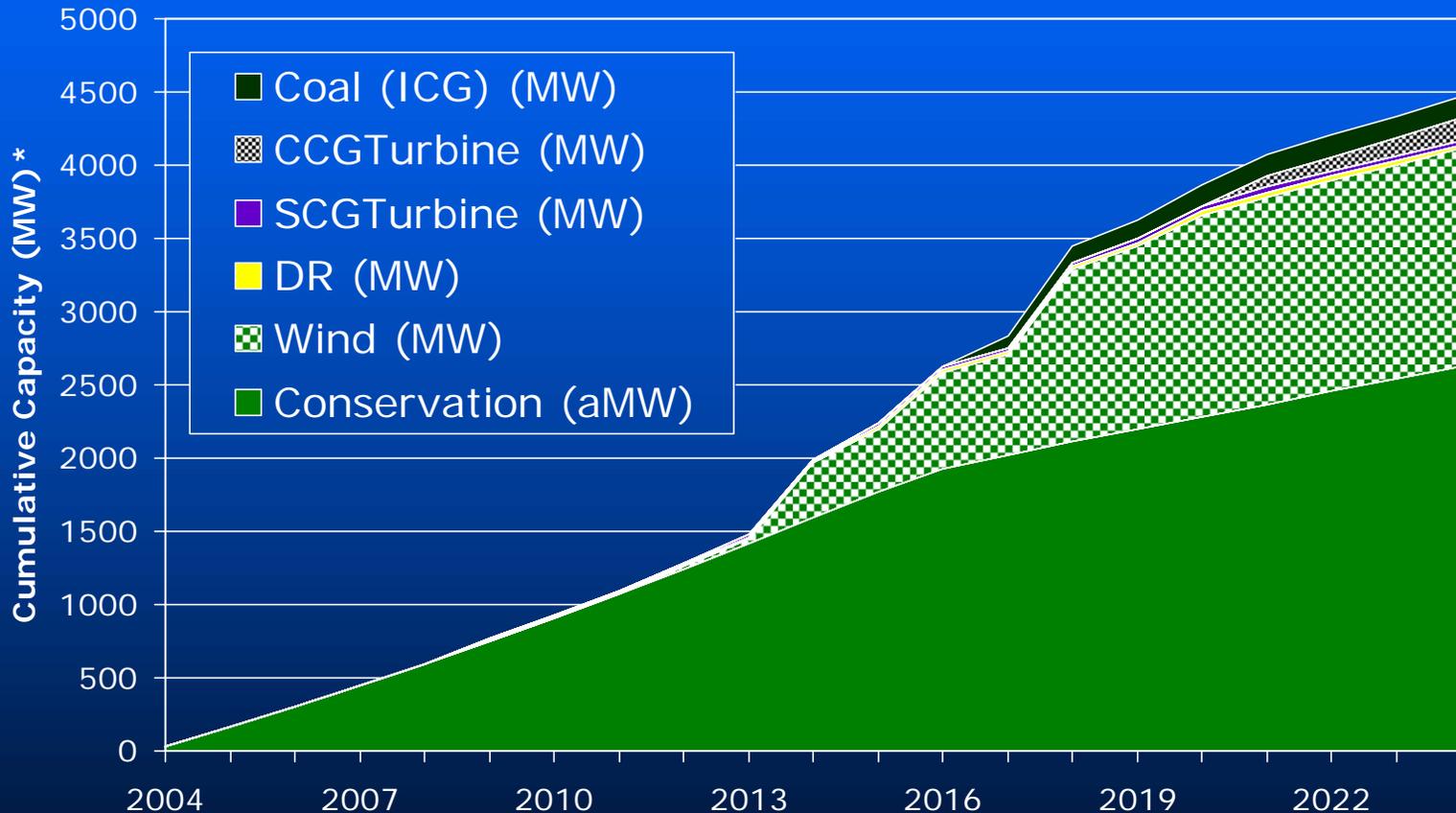


- PTCS Duct Sealing, Commissioning and Controls
- New Multifamily Homes - Shell Upgrades
- PTCS Duct Sealing
- PTCS Duct Sealing and System Commissioning
- New Single Family Homes - Shell Upgrades
- New Manufactured Homes - Shell Upgrades
- Weatherization - Manufactured Home
- Weatherization - Multifamily
- Weatherization - Single Family
- Heat Pump Upgrades
- Heat Pump Conversions

The Road Ahead – Is This The Renaissance?

