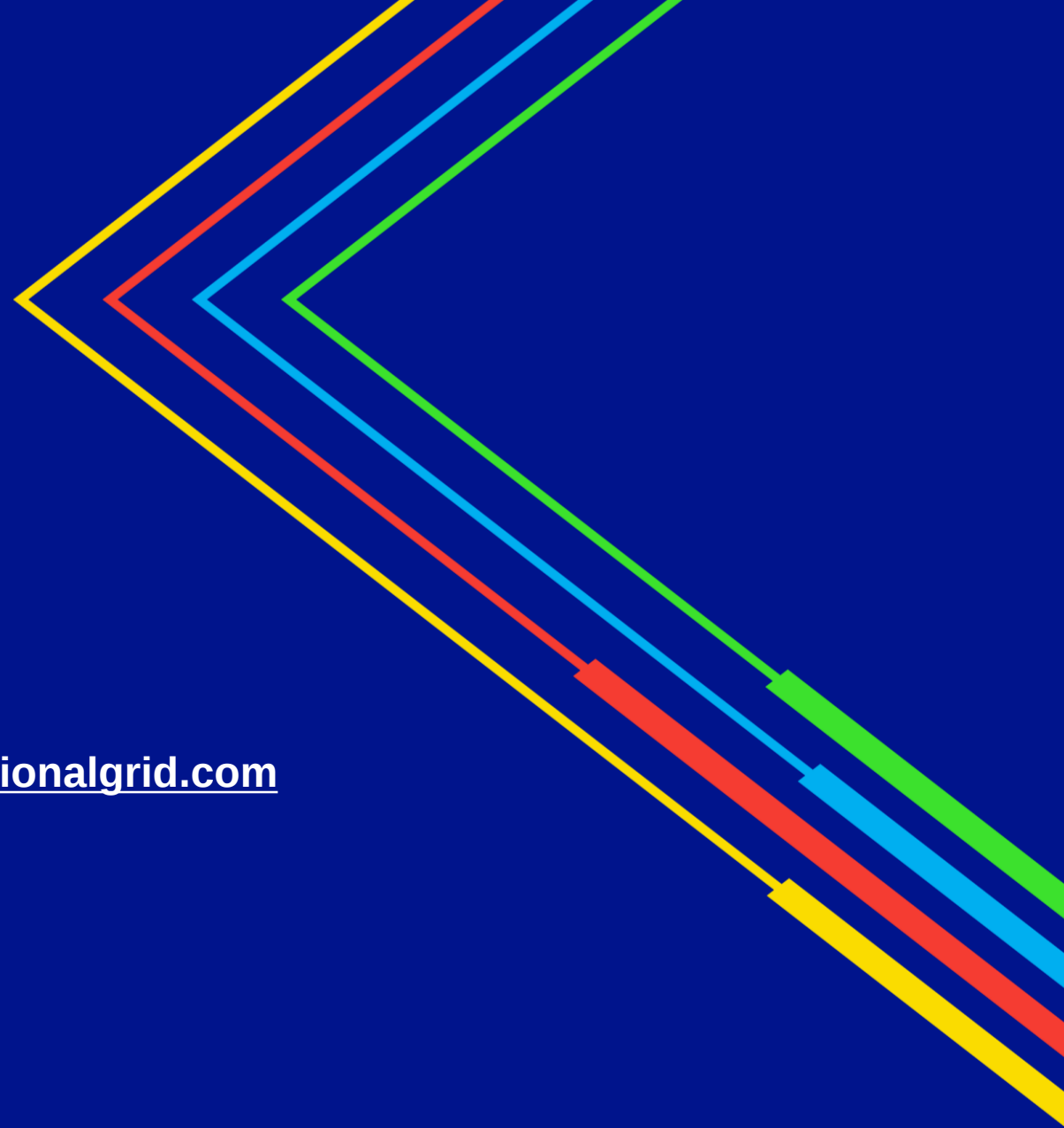


June 2025 PEX Meeting

June 25th, 2025

Mathew McCarthy mathew.mccarthy@nationalgrid.com

national**grid**



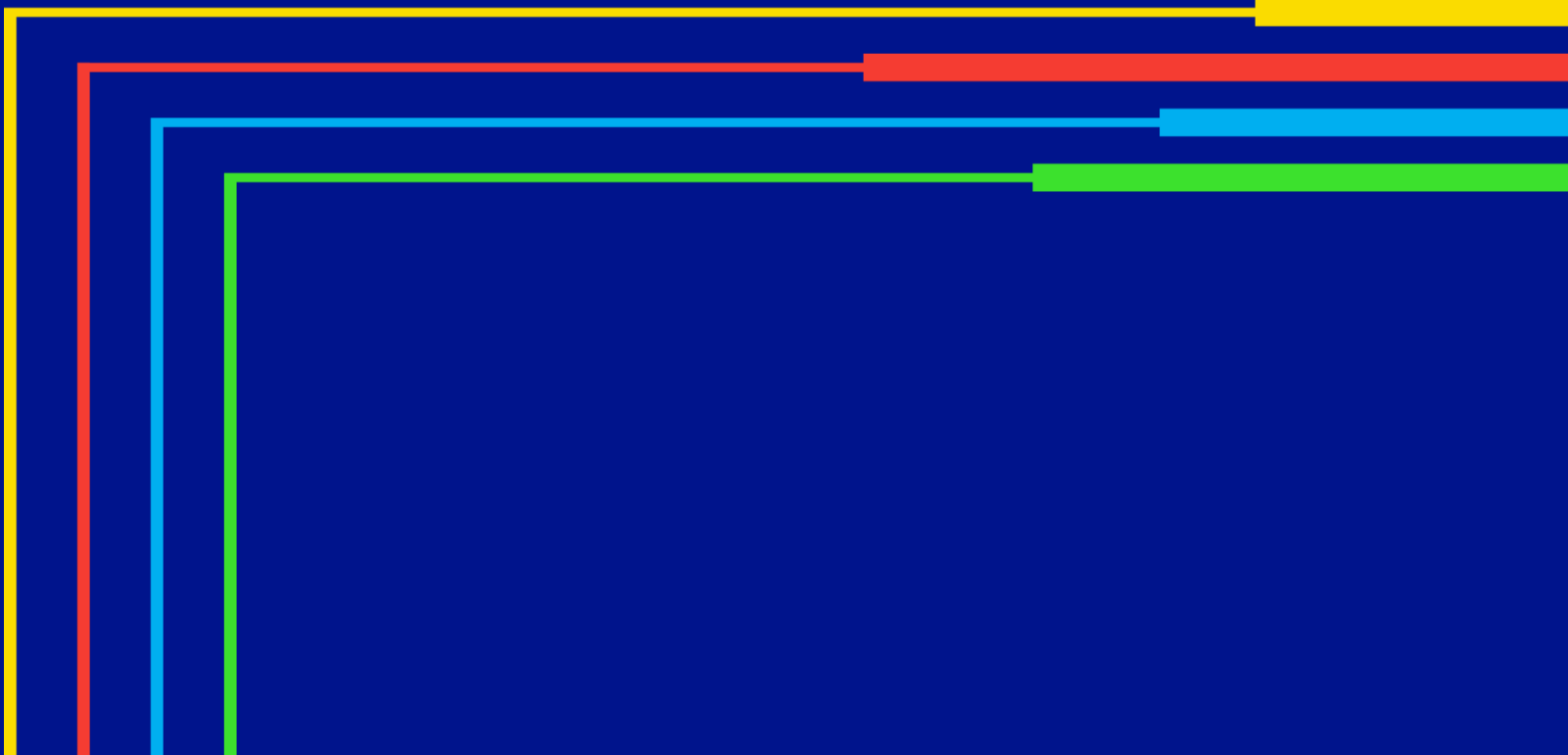
Contents

01	Safety Moment – Wayne Burgess
02	PEX Progress and Goals for 2025 – Mat McCarthy
03	Engineered Tax Services – Cindy Blumenfeld
04	Quick Hits, Reminders, and Next Meeting – Mat McCarthy
05	AQUIS - Energy Savings through Continuous AHU Coil Optimization & Monitoring – Michael Estes

