



# **Incentives and Behaviour Change: Demystifying Market Transformation**

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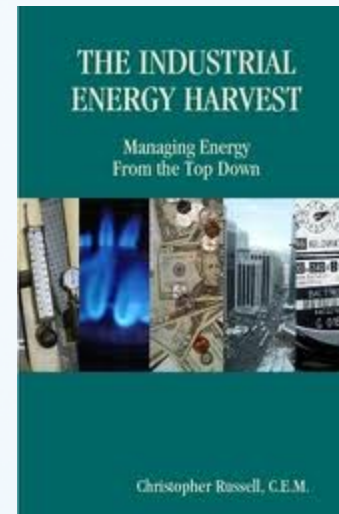
# American Council for an Energy-Efficient Economy (ACEEE)

- ACEEE: nonprofit 501(c)(3). Catalyst to advance energy efficiency policies, programs, technologies, investments & behaviors.
- 50 staff in DC, DE, MI, WA & WI
- Focus on end-use efficiency in industry, buildings, utilities & transportation
- Other research in economic analysis; behavior; national, state & local policy.
- Funding:
  - Foundation Grants (52%)
  - Contract Work & Gov. Grants (20%)
  - Conferences and Publications (20%)
  - Contributions and Other (8%)
- [www.aceee.org](http://www.aceee.org)



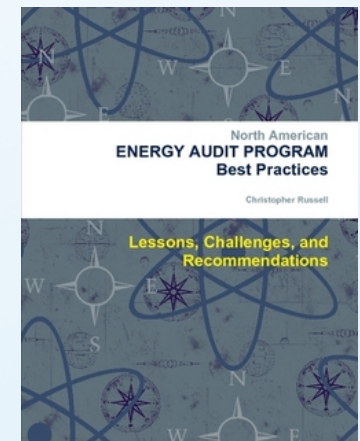
# About Christopher Russell, C.E.M., C.R.M.