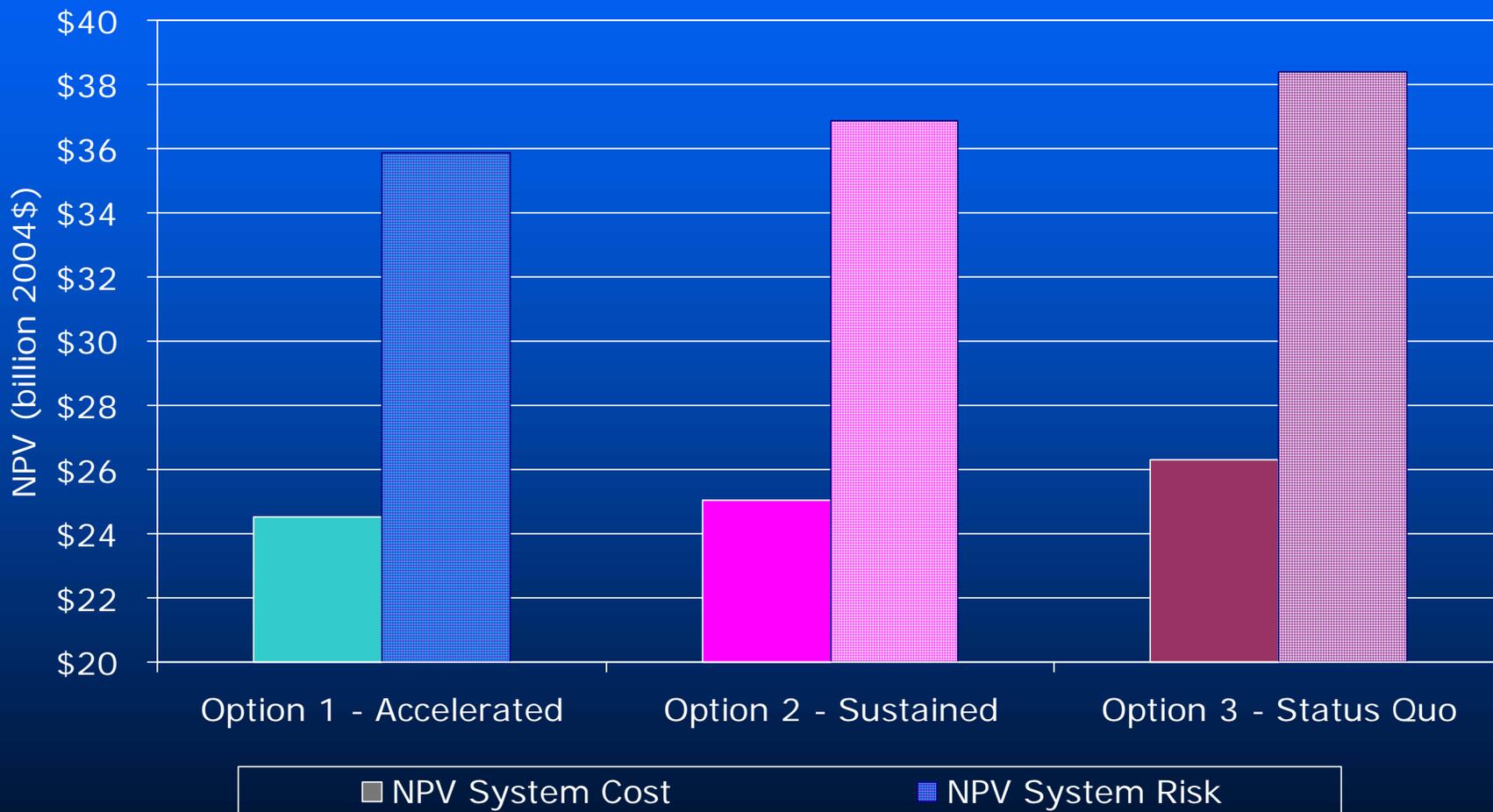


5th Plan Relies on Conservation and Renewable Resources to Meet Load Growth *

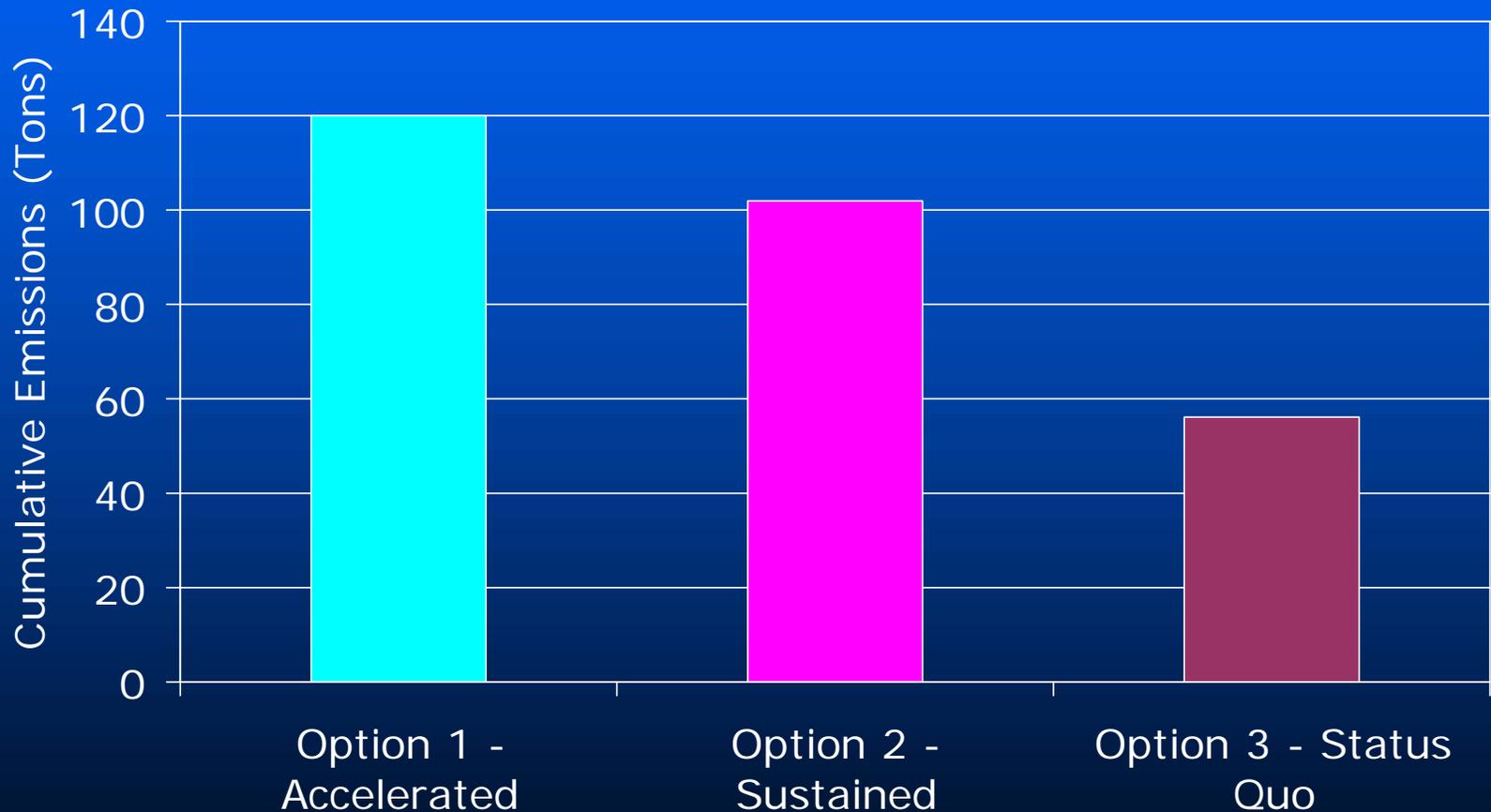


*Actual future conditions (gas prices, CO2 