01

Safety Moment

Wayne Burgess Wayne.Burgess@nationalgrid.com

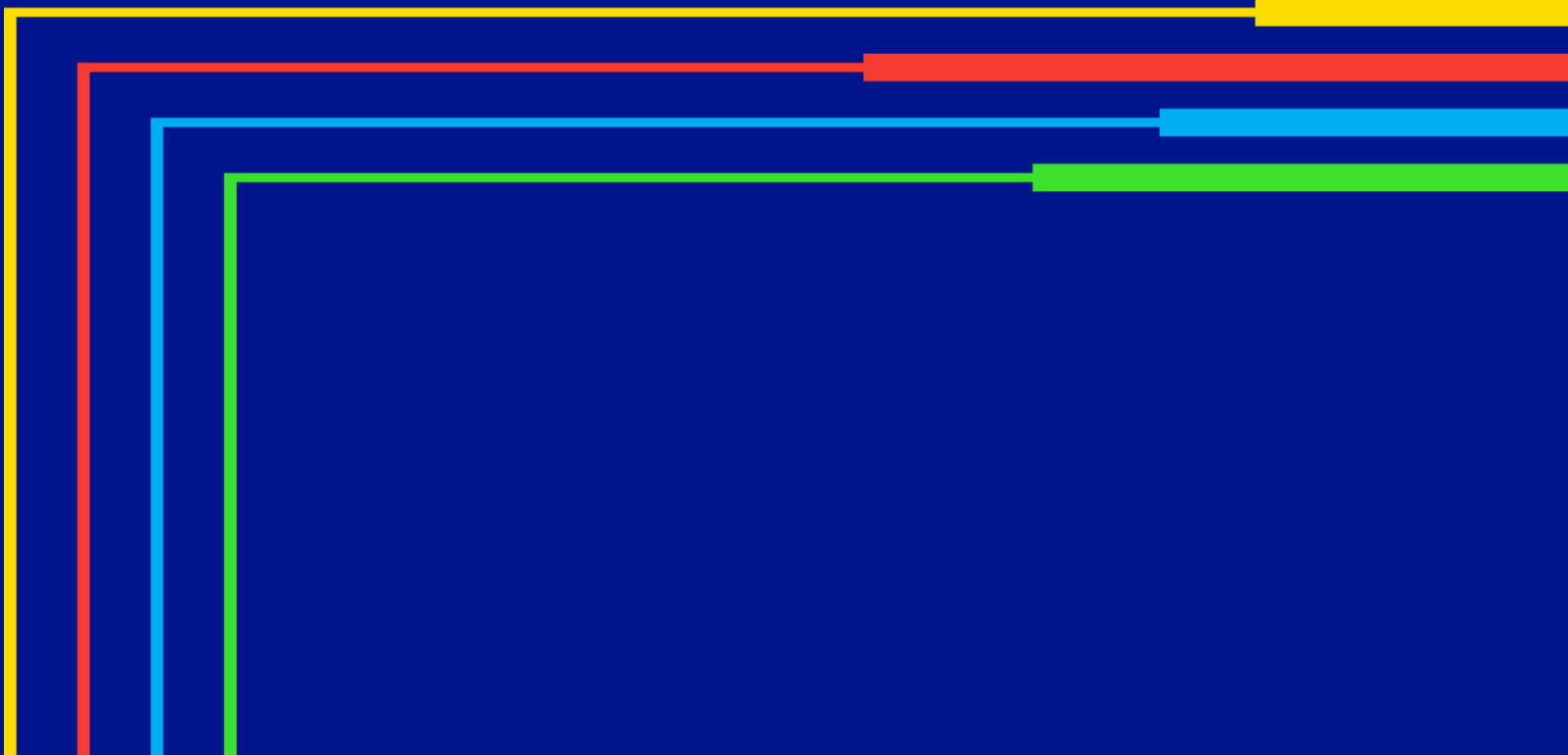


02

PEX Progress and Goals for 2025

Mathew McCarthy Mathew.mccarthy@nationalgrid.com

national**grid**

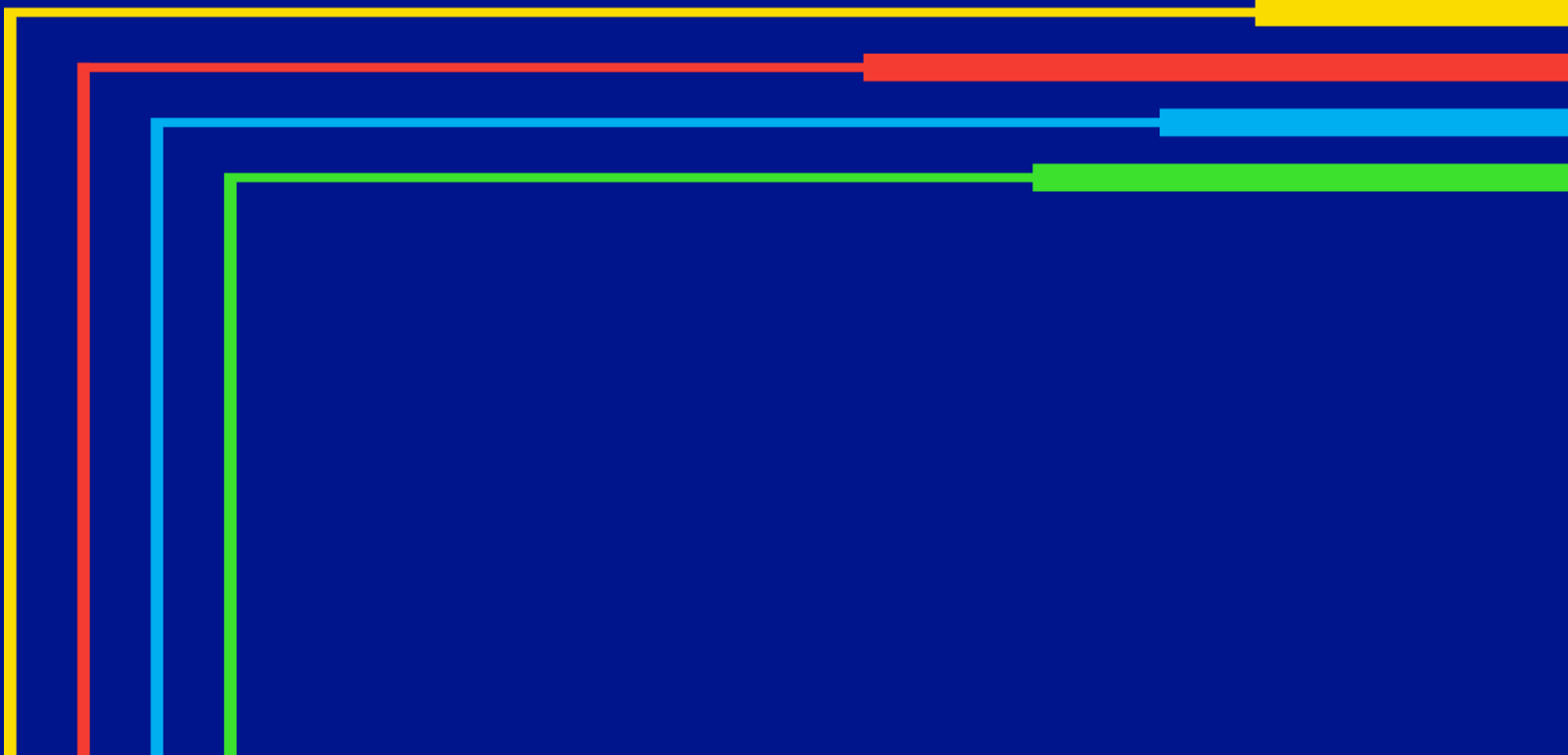


Key Performance Indicators	Goal	Paid	Paid % to Goal	Forecast	Forecast % to Goal
Electric Savings (NLT MWH)	85,600	36,600	43%	101,935	119%
Gas Savings (NLT Therms)	1,587,000	751,675	47%	1,600,000	101%
Electrification (NLT MMBTu)	37,900	13,460	36%	40,000	106%

03

Engineered Tax Services

Cindy Blumenfeld cblumenfeld@engineeredtaxservices.com



national**grid**

About Engineered Tax Services



National	Basis	Results
Licensed Engineering Firm with 16 offices across the U.S.A.	Specializes in engineering studies for tax strategies	Tremendous Revenue generated for ETS partners
Achievements	Clients	Partners
ETS averages \$24,500,00 in monthly refunds and tax benefits for architects, contractors and engineering firms involved in Public Building designs.	Clients include IKEA, JW Marriott, Boeing, Snowbird Ski Resort, Ford, BMW, Outback, top 100 CPA firms and Architectural firms	Tremendous Revenue generated for ETS partners



Presenter | Cindy Blumenfeld

Director of Business Development



About Your Speaker

- 14+ years with ETS, Generating Hundreds of Million in Tax Savings for Clients.
- Helps Clients Unlock Revenue to Reinvest in Their Businesses or Boost Personal Cash Flow
- Background in Finance and Real Estate Enhanced by Expertise in Specialty Tax Strategies
- Focused on Cost Segregation, R&D Tax Credits, and 179D Energy Certifications
- Passionate Public Speaker for the CPA and Real Estate Communities
- Featured on YouTube, Podcasts, Radio, and in numerous Real Estate Publications
- Dedicated to bringing Value through Collaboration and Expert Insight

Maximizing Opportunities for Real Estate



Via energy tax incentives, cost segregation, disposition, abandonment, tangible property repairs & maintenance regs

Goal of Cost Segregation Studies

“Would you rather get your money back today or in 39 years?”