- Independent consulting since 2006  
Principal, Energy Pathfinder
- Visiting Fellow, American Council for an Energy Efficient Economy, 2012+
- Energy Manager, Howard County, MD, 2010-2012
- Director of Industrial Programs, Alliance to Save Energy, 1999-2006
- Comm. & Indus. Program Manager, American Gas Association, 1995-1999
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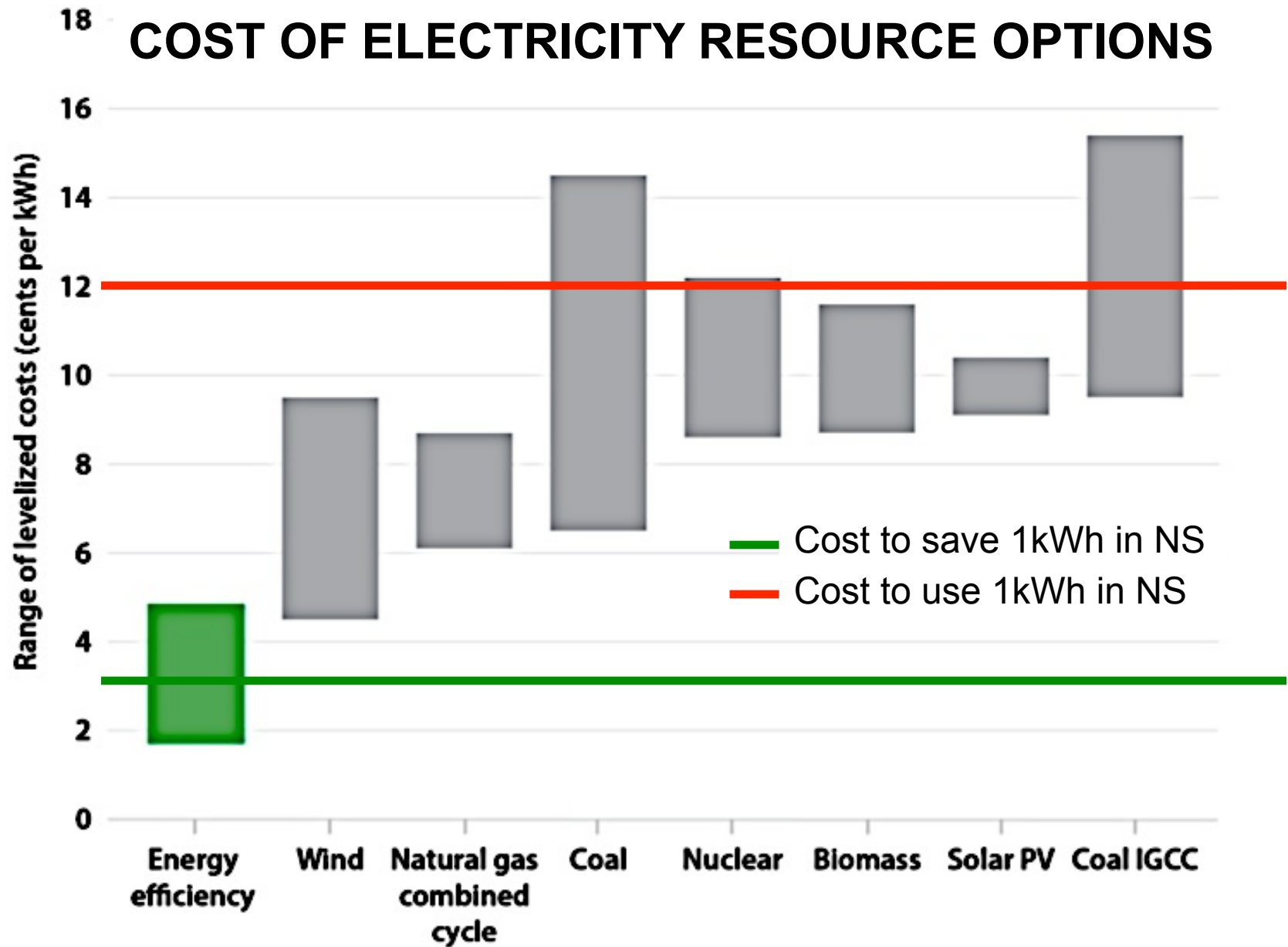
Published  
2008