control, conservation accomplishments) will change resource development schedule and amounts

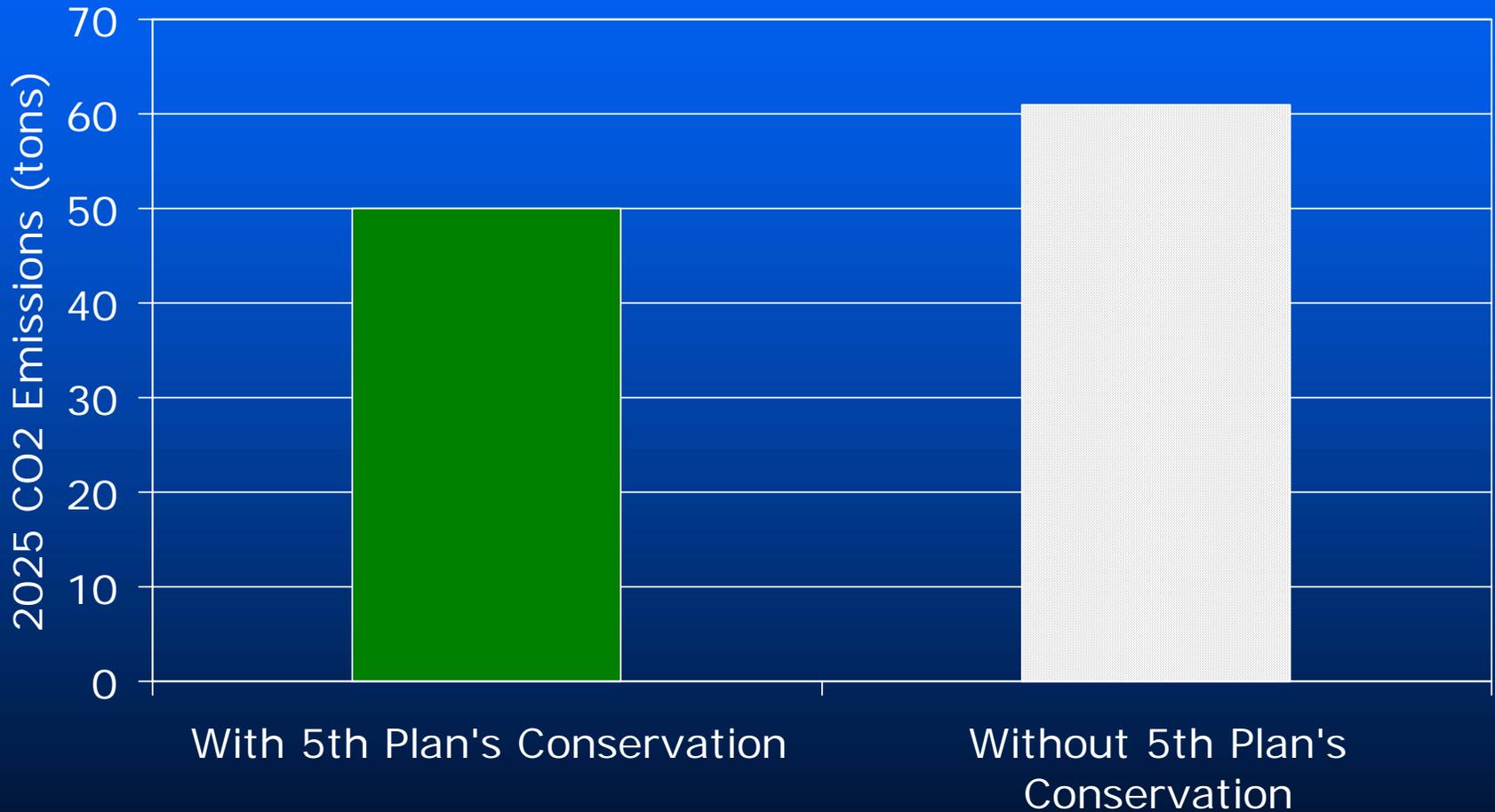
The Plan Calls for Accelerating Conservation Development Because it Reduces Cost & Risk