- Goal = to identify all construction-related costs that can be more quickly depreciated over 5, 7, 10 and 15 years and reclassified from 39, 31.5 and 27.5 years
- Traditional depreciation for Real Property is 39 years for commercial property and 27.5 years for residential rental property
- Reducing tax lives results in accelerated depreciation deductions, a reduced tax liability, and increased cash flow

“You must pay taxes. But there's no law that says you gotta leave a tip.”

What is Cost Segregation and its Benefits?



Items to be Reclassified

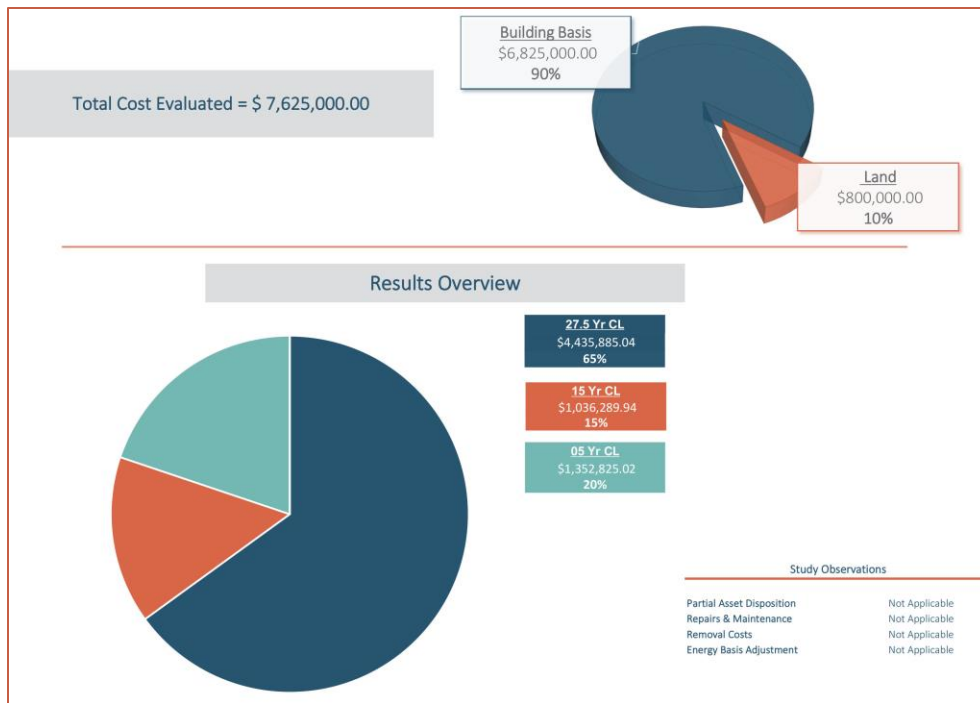
- Site Improvements (landscaping/parking)
- Light Fixtures
- Branch wiring
- Special Plumbing
- Flooring
- Millwork
- Millwork Window Coverings
- Partition Walls
- Cabinetry
- Furnishings
- Shelving
- Wall Coverings



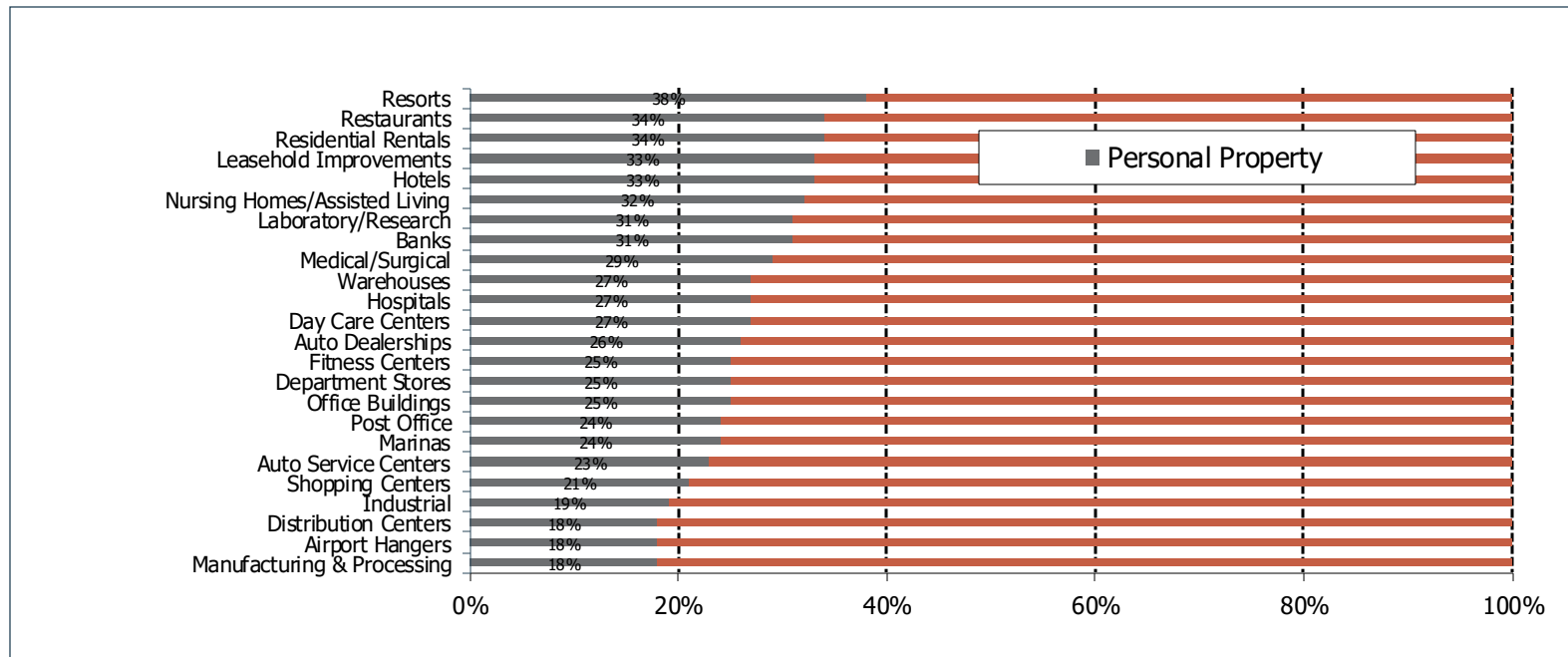
Cost Segregation – Senior Housing Example

Study	Class Life	Asset Allocation	Reclass %
Purchase			
	05 Year CL	\$1,352,825.03	19.82%
	15 Year CL	\$1,036,289.94	15.18%
	27.5 Year CL	\$4,435,885.04	64.99%
Total Depreciable Basis:		\$6,825,000.00	100%

Cost Segregation – Senior Housing Example



Which Properties Benefit Most?