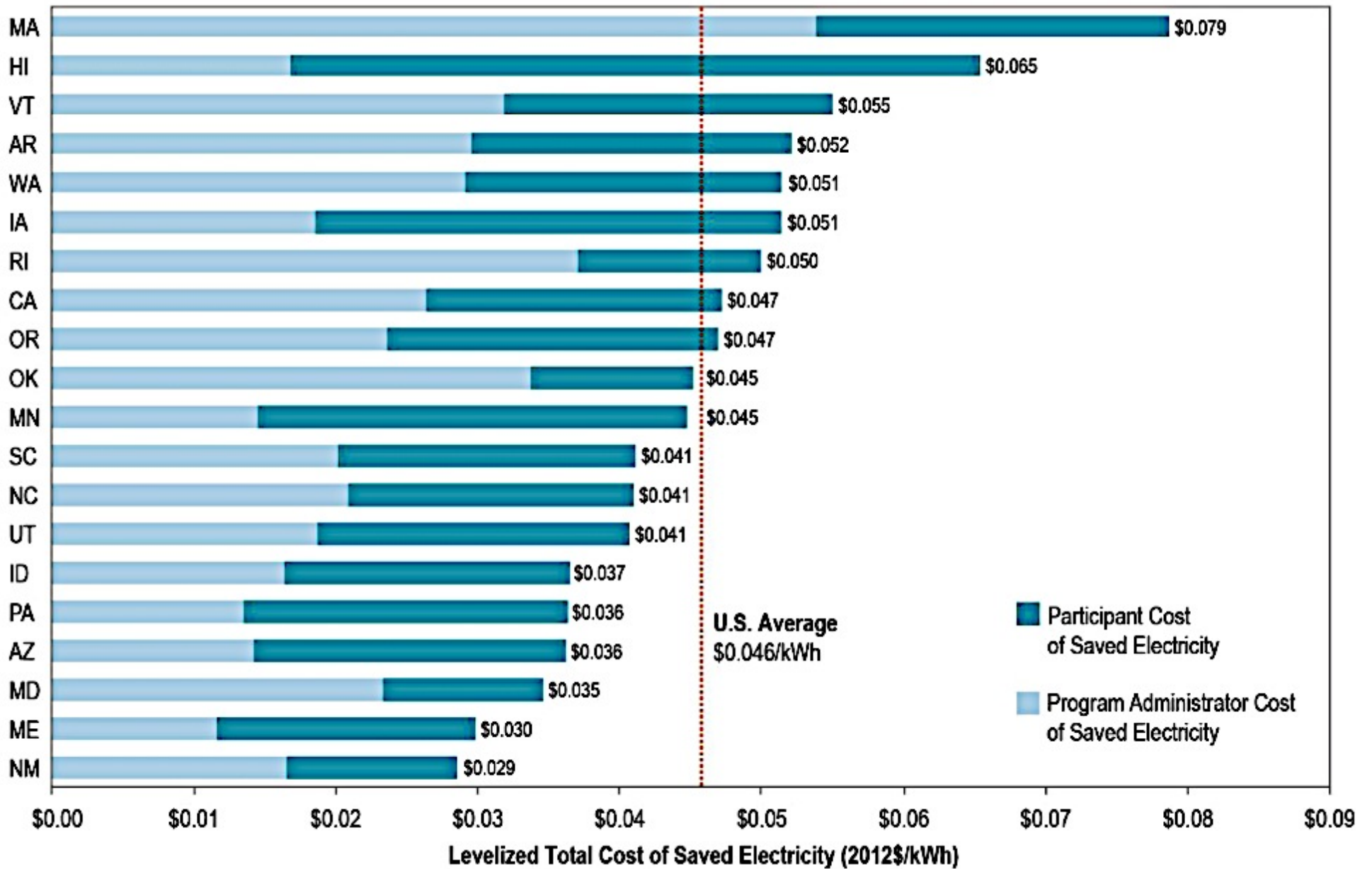


# OUTLINE

- Incentives: basic concepts
- Program theory/ barriers analysis
- Incentive design options
- Incentive types
- Developing incentives collaboratively
- Leading N. American examples
- Why bother, why care?

# COST OF ELECTRICITY RESOURCE OPTIONS





## **Traditional Energy Supply:**

- ALL customers pay for ALL new capacity increments
- Utility issues RFPs, buys capacity from construction contractors

## **Energy Efficiency as a Resource:**

- ALL customers pay for SOME end-use projects that perform same work with less energy
- EE program “buys” capacity by issuing incentives to end-users