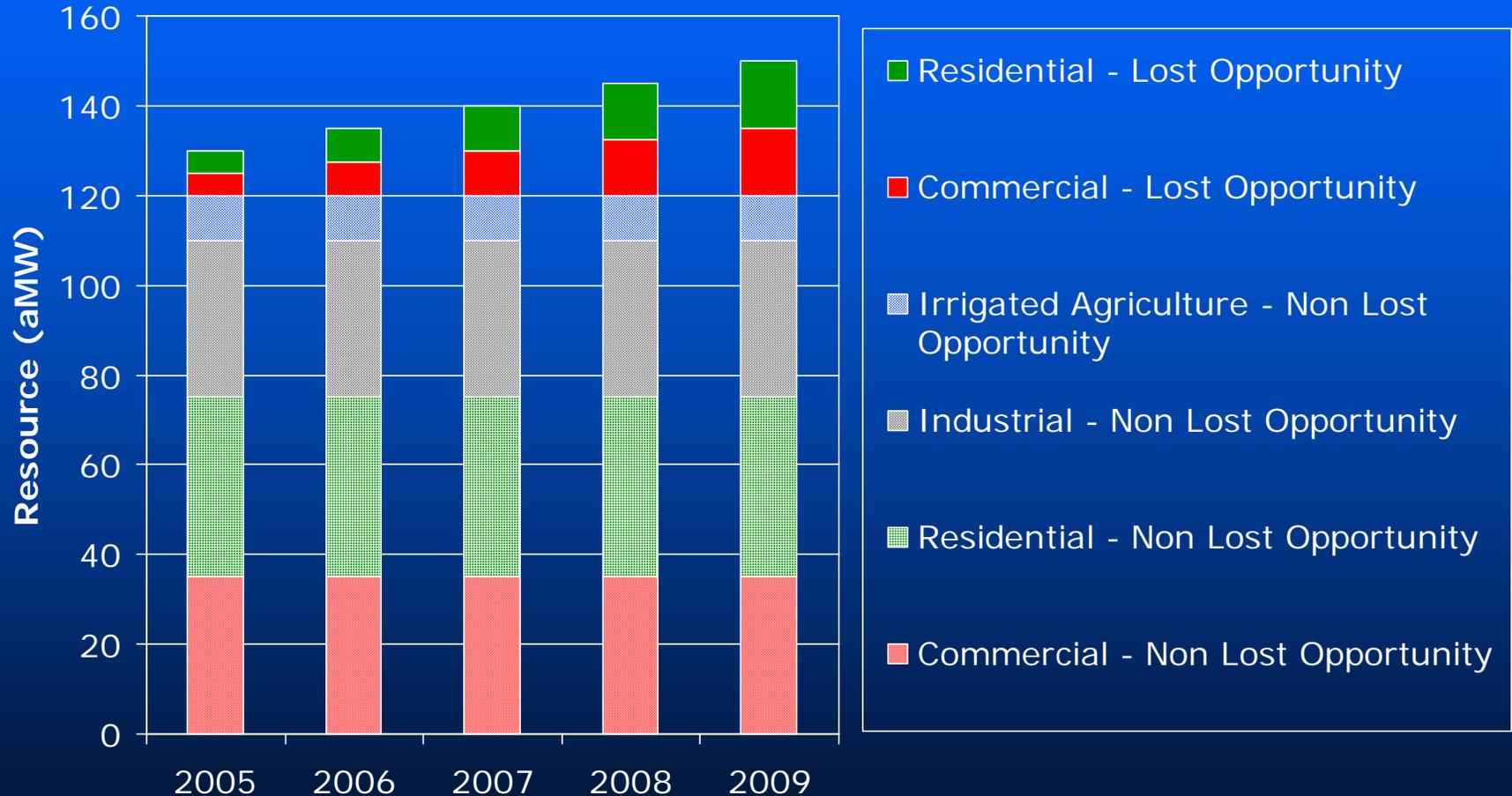
The Plan Calls for Accelerating Conservation Development Because Reduces Carbon Dioxide Emissions



Meeting 5th Plan's Conservation Targets Reduces Forecast PNW Power System CO2 Emissions in 2025 by Nearly 20%



Are We Achieving the 5th Plans Near-Term Conservation Targets? (2005-2009) = 700 aMW