Abandonment / Disposition Case Study

Details:

- 100,000 sq. ft. office facility and warehouse
- HVAC & Lighting Renovation: \$850,000
- Utility and other rebates: \$65,000
- EPC Act tax deduction: \$581,000
- Abandonment deductions: \$90,000

Results:

- Post-tax benefits based on a 35 percent tax rate = \$234,850 (\$671,000 at 35%)
- Total renovation cost = \$550,150 (\$850,000 less rebate and tax benefits)



179D Inflation Reduction Act Overview



179D Summary – Tax Deduction

2006 - 2022

- Interim rules at .60 cents/sq ft federal tax deduction for:
 - Interior lighting
 - HVAC and hot water systems
 - Envelope (roof and windows)
- OR whole building \$1.80/sq ft
- Applicable to new construction and retrofits of commercial buildings and high-rise (4+stories) multifamily projects
- The deduction can be claimed retroactively up to three years

2023 and Beyond

- Base deduction:
 - Sliding scale starting at .50 cents/sq ft for energy savings of 25 percent
 - Allows an additional .02 cents/sq ft for each % above 25 percent
 - Up to \$1/sq ft for energy savings of 50 percent or greater
- Bonus deduction (prevailing wage/apprenticeship):
 - Sliding scale starting at \$2.50/sq ft for energy savings of 25 percent
 - Allows an additional .10 cents/sq ft for each % above 25 percent
 - Up to \$5/sq ft for energy savings of 50 percent or greater

179D Summary – Tax Deduction

Efficiency Gain Over Baseline	Deduction Amount “Base Rate”	Labor Standards “Bonus Rate”
25 % (minimum)	50 cents per sqft ²	\$2.50 per sqft ²
30%	60 cents per sqft ²	\$3.00 per sqft ²
35%	70 cents per sqft ²	\$3.50 per sqft ²
40%	80 cents per sqft ²	\$4.00 per sqft ²
50% (maximum)	\$1.00 per sqft ²	\$5.00 per sqft ²

Labor Provision exemption:

Any project in construction prior to 1/29/2023 is exempt from prevailing wage and apprenticeship for the 5x benefit multiplier.

179D Summary

2006-2022

- Commercial building owners
- Designers of buildings owned by
 - Governmental entities

2023 and Later

- Commercial building owners
- REITs
- Designers of tax-exempt buildings:
 - Government entities
 - Not-for-profit organizations
 - Churches and other religious organizations
 - Tribal and Alaska Native Corporations



Qualified Retrofit Plans Replaced Interim Rules

Allows a retrofit baseline: the buildings own specific level of pre-retrofit site energy use intensity (EUI) rather than the longstanding ASHRAE comparison.

- Building must be 5 years or older
- Must have a qualified retrofit plan in place by a professional engineer or architect
- Deduction can only be claimed after one year in service and results of the plan are achieved and verified
- “Final certification” must be made one year after implementation

Bonus Deductions

Prevailing Wage and Apprenticeships

How to meet the labor provisions

To qualify for the bonus deductions, projects must:

1. Pay “prevailing wages” to laborers or mechanics employed by the taxpayer or contractor/subcontractor that install equipment and,
2. Satisfy “apprenticeship” hiring requirements:
12.5% in 2023; and 15% in 2024.
 1. Taxpayers, contractors or subcontractors that employ four or more individuals will be required to employ at least 1 or more qualified apprentices
 2. Comply with applicable apprentice-to-journey worker ratios.
 3. Taxpayers can be deemed as satisfying the requirement if they make a good faith effort to request qualified apprentices from a registered apprenticeship program that is denied, or a program fails to respond within five days of such a request.



179D Certification Process

Certification Steps

1. Energy Modeling
2. Site Verification

Design Documentation

1. Architectural drawings
2. Mechanical drawings
3. Electrical drawings
4. Specifications for the wall/roof insulation R-values and glazing U-values

Administrative Documentation

1. Construction cost budget spreadsheet
 - The AIA payapp will often have this information for us.
2. Tax-exempt entity info:
 - Name of the public entity owner of the property.
 - Name of the owner's representative.
 - Address of the representative's office.

179D Certification Summary

– 3 System Study



Location	Square Feet	TAX DEDUTION
Elementary School, Maryland	97,500sf	\$170,100.00
Total		\$170,100.00

Case Study – Major Retailer



179D and Cost Segregation

Over **\$35,000** Energy Tax Deduction

Over **\$640,000** Additional Five-Year Tax Benefit



179D and Cost Segregation

Over **\$1,391,089** Energy Tax Deduction for 6 Properties

Over **\$25,277,445** Five-Year Cash Benefit for 4 Buildings

R&D Tax Credits





R&D Tax Credit in Context

- Credit is economic stimulus to keep innovation and creativity in the U.S. and encourage job creation
- Originally legislated by Congress in 1981 and extended 16 times
- Became Finally permanent federal incentive in December 2015 within the PATH Act
- 42 states have adopted R&D incentive-based programs

The Research Tax Credit: What Qualifies?



Finally Permanent!

The Research and Development (R&D) Tax Credit is one of the most substantial incentives under the current U.S. tax law for the A&E Industry. Unlike a standard deduction, it's a dollar-for-dollar tax credit against your tax liability.

Starting 1/1/2022, all research expenses must be amortized over 5-years due to Section 174. Still a great opportunity, because companies taking 174 should absolutely be taking the R&D credit especially software and manufacturing companies.

Qualifying industries

- Manufacturing (high and low tech)
- Tool & Die Shops / Job Shops
- Plastic Mold Injection
- Software Developers
- Pharmaceutical Companies
- Chemical Companies
- Food Processors
- Apparel/Textile Companies
- Agribusiness
- Fabricators
- E-Commerce

Qualifying industries

- Architectural Firms
 - Engineering Firms
 - General Contractors–Design-build team in house
 - Electrical Contractors
 - Mechanical Contractors
-
- In general, the technical design of buildings and infrastructure will qualify
 - Will not qualify: interior design, feasibility studies, construction mgmt.

Engineering QRE's

- *Wages*

- *Qualified wages are W-2 wages*

- *Includes taxable fringe benefits, as well as:*

- *vacation,*

- *sick pay,*

- *bonuses, and*

- *taxable stock options.*

- *Substantially All Rule*

- *If 80% or more of an employee's time is devoted to qualified research activities, then 100% of the employee's wages may be included in the research credit calculation.*

- *Eligible Costs*

- *Wages*

- *Form W-2, Partnership Earnings subject to SE Tax, Schedule C*

- *Excludes 401(k) & benefits*

- *Supplies*

- *Cost to fabricate prototypes / items consumed in R&D process*

- *65% of Contract Research*

- *Fees paid to outside consultants/ engineers / software developers*

Engineering QRE's

- *Supplies*

- *Supplies are tangible personal property other than*
- *land or improvements to land, and*
- *property of a character subject to the allowance for depreciation*
- *Examples can include:*
- *general supplies (i.e., pens, paper, etc.),*
- *design and construction of prototypes and*
- *extraordinary utilities.*

Engineering QRAs

- BIM modeling
- Determining alternative structural design
- Improving or designing alternative heating and cooling systems
- Value engineering
- Sustainable design
- Design or new materials testing
- Space utilization
- Environmental impact studies
- Developing alternative water flow/plumbing systems
- Determining alternative ventilation systems
- Waste disposal systems integrated into the structure

Quantification

- Conservatively, 25% - 33% of your expenses will be QREs
- Rule of thumb - \$5,000-\$6,000 net Federal Credit per \$100,000 of QREs
- State Credits as well
- Three year look back option
- IN THE NEWS:
 - **R&D legislation update:**
 - **Currently proposed legislation has a return to full expensing for R&D activities!**



THANK YOU!