## **Traditional Energy Supply:**

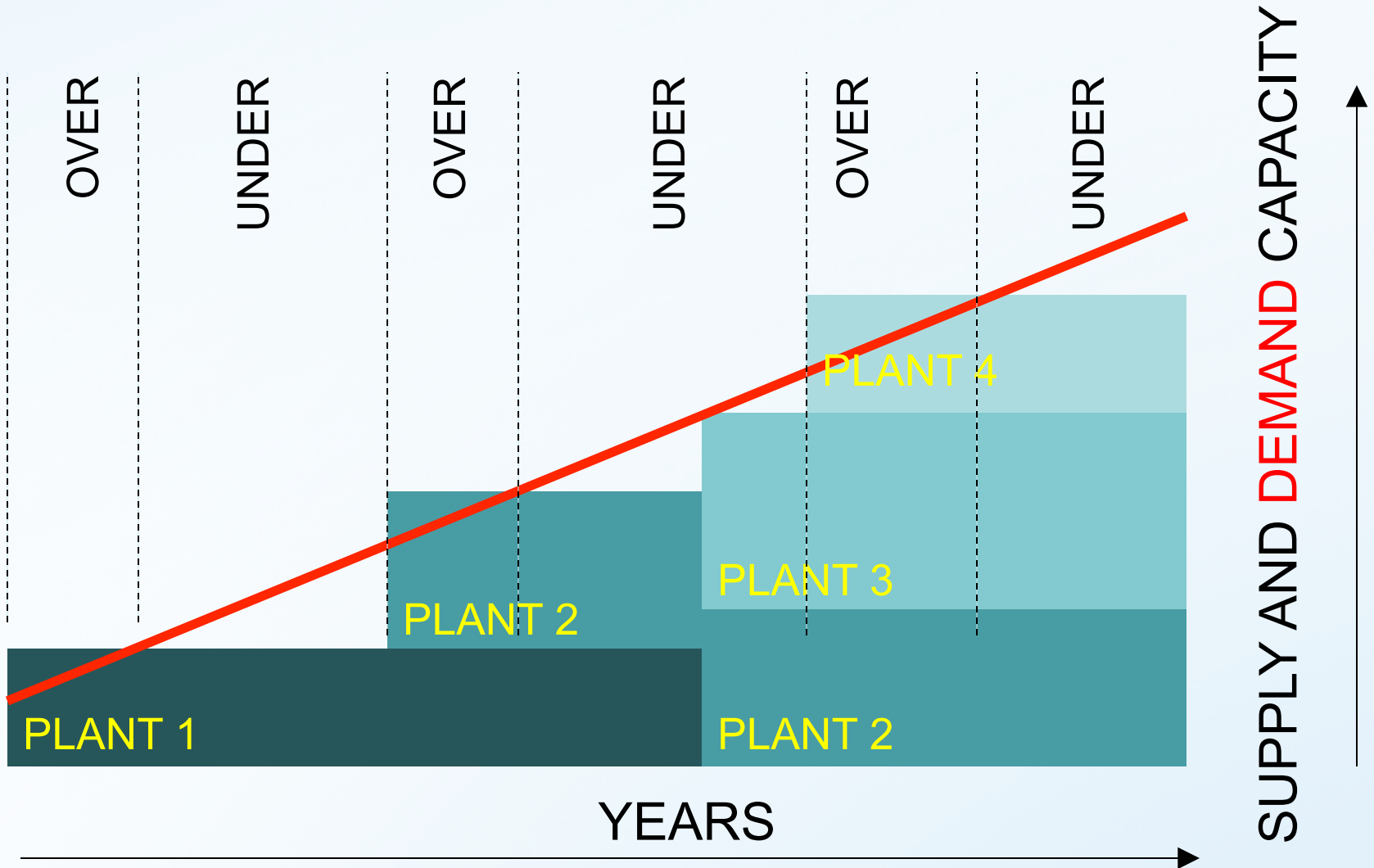
- Big chunks of capital
- Years of development lead time
- Up-sized in anticipation of future growth
- Not practical to scale back capacity