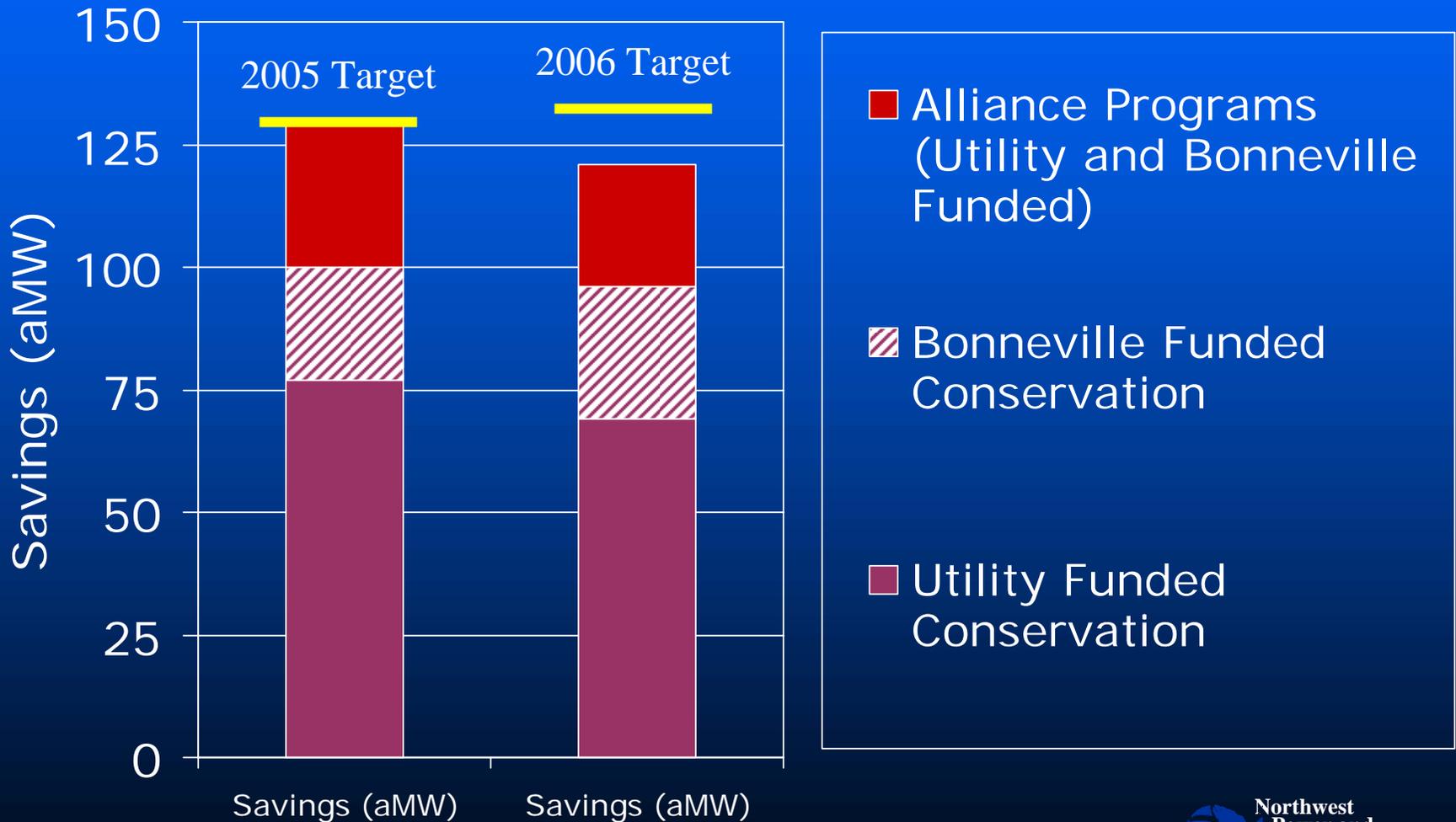
Council's Regional Technical Forum Has Surveyed Utility Progress on Conservation