Cindy Blumenfeld

cblumenfeld@engineeredtaxservices.com

direct | 954.439.1671

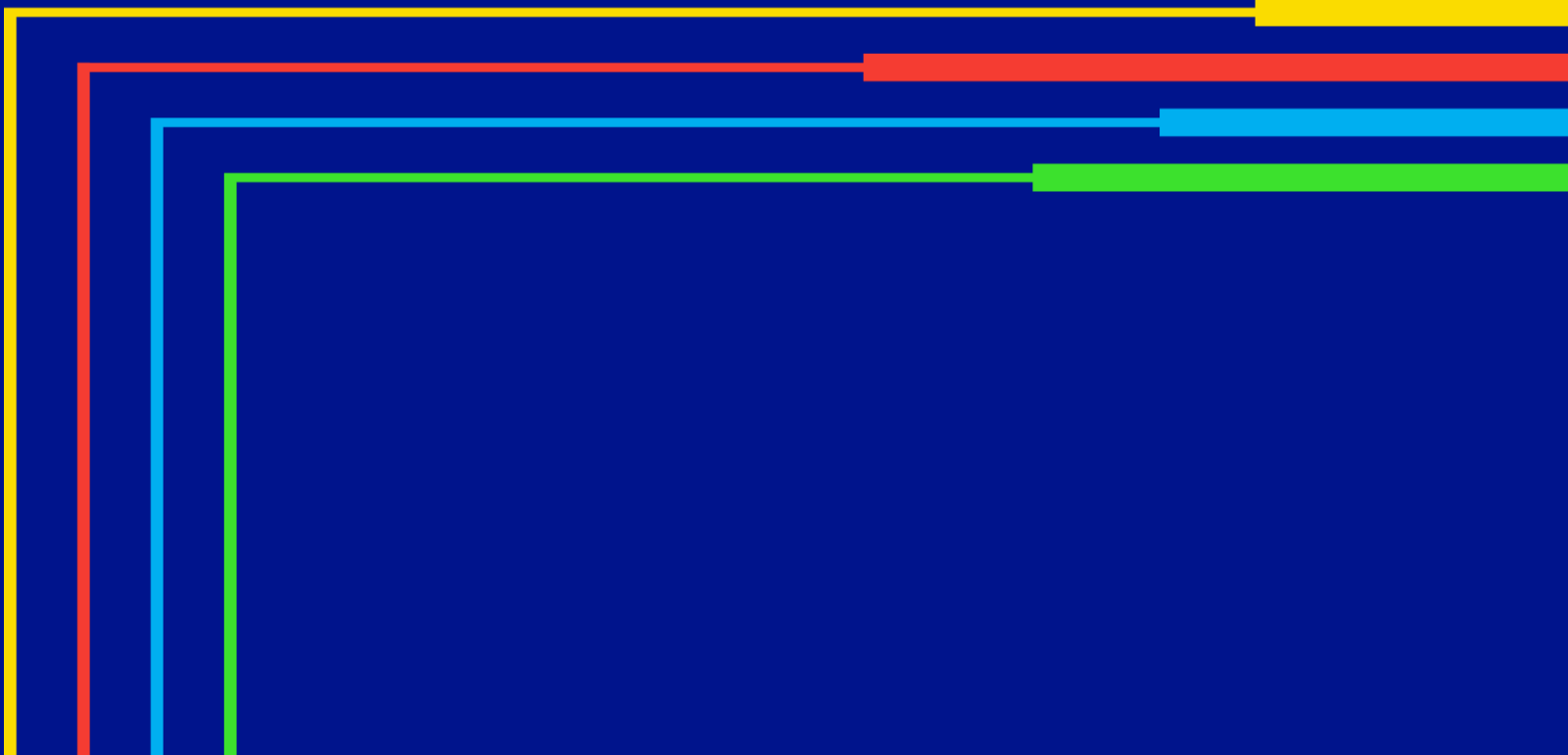


Add qr code, contact me directly for a complimentary analysis
of your past, current and future opportunities

04

Quick Hits/Reminders/2025 Meeting Dates

Mathew McCarthy Mathew.McCarthy@nationalgrid.com



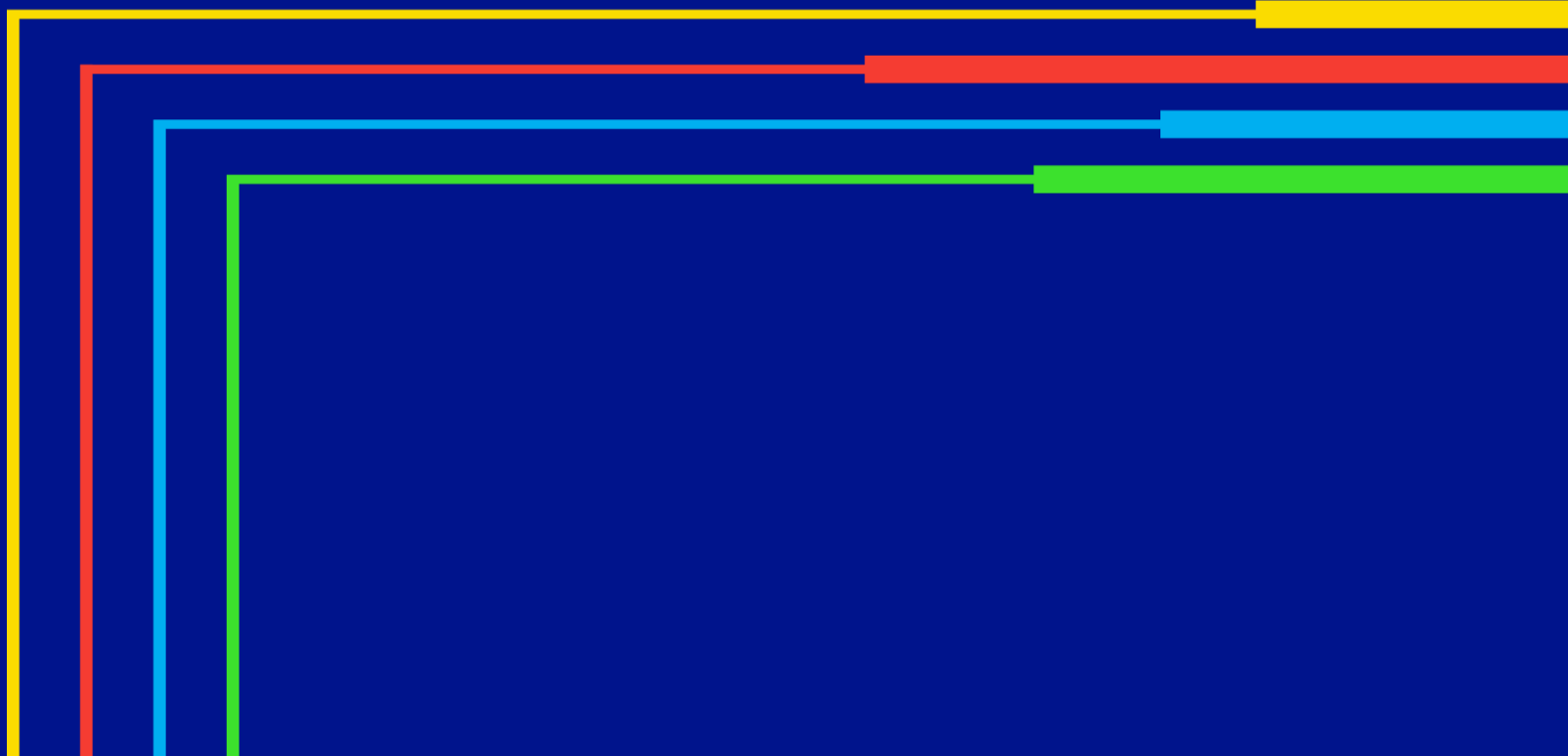
national**grid**

Quick Hits/Reminders/2025 Meeting Dates

- **Upcoming Trainings/Events:**
 - Mass Save events and trainings can be found on the Mass Save website [here](#). Now includes Additional Industry Trainings & Resources
 - MAEEP
 - July 8: 1:00 pm – 4:00 pm - [Decarbonization with Electric Vehicles, Solar, and Storage](#)
 - September 30: 8:30 am – 4:00 pm - Heat Pumps
- **PEX Landing Page:**
 - <https://www.nationalgridus.com/MA-Project-Expediter-Program>
- **2025 Meeting Schedule**
 - Wednesday, August 20, 2025
 - September PEX Meeting – Invite Pending
- **One on Ones**
- **Prescriptive W(x) SoP**
- **2025 Energy Solutions Summit – Save the Date – 10/23/25 from 8AM-6PM**

05 AQUIS – Energy Savings through Continuous AHU Coil Optimization and Monitoring

Michael Estes mestes@aquissolutions.com





Leaders in Air Handler Renewal

Continuous Coil Optimization & Monitoring



- AQUIS is a specialty service provider that delivers innovative and high-performance solutions nationwide to its valued customers
- In 2006, AQUIS launched a patented engineered coating system for the comprehensive refurbishment of air handlers
- In 2017, AQUIS began offering coil restoration and optimization services for the renewal of fouled and aging coils
- In 2023, AQUIS partnered with Sensible® to launch the first real-time monitoring system for cooling and heating coils

