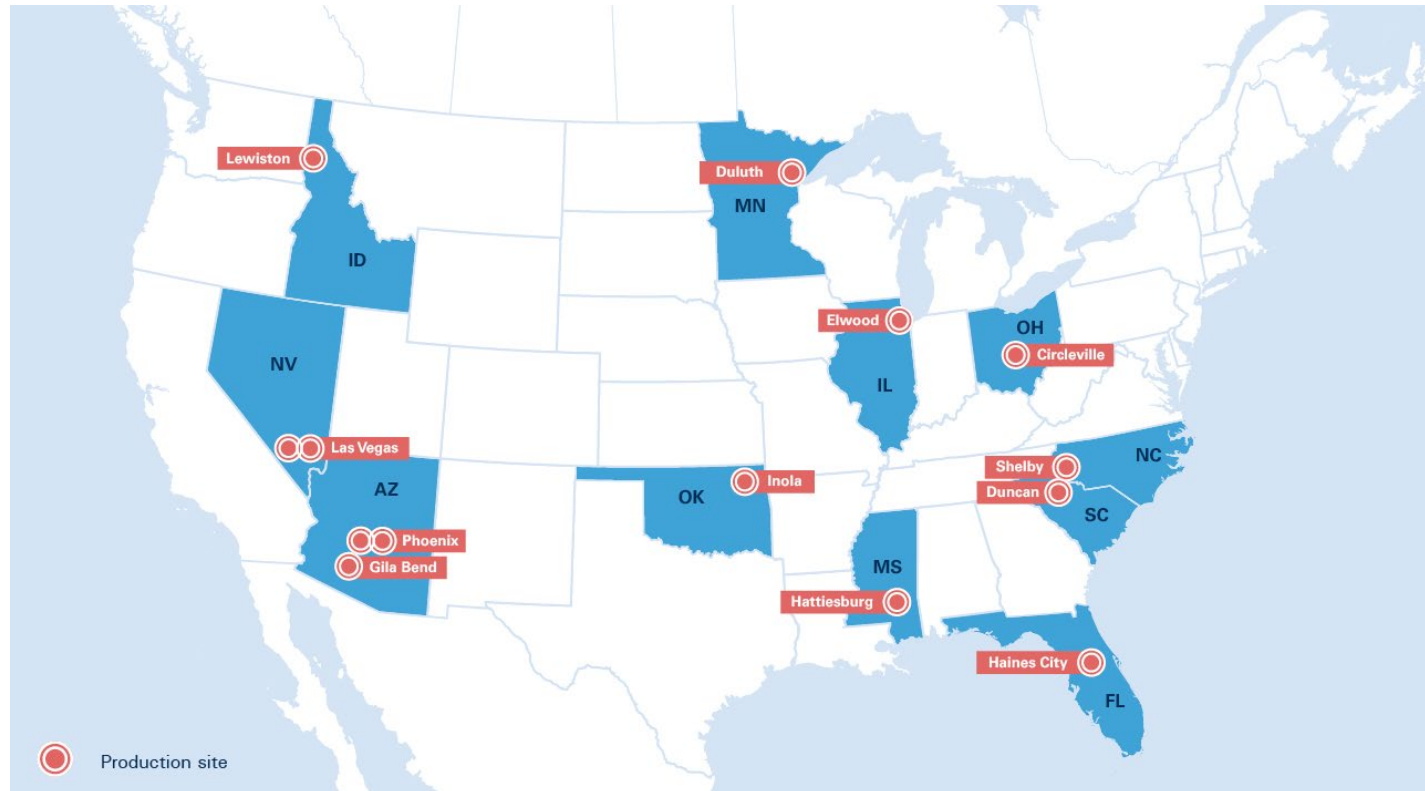


2025 NC ESI POLLUTION PREVENTION AWARD

Kim Gissy
Sofidel America Shelby

Sofidel is present in 12 states in the US



Source: Sofidel S.p.A. 2025

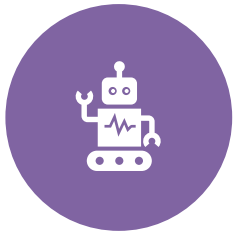
ABOUT SOFIDEL AMERICA (SHELBY, NC)