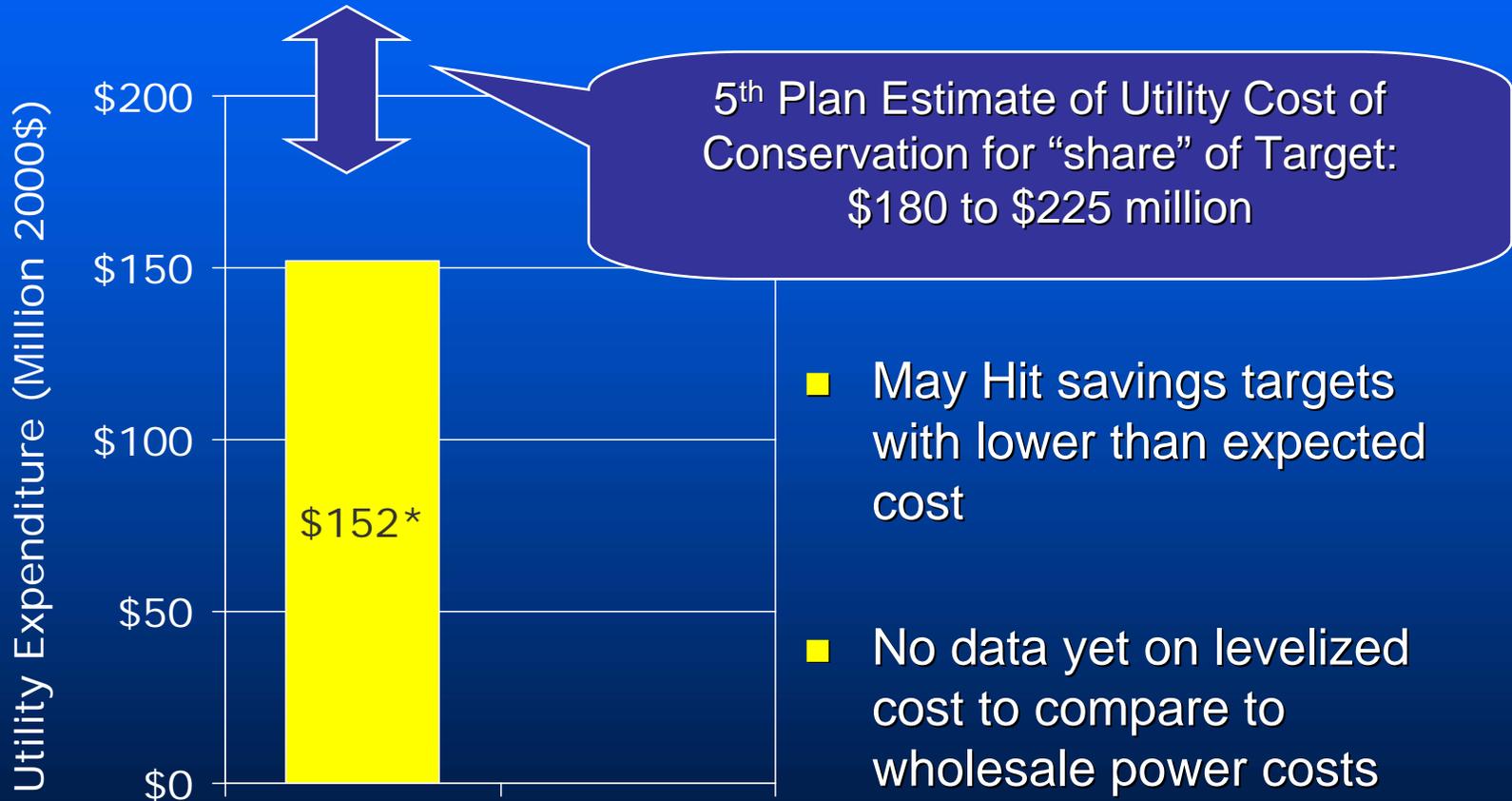
*We Think All
Returns
Have Been
Counted*