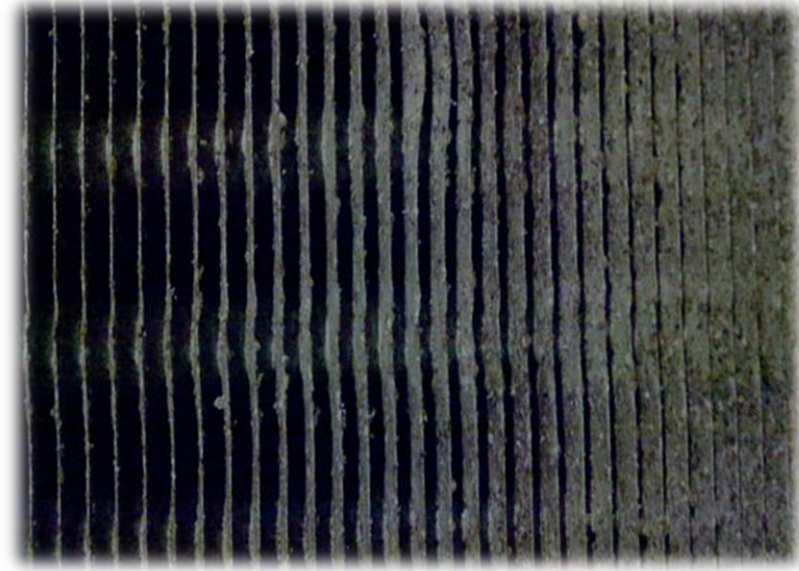
AQUIS CUSTOMERS

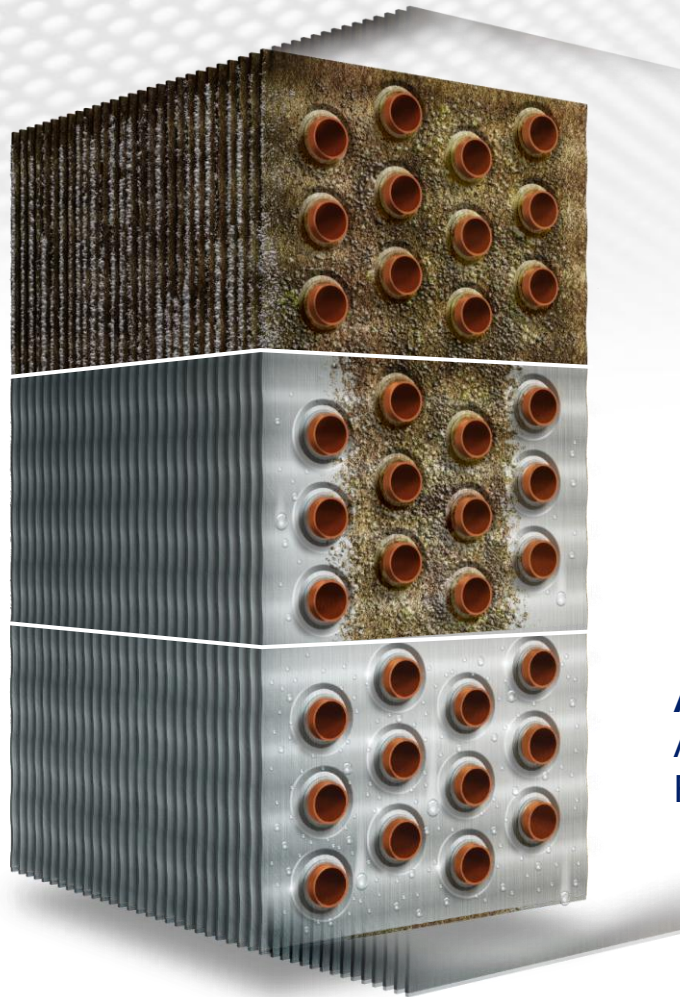


Continuous Coil Optimization & Monitoring



- Communities of microbes, including bacteria, viruses & fungi, that grow on surfaces and live for extended periods
- Protected by a strong tacky biopolymer called the EPS, biofilms are highly resistant to typical cleaning chemicals
- Biofilms thrive in the dark, damp environment of air handlers and represent a significant source of IAQ issues
- Biofilms grow freely on cooling coil fin surfaces, blocking heat transfer, impeding airflow and ultimately reducing coil performance





Before

Poorly maintained coils are fouled with biofilm and operate below design performance conditions

**After
Typical
Coil
Cleaning**

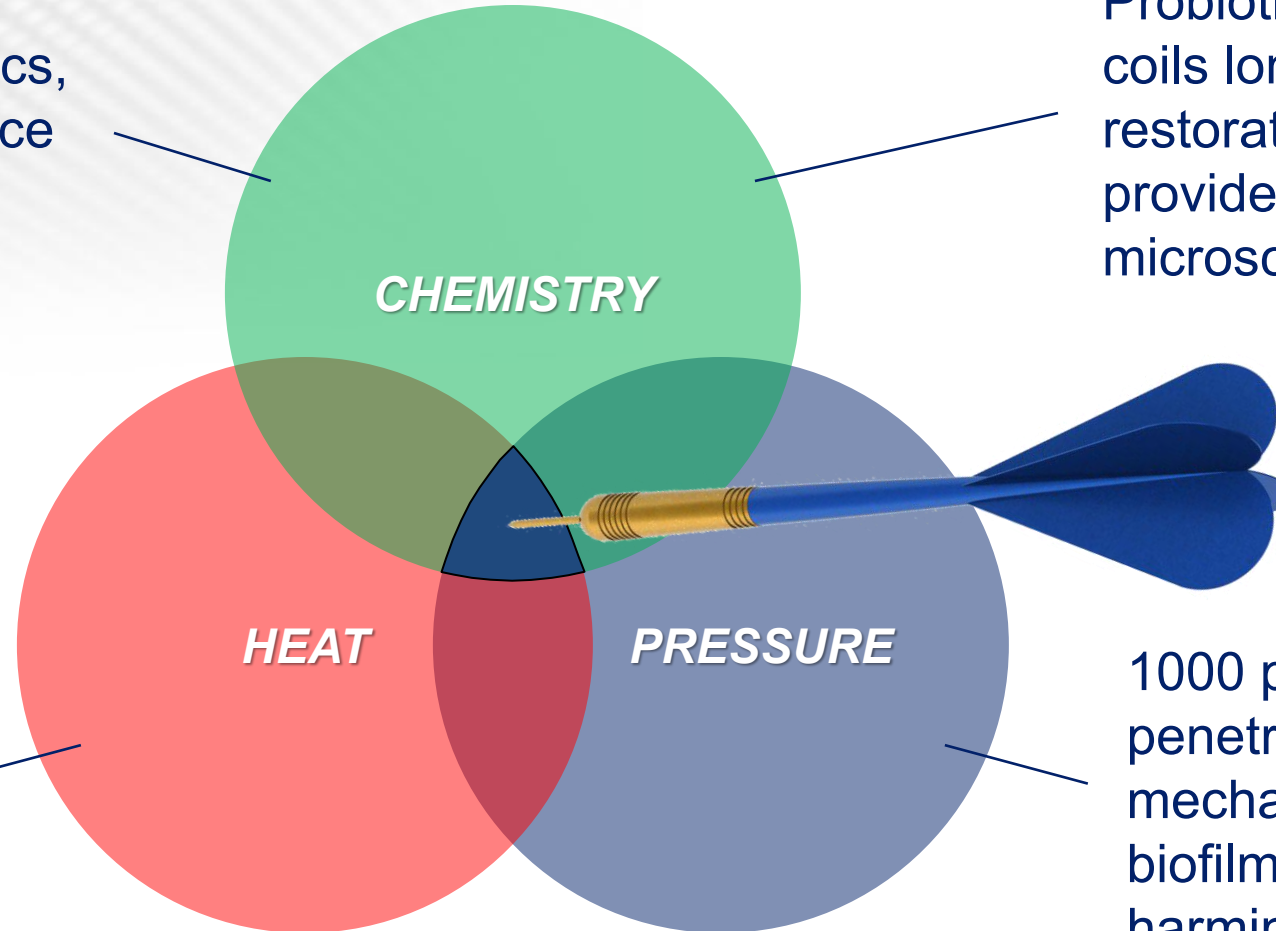
Coils “appear” clean but biofilm deep within coils allows for only marginal performance gains

**After
AQUIS Coil
Restoration**

Cleaned at a microscopic level throughout the coil unlocking lost system performance

GRAS* Listed and ecofriendly probiotics, applied at 100°F, produce enzyme containing biosurfactants which attack and dismantle stubborn biofilm