## **Energy Efficiency as a Resource:**

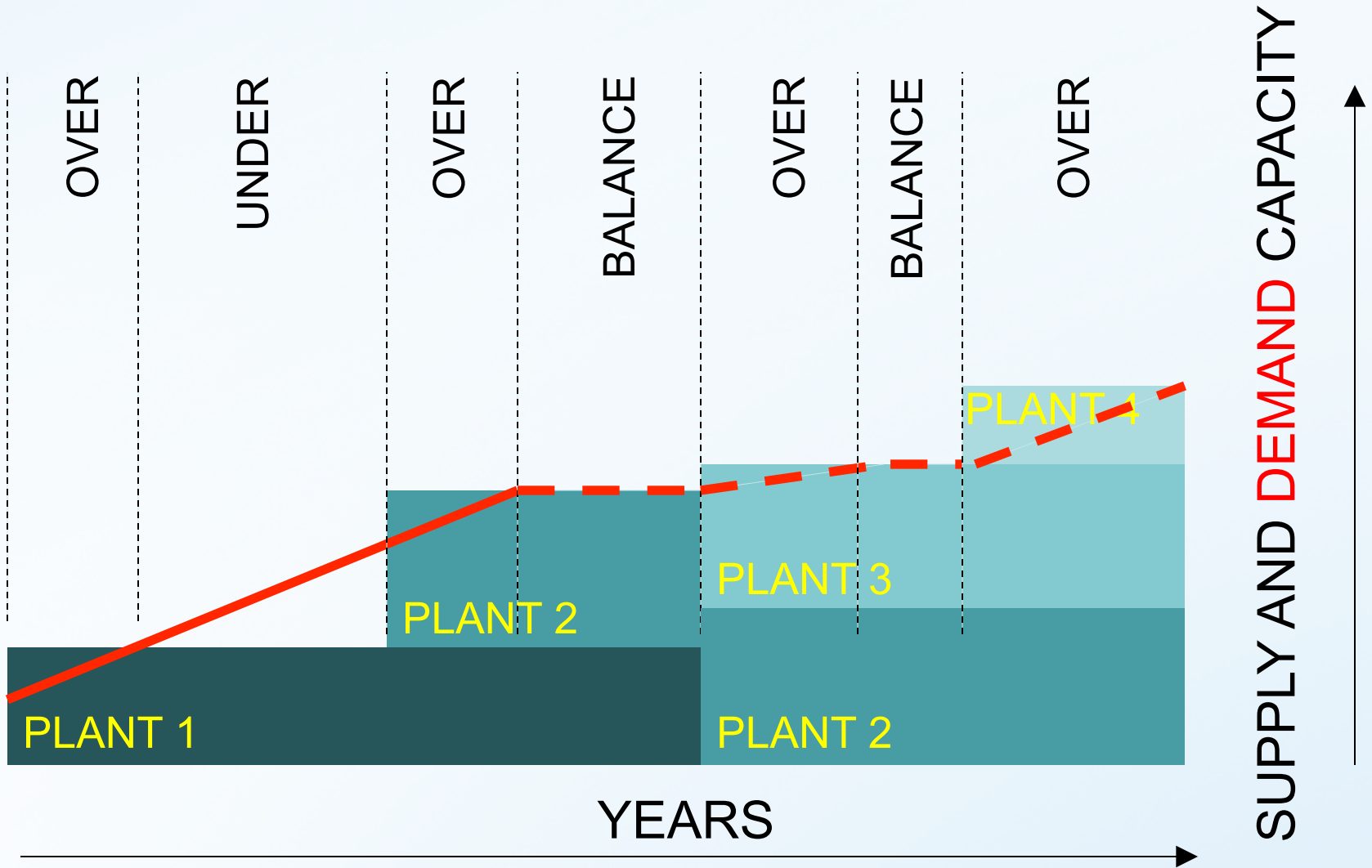
- Relatively smaller pieces of capital
- Investment deployed within months, not years
- Flexible scale of investments
- Program investments can be rapidly scaled up or back



# Energy Resources Balance Over Time



# Energy Resources Balance Over Time



# Incentives Program Theory

Goal: sustain the most cost-effective mix of incentives to achieve timely investment

Incentive portfolio designed per local variables:

- Current supply capacity (utilities and service vendors)
- Projected demand growth across customer segments
- Market barriers: structural, financial, informational
- Existing program mix

# Incentive Design Options

## DIRECT:

- Rebate, tax incentives, other post-installation subsidies
- Credits: offset future utility bill liabilities
- Subsidized financing