*62 Utilities
88% of Regional
Load*

Returns Show We Met the 2005 Target

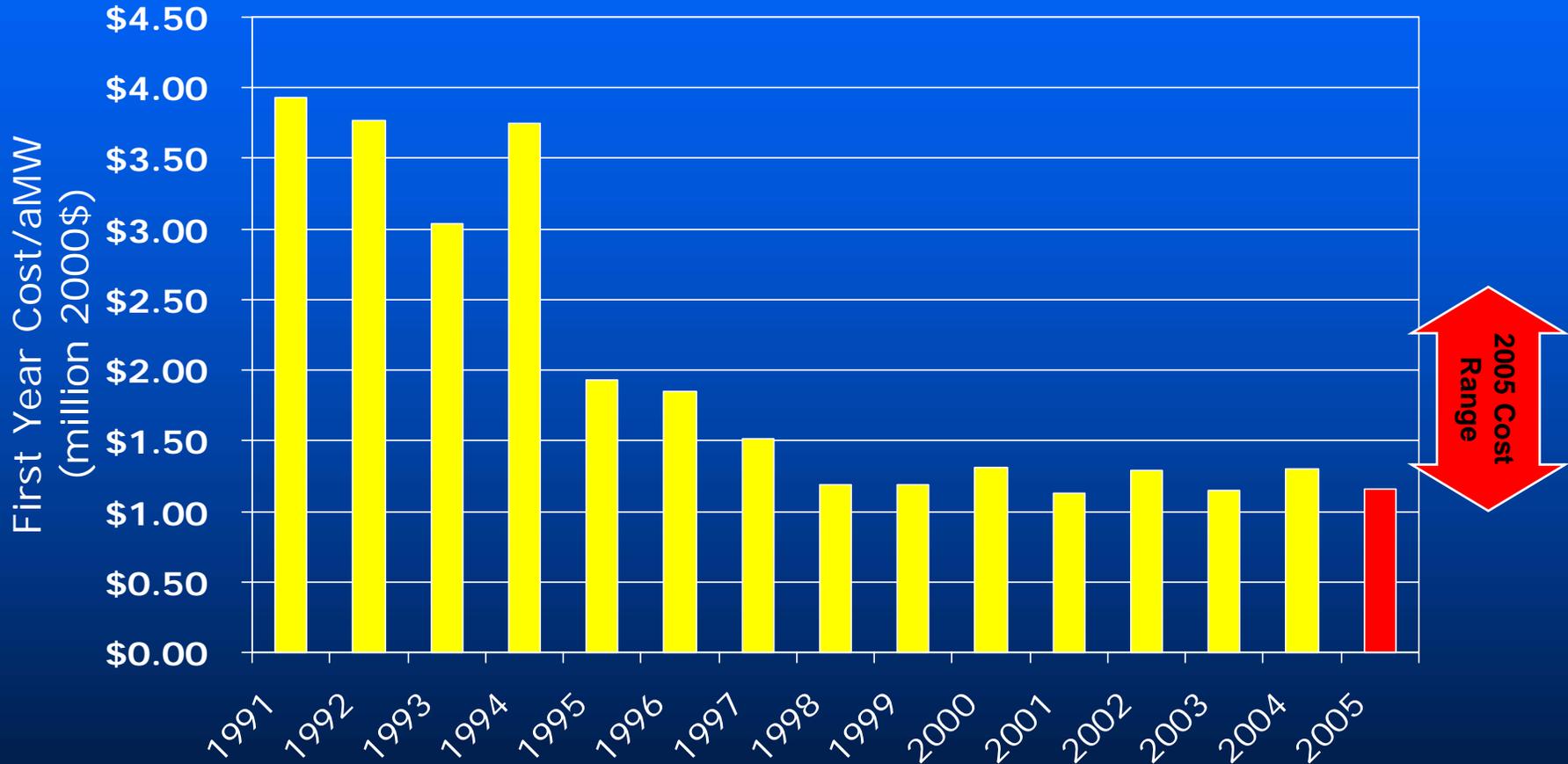


Conservation Appears to Be Lower Cost . . . At Least To Utilities



Equivalent to 1.75% of Regional Retail Revenues

Utility Cost of Conservation Continue to Decrease





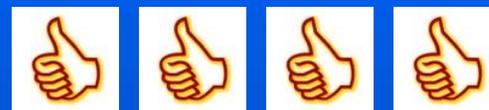
"Bummer of a birthmark, Hal."

Are
Individual
Utilities
"Making
Their
Targets?"

2005 Findings by Utility

16 Largest Utilities or 85% of Regional Loads

- Four utilities far exceed targets



– 15 to 35% above “share” of regional target

- Four utilities within 10% of target



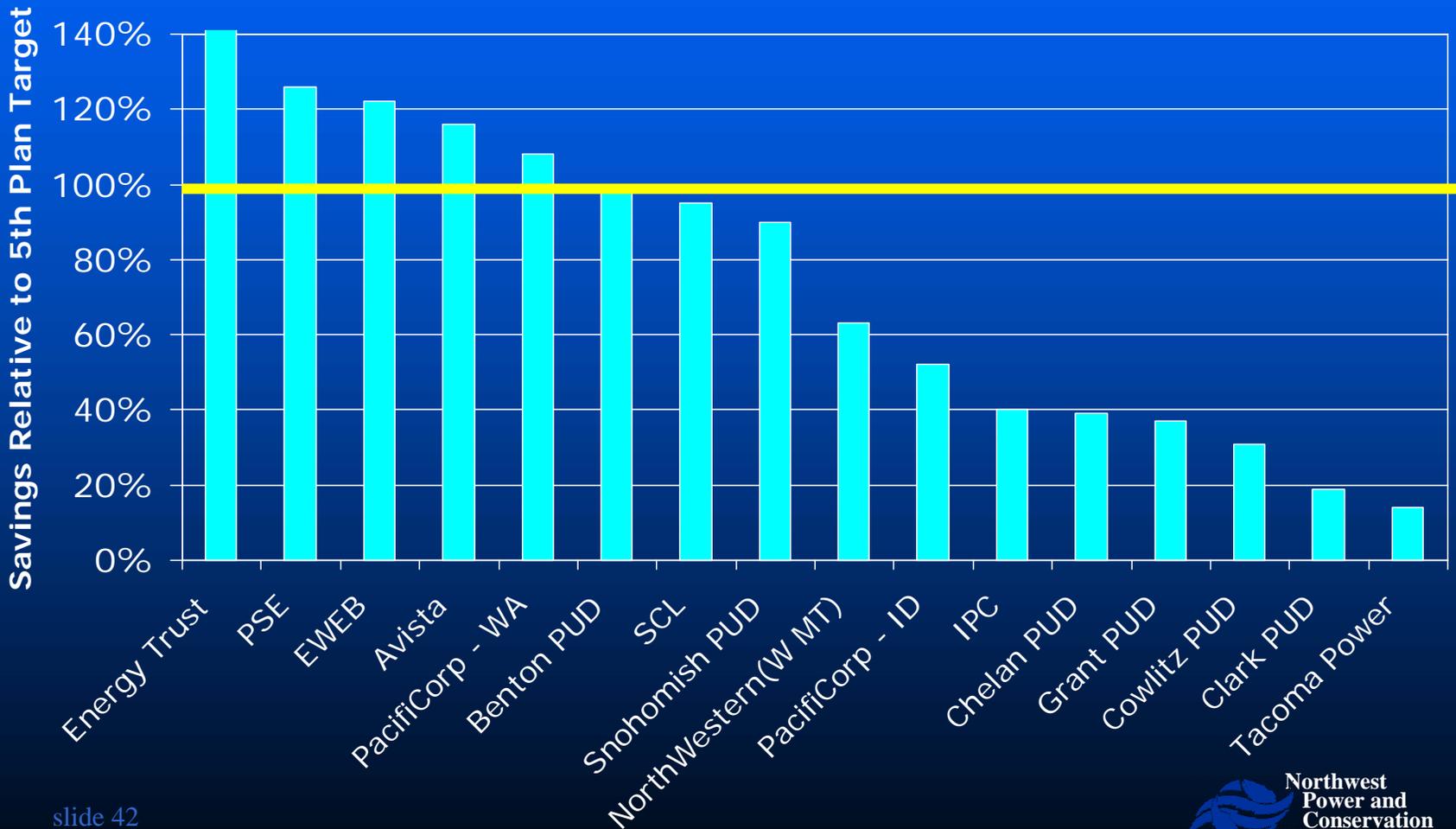
- Eight utilities fell short



– Seven achieved less than half of their “share” of regional target

2005 Results

16 Largest Utilities – 85% of Regional Loads



The Road Ahead – A Brighter Future @ Lower Wattage

- Over 7 million CFLs sold in 2005
 - PNW has 16% of all US installs



- State & Federal standards for 17 appliances
 - Help hit targets beginning 2008
 - BPA has several new regional initiatives underway