Probiotics remain on coils long after the restoration process to provide ongoing microscopic cleaning



Superheated water at 280°F (propane heated) emulsifies and loosens biofilm

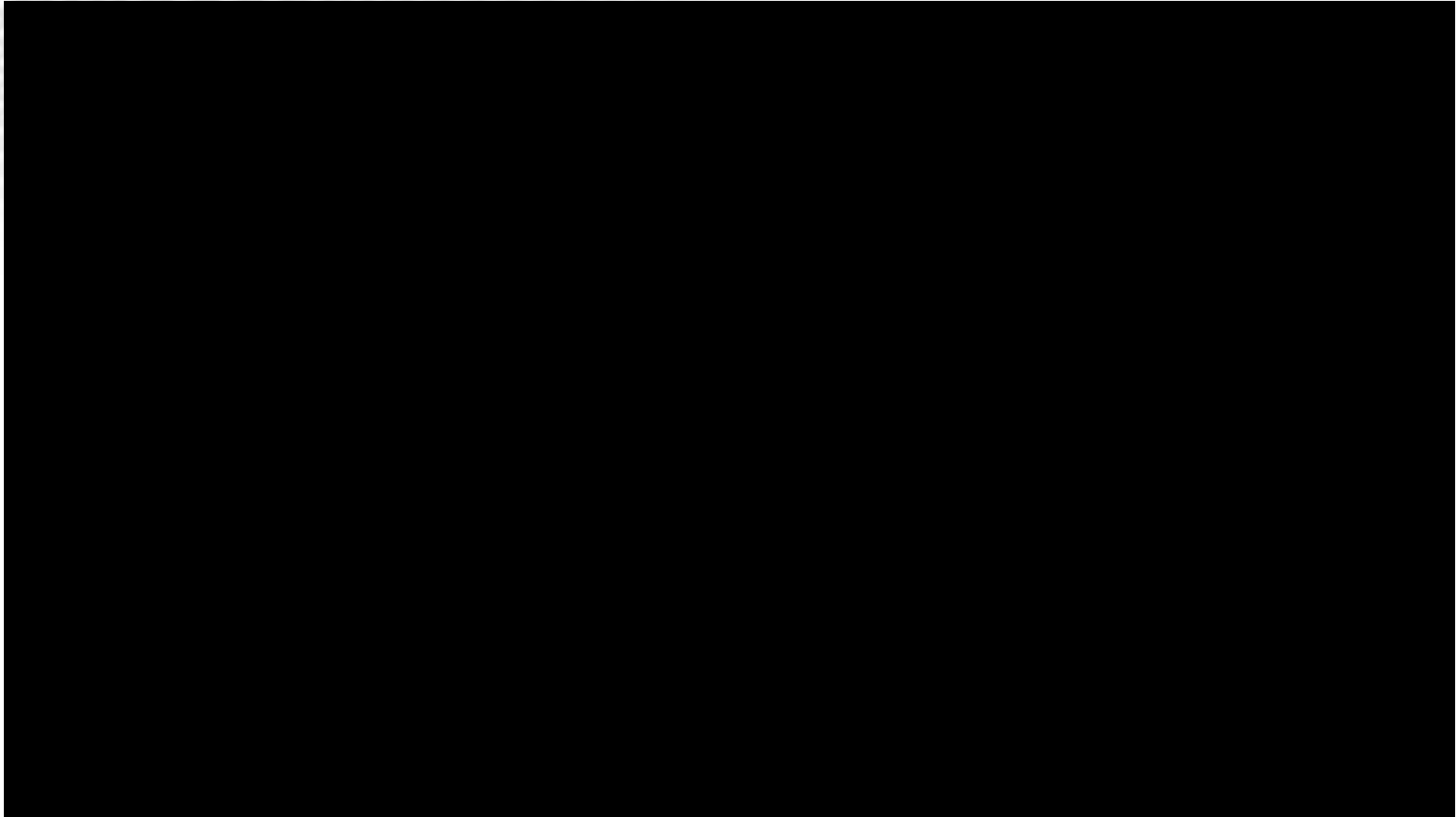
1000 psi water penetrates coils to mechanically remove biofilm without harming coil fins

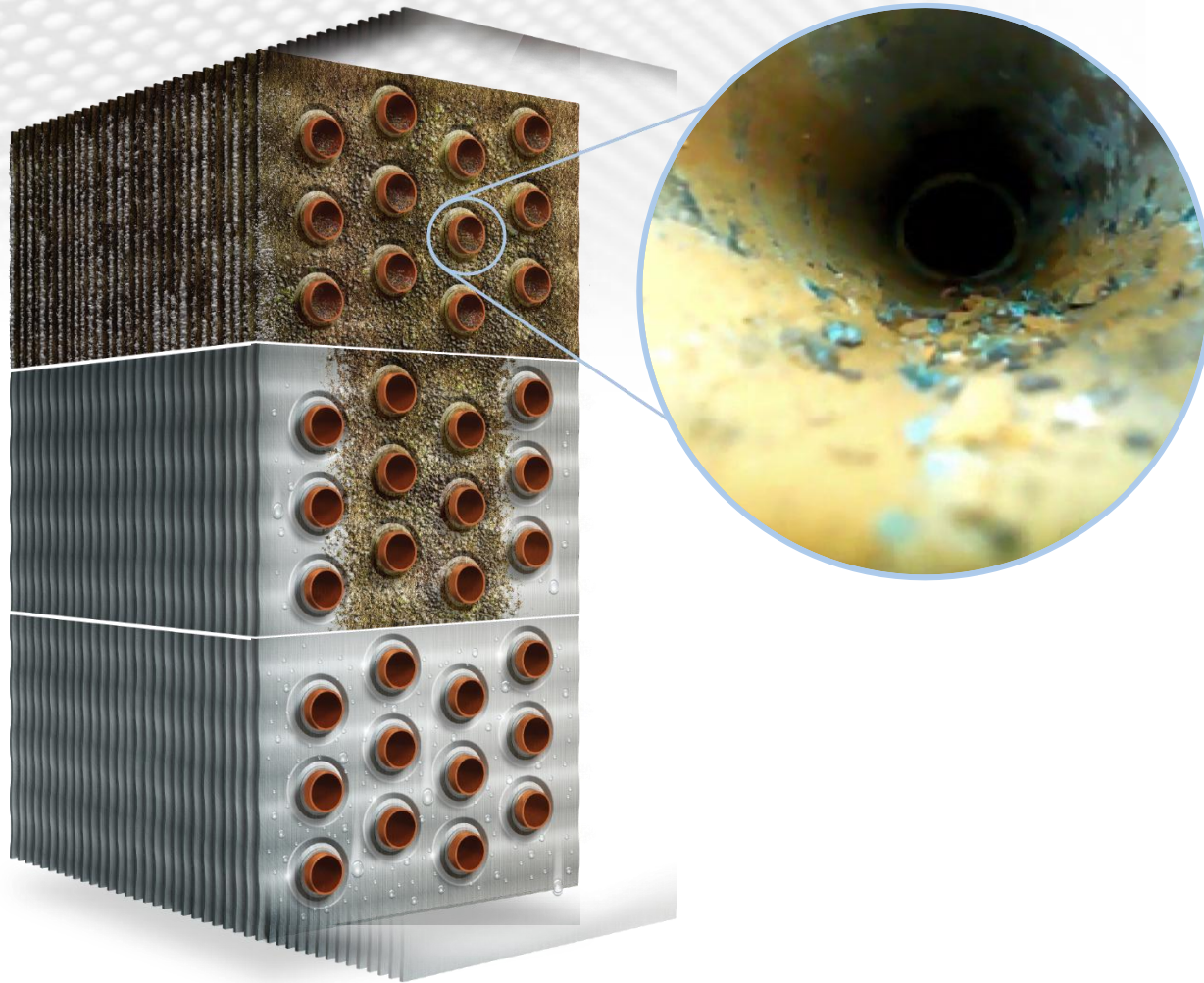
Licensed by **Biömik.**

* Designates “Generally Recognized as Safe” as a food additive by the FDA

©Copyright 2024 AQUIS - All Rights Reserved

AQUIS.





