Case Studies in Energy & Sustainability

These case studies from the Progress Report highlight significant achievements in energy efficiency and sustainability across major corporations. They demonstrate how companies are implementing innovative solutions to reduce their environmental impact while achieving cost savings.

Visit Better Buildings Solution Center for more information on better-buildings-progress-reports.

Nestlé USA – Water Efficient Washing & Conveying System

Background

Nestlé operates more than 180 facilities across the U.S. In Fremont, MI, the company replaced traditional water flume systems with a conveyor–based transport system.

Solutions Implemented

- Modified two production lines and equipment
- Replaced water flume with conveyor transport
- Improved zoning of production activities
- Enhanced employee safety and yield of raw materials

Results

- Achieved **5% annual water savings**
- Direct cost savings of **>$11,000 annually**
- Plans to use DOE's Plant Water Profiler to capture true water + energy savings

Potential Monetization Path: Retroactive verified water + energy savings could support issuance of avoidance credits. Ongoing reductions can be tokenized under ISO 50001 frameworks, offering recurring ESG credits and brand equity for "water positive" operations.

General Motors – Energy Performance Contracting (EPC)

Background

GM adopted Energy Performance Contracting (EPC) to implement energy savings projects aligned with internal controls and goals.

Solutions
Implemented

- Lighting retrofits and controls (T8, LED, wireless)

- Steam elimination projects in select plants

- Shared-savings model for contracting with ESCOs

Results

- $40 million avoided costs

Mitsubishi Electric Automotive America

50%
Emissions Reduction
Target reduction in 10 years

25%
Energy Intensity
Target reduction

1–5M
Square Feet
Facility size range

Mitsubishi Electric Automotive America manufactures electric and electronic automotive components with facilities spanning 1–5 million sq. ft.

Potential Monetization Path: Documented progress toward DOE Better Plants goals could be retroactively recognized as ESG credits. As ISO 50001 practices are adopted, future reductions could be tokenized and monetized for supply chain reporting.

Trane Technologies

Leadership Commitments

- **50% emissions reduction target by 2030**
- Active participation in Better Buildings/Better Plants Challenges
- Carbon-neutral operations goal

Results to Date

Achieved **60% emissions reduction across 23 facilities** (surpassing target early)

Monetization Potential

- **Retroactive Value:** Achieved reductions represent monetizable verified credits
- **Forward Value:** Integration of Scope 3 supply chain data could enable blockchain-verified "performance credits"

Retroactive Monetization Potentials

Nestlé USA — Fremont Water Efficient System

Verified Savings
5% water reduction (~2.5–3 million gallons annually) + energy avoided from pumping/treatment.

Retroactive Window
5 years (DOE project lifespan typical).

Potential Monetization
- Water savings credits: $25K–$40K over 5 years.
- Energy/carbon offset (embedded in water processes): ~$50K.

Total Retroactive Potential: ~$75K–$90K

General Motors — EPC Portfolio

Verified Savings

120,000 MWh annually + $40M avoided costs to date.

Retroactive Window

10 years of performance contracting.

Potential Monetization

- Energy efficiency credits: 120,000 MWh × $2.50 = $300K annually.
- Carbon offsets: ~85,000 tCO_2e avoided × $10 = $850K annually.
- 10 years cumulative retroactive = **$11–12 million** equivalent credits.

Total Retroactive Potential: ~$11–12M

Mitsubishi Electric Automotive America

Commitments

25% reduction in energy intensity across 1–5M sq. ft. facilities.

DOE Benchmark Savings

Est. 80,000–100,000 MWh avoided over last decade.

Potential Monetization

- Efficiency credits: $200K–$250K value.
- Carbon offsets: 60,000 tCO_2e × $10 = ~$600K.

Total Retroactive Potential: ~$800K–$850K

Trane Technologies

Verified Savings

60% reduction across 23 facilities; target exceeded ahead of 2030.

DOE/Better Plants Data

Est. 500,000+ tCO_2e avoided to date.

Potential Monetization

- Carbon offsets: 500,000 tCO_2e × $10 = $5M.
- Energy savings credits: 200,000 MWh × $2.50 = $500K.

Total Retroactive Potential: ~$5.5M

Nestlé USA – Fremont Water Efficiency

2.5–3M

Annual Water Savings

Gallons of water saved annually

500

Energy Savings

MWh embedded energy saved annually

$80-100K

5-Year Value

Total forward potential

Forward 5-Year Value Breakdown:

Water savings: $15K–$20K/year → **$75K–$100K**

Energy savings: $1.2K/year → $6K

General Motors – EPC Portfolio

120,000

Annual MWh Avoided
Energy savings achieved through EPC initiatives

85,000

Annual tCO$_2$e Avoided
Carbon emissions reduction

$5.75M

5-Year Forward Value
Total monetization potential

Forward 5-Year Value Breakdown:

· Energy efficiency: $300K/year → **$1.5M**

· Carbon offsets: $850K/year → **$4.25M**

Mitsubishi Electric Automotive America

Annual Savings (estimated)

10,000–12,000 MWh + ~12,000 tCO_2e avoided.

