WEBINAR BUILDING TECHNOLOGIES & FINANCE

Organized By

ACCELERATE ENERGY PRODUCTIVITY 2030





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Note: Today's presentation is being recorded and will be posted on Energy2030.org

WEBINAR BUILDING TECHNOLOGIES & FINANCE

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ACCELERATE ENERGY PRODUCTIVITY 2030







A Partnership To Double U.S. Energy Productivity by 2030



What Doubling EP Means for Our Country:









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ECONOMIC OUTPUT

Getting twice as much economic output from each unit of energy^[1]

BILLION

Saved annually in avoided energy costs^{III}

1.3

MILLION

Jobs created^[1]

IMPORTS

7%

Reduced to represent a mere portion of overall energy consumption^[1]

ACCELERATE ENERGY PRODUCTIVITY 2030

ENDORSE THE GOAL ENERGY2030.ORG

134 Endorsers To Date



Webinar 1: Accelerating Energy Productivity through Building Technologies and Financing

Speaker 1: Building Technologies





Jason Bingham, VP of Energy Services and Controls, Trane Commercial North America

Speaker 2: Financing





Parker White, Director, Hannon Armstrong

Two More Webinars Coming Up

Wednesday April 20th 2:00 pm ET Accelerating Energy Productivity through Smart Grid & Smart Manufacturing

Speakers from:



Wednesday April 27th 2:00 pm ET

Accelerating Energy Productivity in Transportation & Water

Speakers from:



NESCAUM



Accelerating Energy Productivity in the Building Sector



Buildings in Focus: A Business Opportunity





3-5% Cost/Yr



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.....

"I spend lots of time thinking about energy consumption and cost."

Energy Management

72% "Know about trends in building energy management and have the time or interest in knowing more."

Business Results

68%

"My management does see a connection between capital investments in our building and the mission of our business."



MACRO TRENDS : CHANGE IS ON THE HORIZON



Roughly 88% of commercial buildings in the U.S. are under 25,000 sq. ft.





 The median building size is 5,000 square feet, while the average size is 15,700 square feet. Food service, healthcare, and food sales buildings are the most intensive energy users







THE CORE TREND

Data 2015 Knowledge 2020 Results



"Welcome to the 'outcome economy'where companies create value not just by selling products and services, but by delivering solutions that directly produce quantifiable results."

- Paul Dougherty, CEO Accenture

AUTOMATING ENERGY PRODUCTIVITY



WHAT THIS LOOKS LIKE ...

How many people own a programmable thermostat?









Energy Productivity: Building a Foundation





Automating Energy Productivity









HELP IS NEEDED

- 1) Energy Transparency
- 2) Energy Standards
- 3) Small Building Focus
- 4) Remove Roadblocks



HANNON ARMSTRONG FINANCING THE FUTURE OF ENERGY"

SUSTAINABLE YIELD**

Accelerating Energy Productivity through Financing

Mission accomplished?



The vast majority of buildings still need retrofits



The greatest barriers are financing problems, not tech



Global GHG abatement cost curve beyond business-as-usual - 2030

Market misalignment limits long-term solutions

Capital Competition: • Owners naturally favor core investments (i.e., leading with the lobby) Spit Incentives: • Tenants typically pay majority of utility bills Lack of Information: • Unclear expectations on return & investment value Existing Debt:

• Mortgage prepayments are high, leading to reliance on expensive subordinated or unsecured credit

Solving with a model for risk-adjusted returns and scale

- Principal investor and REIT
- Approximately \$2.4 billion transactions financed since 2013
- High credit quality obligors
- \$3.2 billion of managed assets
- Long tenors up to 30 years+
- Flexible contract structures
- Debt and Equity available
- Transactions up to \$250m







Empowered by platform to efficiently compete



Core Purpose: Generate superior risk-adjusted returns using finance to enable GHG reducing assets to be adopted at scale.



Enabled by platform to innovate

- Efficiency:
 - <u>HannieMae</u> securitization vehicle accelerating efficiency adoption for the US Federal Government (1.5% of US Energy Bill),
 - <u>Property Assessed Clean Energy ("PACE"</u>) solves the problem for another 20-30% of the US energy bill.
- Solar Securitizations: Just as securitization drives down the cost of home mortgages, a parallel market for rooftop solar installations will do the same. Already costs are approaching 4%.



CarbonCount: How Does it Work?

Annual Hourly MWh Generation Avoided by Underlying Efficiency and/or Renewable Energy Project(s) Dynamically Calculated, Location Specific Hourly Grid Emissions Factor Metric Tons of CO₂ / MWh



CarbonCount

Metric Tons of CO₂ offset annually

per \$1,000 investment

Total Capital Cost of the Project(s)

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HANNON ARMSTRONG FINANCING THE FUTURE OF ENERGY"

For more information, please visit our website at www.hannonarmstrong.com

Or contact Parker White directly at 917-680-6016 PWhite@hannonarmstrong.com



Thank You for Joining us Today!

Please feel free to contact us with any questions:

- David Caughran, Alliance to Save Energy <u>Dcaughran@ase.org</u>, 202.530.2226
- Jenah Zweig, Department of Energy <u>Jenah.Zweig@hq.doe.gov</u>, 202.586.5712
- Chad Evans, Council on Competitiveness <u>Cevans@compete.org</u>, 202.969.3380

A Partnership To Double U.S. Energy Productivity by 2030







Wednesday April 20th 2:00 pm ET Accelerating Energy Productivity through Smart Grid & Smart Manufacturing

Energy. Innovation. Solutions.

NESCAUM

3M

Wednesday April 27th 2:00 pm ET Accelerating Energy Productivity in Transportation & Water

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