## UP/MID-STREAM:

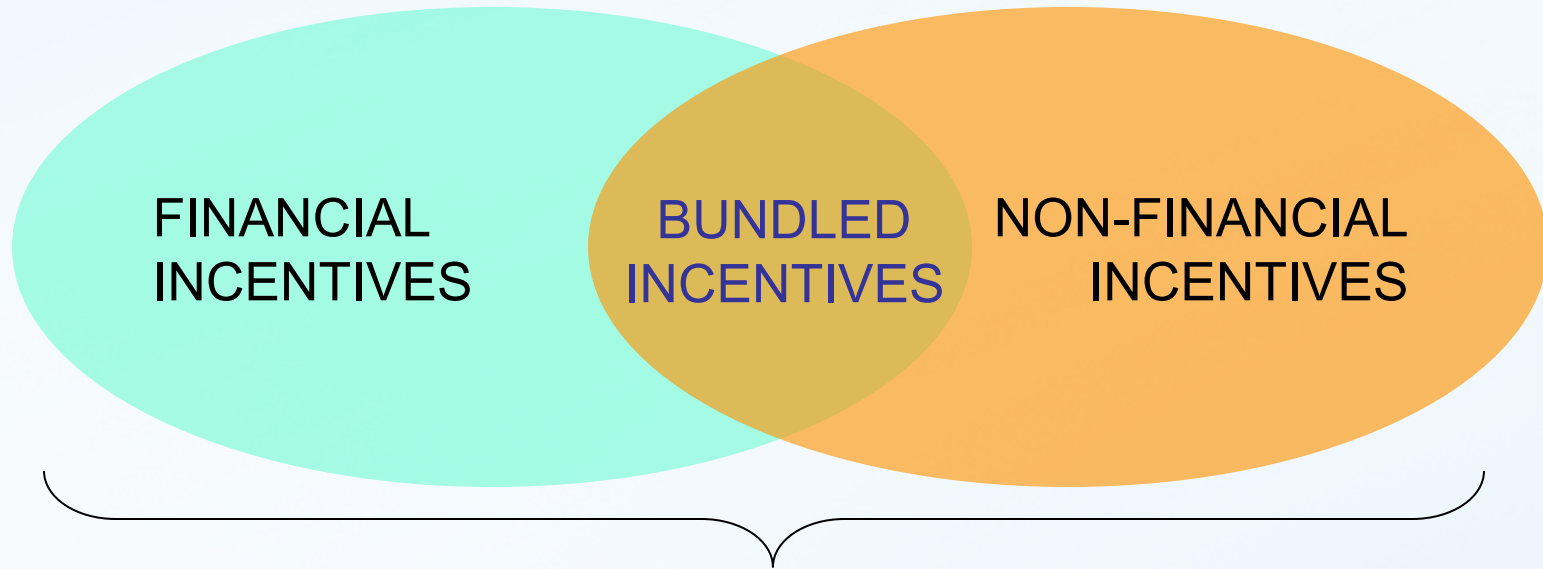
- Subsidies to EE product manufacturers, distributors, retailers

## TECHNICAL & INFORMATION SERVICES:

- Buyers' guides, MM&V service, project feasibility analyses, enhanced billing data

BUNDLED: blend of all the above

# INCENTIVES



## UPSTREAM

Manufacturers  
Builders

## MIDSTREAM

Retailers  
Distributors  
Specifiers

## DOWNSTREAM

Facility Owners  
Occupants

# Example: Xcel Energy

- Utility operated EE program
- Industrial & large commercial, >2mW
- Custom, prescriptive, self-direct
- Rebates up to 50% of incremental project cost
  - Up to cap of \$525/kW or \$0.10/kWh
  - Self-direct ineligible for standard program offerings
- Self Direct:
  - Provide own engineering/analysis
  - Must meet same total resource costs as standard participants
  - Xcel offers pre-approval, have two years to implement
  - No “grandfathered” project credits