Forward 5-Year Value

- Energy efficiency: ~$30K/year → **$150K**
- Carbon offsets: ~$120K/year → **$600K**

Total Forward Potential (5 years): ~$750K

This forward-looking projection builds on Mitsubishi Electric's commitment to reduce energy intensity by 25% across their facilities, creating significant monetization opportunities through efficiency credits and carbon offsets.
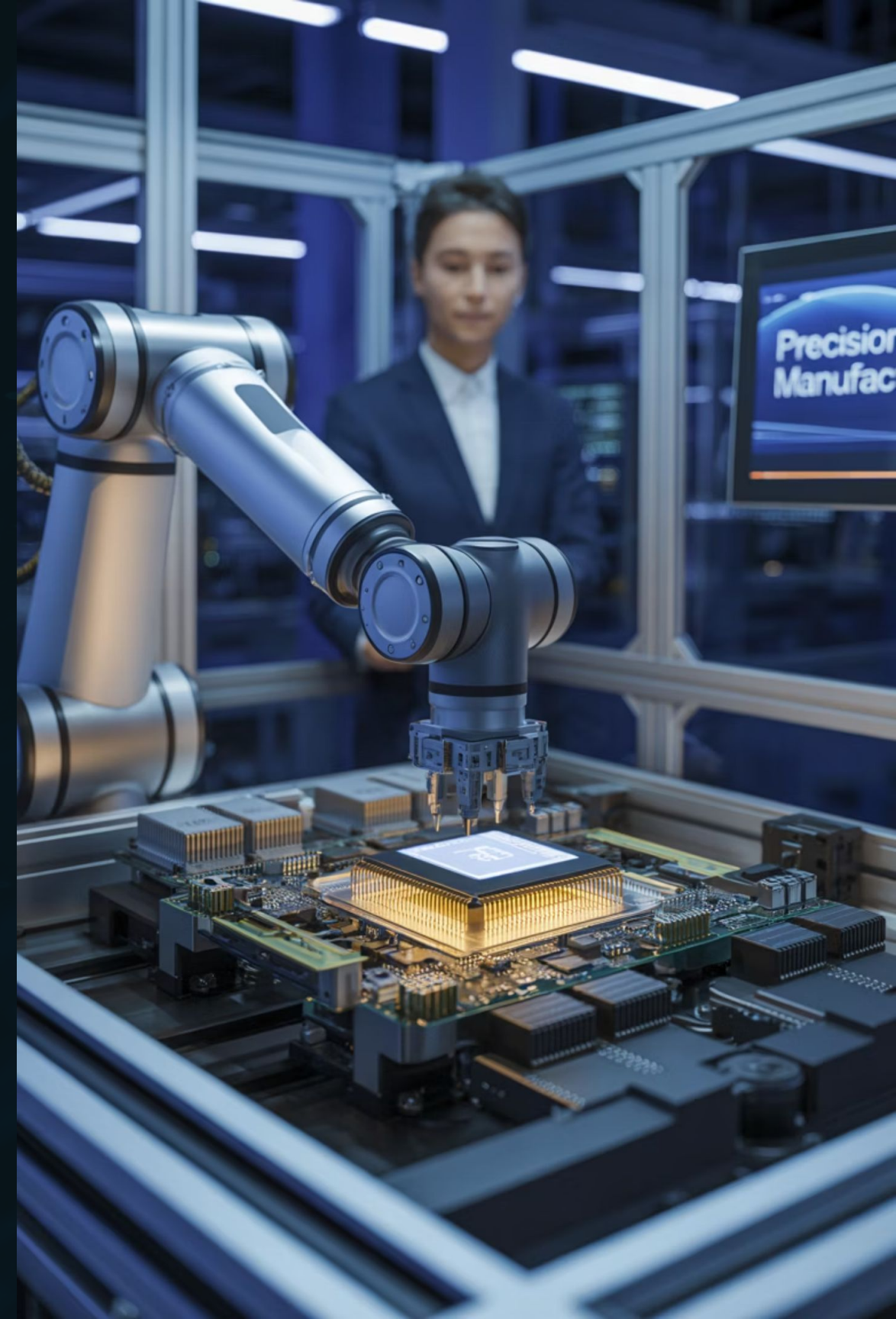
Trane Technologies

Annual Savings (scaled from DOE)

100,000 MWh + ~100,000 tCO_2e avoided.

Forward 5-Year Value
- Energy efficiency: $250K/year → **$1.25M**
- Carbon offsets: $1M/year → **$5M**

Total Forward Potential (5 years): ~$6.25M

Building on their early achievement of 60% emissions reduction across 23 facilities, Trane Technologies is positioned to generate significant value through continued energy efficiency improvements and carbon offset opportunities.