- Poor maintenance of coil tubes leads to the accumulation of biofilm, mineral scale and debris
- This condition causes reduced water flow and compromised heat transfer of AHU coils
- Over time, this condition leads to significantly reduced coil performance and premature coil replacement

- A unique patented process for the restoration of the interior of coil tubes using a GRAS listed & ecofriendly probiotic foam
- Improves chilled water flow performance by capturing and removing biofilm, scale and debris using a dense foamed probiotic
- Recaptures lost heat transfer by breaking down and removing biofilm buildup on the interior of coil tubes
- Increases coil Delta T by improving heat transfer efficiency
- Extends the coil service life by impeding microbial induced corrosion (MIC)







- **Provide visibility into true coil performance** for your most critical air handling units through real-time data
- **Minimize energy and maintenance costs** through coil-fouling analytics and reliability centered maintenance
- **Predict future coil performance** as it relates to capacity limitations, coil service life and other system failures

- SmartCoil by Sensible is the first real-time monitoring system for coils
- The SmartCoil gateway collects data from an array of strategically placed sensors and transmits to the cloud using an integrated modem
- Using a machine learning algorithm, SmartCoil translates the raw coil data into insightful analytics which include...
 - ⇒ Fouling Metrics / CbM
 - ⇒ Performance Trending / OCx
 - ⇒ Predictive Maintenance / RCM / FDD
- The SmartCoil dashboard is accessible online and through compatible BMS systems



COIL MONITORING – HOW IT WORKS

MONITOR



● Air Temp ● Humidity ● Air Velocity ● Current Draw ● Water Temp



- Results are based on data collected from 48 SmartCoil M&V studies conducted nationwide in various climate zones
- SmartCoil measured 8 parameters including temperature, humidity & flow of air and chilled water
- The following results show average performance change after Coil & Tube Restoration

Parameter	Results
Airflow	▲ 10%
Cooling Coil Capacity	▲ 15%
Chilled Water ΔT	▲ 8%
Energy Consumption	▼ 20%
Simple Payback	10 - 18 months

Estimated System Capacity Increase (Tons) for 74 AHUs

	Year 1	Year 2	Year 3	Year 4
Total Capacity Increase	326.5	320.0	313.6	307.3

Estimated Energy Savings (kWh/Year) for 74 AHUs

	Year 1	Year 2	Year 3	Year 4
Energy Savings - Blowers	2,809,100	2,752,920	2,697,870	2,643,920
Energy Savings - Pumps	31,400	30,780	30,170	29,570
Energy Savings - Cooling Coils	938,800	920,030	901,630	883,600
Total Energy Savings	3,779,300	3,703,730	3,629,670	3,557,090

Estimated Cost Savings (\$/Year) for 74 AHUs

	Year 1	Year 2	Year 3	Year 4
Cost Savings - Blowers	\$477,550	\$477,360	\$467,820	\$458,460
Cost Savings - Pumps	\$5,340	\$5,340	\$5,240	\$5,130
Cost Savings - Cooling Coils	\$159,600	\$159,540	\$156,350	\$153,220
Total Cost Savings	\$642,490	\$642,240	\$629,410	\$616,810

Total Annual Restoration Cost: \$538,165

RESULTS

Average Capacity Increase (Tons):	<u>316.8</u>
Total Energy Savings (kWh):	<u>14,669,790</u>
Total Cost Savings (\$):	<u>\$2,530,950</u>
Payback Period (Months):	<u>10.10</u>



ASSUMPTIONS:

- Assumes coil restoration of 74 AHUs annually over 4 years (tube restoration is conducted bi-annually)
- The airflow is assumed at 500 fpm across the cooling coils. AHU Motor Size and Design cooling capacity is based on the estimated airflow.
- Yearly equipment diminishing efficiency factor of 2%.
- Energy consumption is based on 90% Load, 8,760 hours of operation and motor efficiency of 85% for the blower motors.
- Energy consumption for pumps and chillers is based on 4,380 hours of operation.
- The cost savings is based on the average regional electricity rates and escalation rate of 4.9% per year.
- Payback period is calculated using average annual payments and cost savings.

- **Unlocks lost system performance** – Proven to increase AHU coil capacity by upwards of 20% and increase Delta T by upwards of 25%
- **Renews air flow performance** – Increases air flow performance by upwards of 25% for aging impacted coils
- **Reduces energy costs** – Ability to reduce AHU energy consumption by as much as 35%
- **Improves indoor air quality** – Cleans coils at a microscopic level, eliminating pathogen containing biofilm
- **Extends the life of coils** – Extends the useful service of coils and delays the cost and disruption of replacement

Contact for no cost site assessment:

Jeremy Reid

Regional Sales Director, New England

Mobile: 860-803-0577

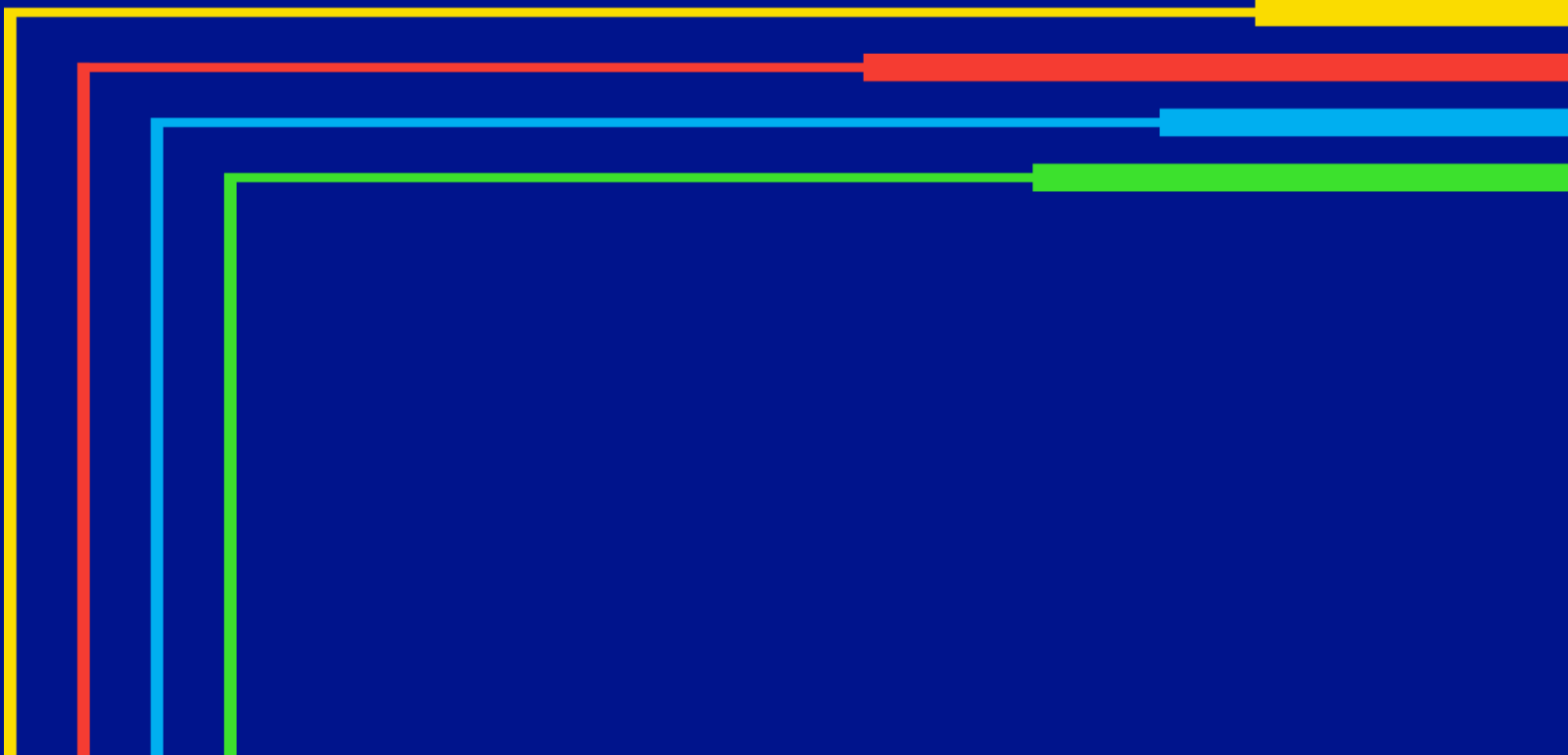
Tollfree: 888-494-1191

jreid@aquissolutions.com

www.aquissolutions.com

Thank You!

Be Safe



national**grid**