## Example: Rocky Mountain Power (UT, WY)

- Customers: resource extraction industries
- Self-direct customers liability to pay 3.7% cost recovery charge over a fixed time...
- UNLESS they implement projects: earn credit against CRC liability.
- Rate credit for up to 80% of eligible project costs
- Eligible self-direct projects must have 1-5 year payback
- Customers can aggregate multiple meters to meet minimum use requirements, spread rate credit among multiple meters
- TRC: self-direct comparable to standard programs

## Example: Puget Sound Energy

- Customer-funded escrow for projects
- Rebate of measure costs: Standard up to 70%, self-direct up to 100%
- Non-competitive funding cycle for 24 mos.
- Competitive bidding for unused balance at end of period – boosts cost-effectiveness
- Self-direct: customers have access to 82.5% of their EE program contribution.
- 7.5% to PSE for admin costs. 10% to cross-sector market transformation activity



## Example: Energy Trust of Oregon

- All customers pay 3% public purpose charge (PPC)
- Full program participants: incentive = 50% of project costs
- Option: self-direct for meters over 1 mW:
  - Deduct 100% cost of self-installed EE measures as credit against PPC liability
  - Escrow credits for 36 months
- Use or lose: implement projects against credits, or repay
- 80 out of 170 eligible customers chose self-direct
- Many customers failed to self-implement – rush to revert to full program participation
- Now only 15 out of 180 are self-direct

# Commercial & Industrial Consumers

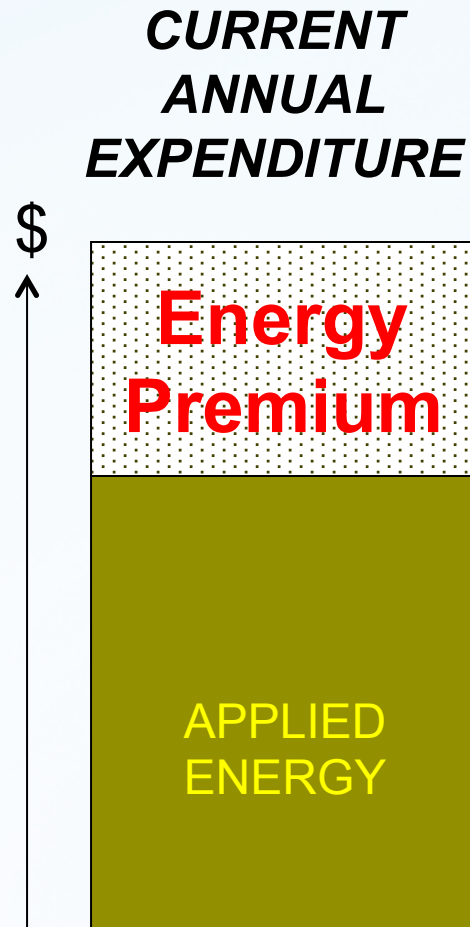
**Why bother, why care?**

# **“We’re already as efficient as we can be.”**

I’ll agree with you on several conditions:

- All the energy improvements you made in the past remain fully implemented
- Technology has remained static, so no new opportunities have emerged, or...
- You have all the time in the world to keep up with new technology
- All staff with institutional knowledge of energy use are still in place
- Your assets have not been depreciated through use
- Fuel prices have remained stable since you became “100%” efficient.

# Energy Premium: You Choose.



WASTE what you buy...

- Save today's capital
- Reduce operating income
- Reduce retained earnings
- Destroy your future capital