- Commercial & Industrial program participation is up



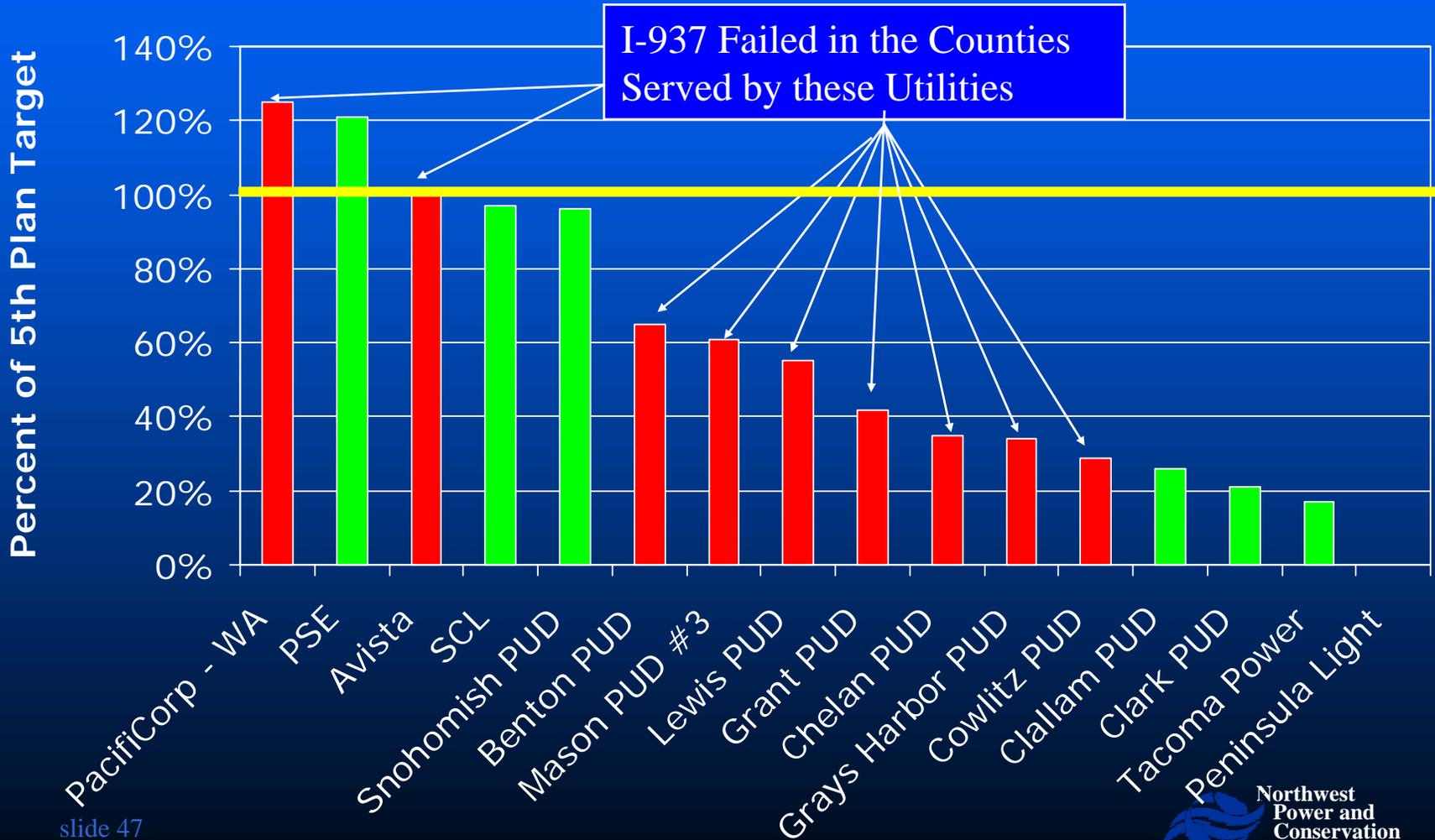
The Road Ahead – Utilities Appear to Be “Ramping Up”

- PSE is developing a “green utility” strategy
- Avista has increased its annual efficiency goal by 20% -- and management has asked staff to “squeeze out more efficiency” company wide
- Idaho Power expects to nearly double its efficiency expenditures next year
- PGE has initiated discussions that could lead to an increase in Energy Trust funding

I-937 Passed



I-937 Failed In Most Counties Served by Public Utilities Who Do Not Appear to Be Achieving the 5th Plan's Targets



After A Quarter Century

The Region May Finally Achieve the
Power Act's Vision of Making the
Inefficient Use of Electricity . . .

Immoral

Illegal

Unprofitable



*Thank you very
much.*

*Thank you
verry, verry
much.*