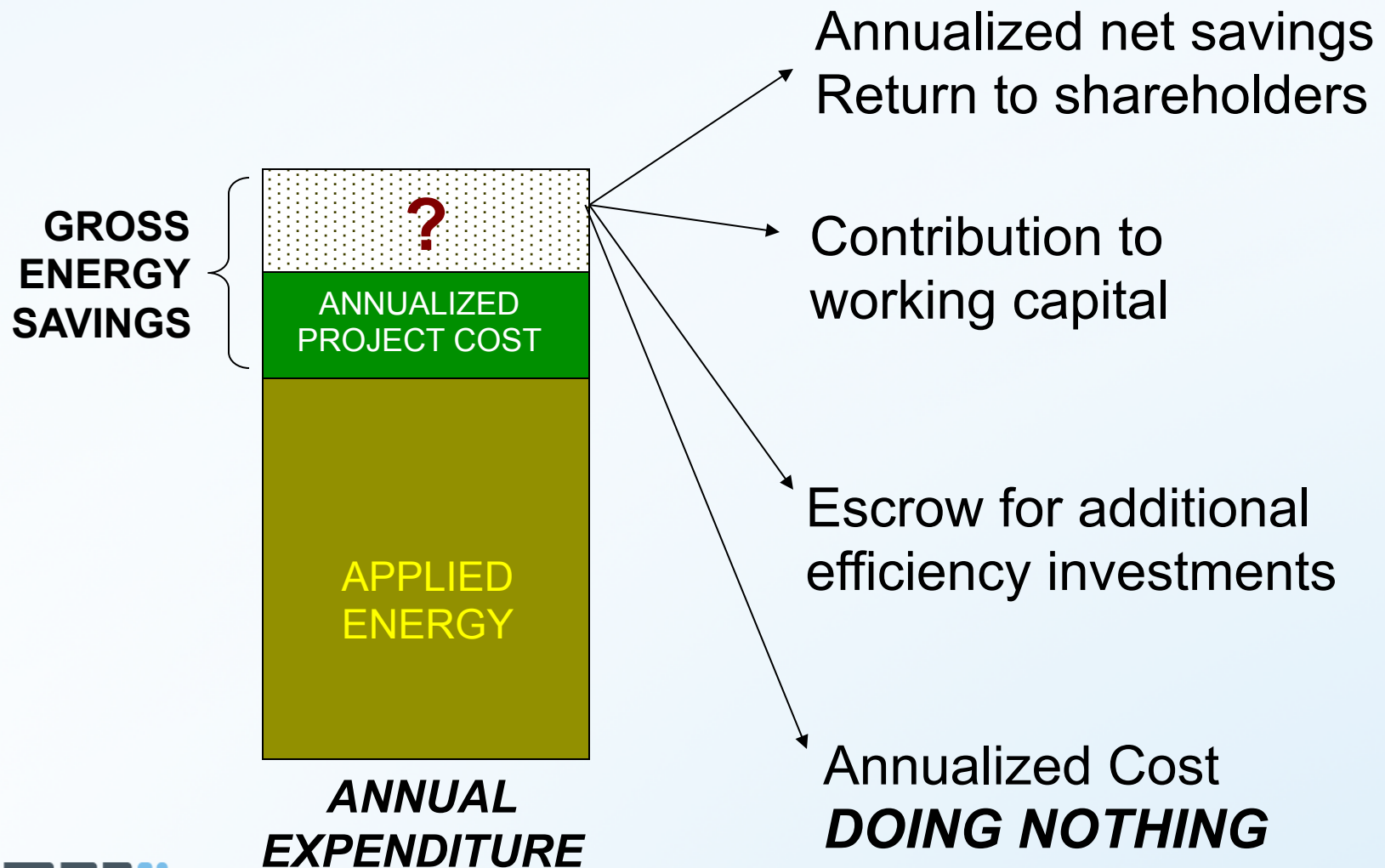
or: BUY a solution...

- Have sufficient resources?
- Sufficient expertise?
- Motivation?

Or: SELL resource to Efficiency NS

- Invest your capital today
- Collect incentive from EffNS
- YOU collect future investment returns
- Generate future capital reserves

# Energy Premium = Gross Energy Savings Potential



# Take-Aways

- Energy efficiency is the cheapest energy resource
- Energy users: invest in efficiency, sell their offset
- More choices... more innovation... more flexibility...  
more competitiveness... **STRONGER ECONOMY**

**THANK YOU!**  
*Questions?*

**Christopher Russell**