Global tissue manufacturer
with operations in Shelby,
NC



600 employees, 2
dedicated environmental
staff



Products: tissue
manufacturing, converting,
and distribution



ESI Membership Level:
Partner

WHY POLLUTION PREVENTION MATTERS TO US



Supports corporate sustainability and continuous improvement goals



Water and energy efficiency are ongoing strategic priorities



Chemical vendors engaged to identify and implement reuse/reduction



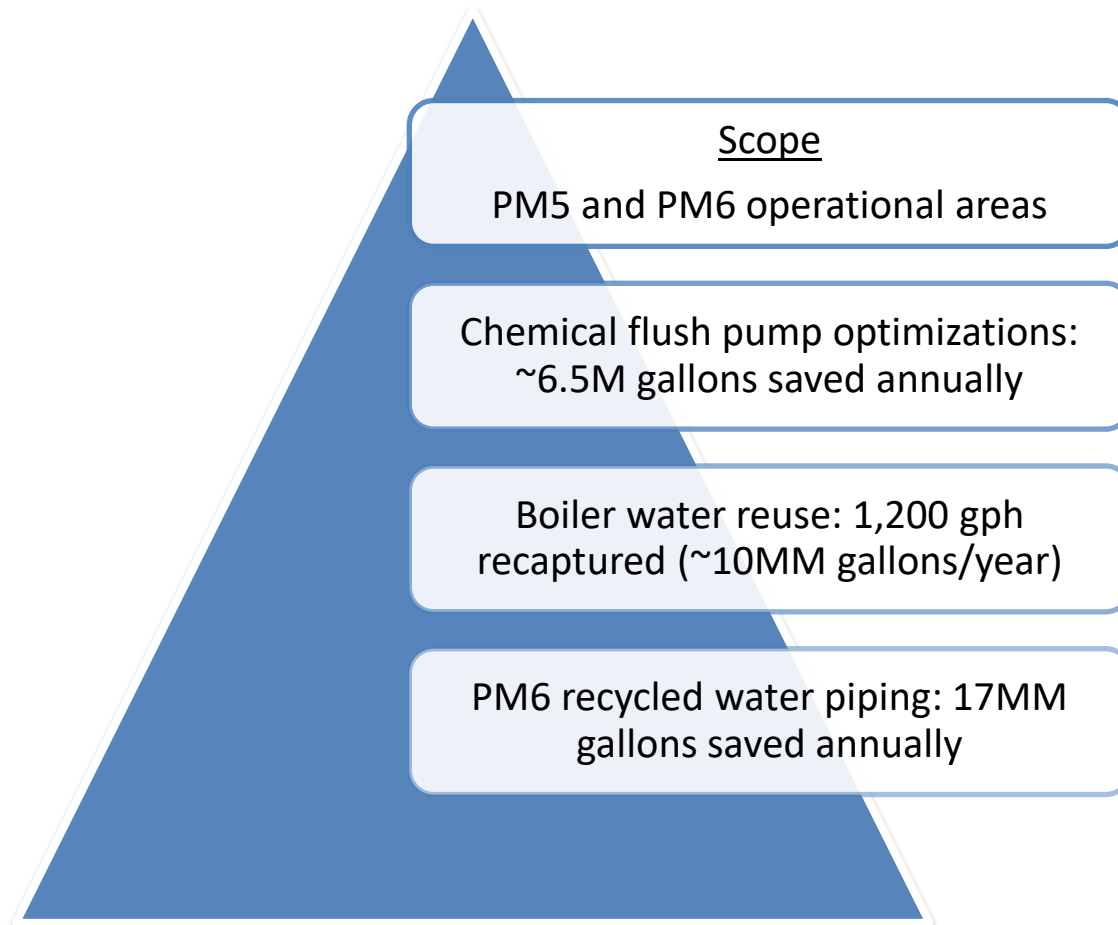
Aligns with ESI mission: “...beyond compliance, measurable results”

Shelby – ESI P2 Award Project Overview

Water Savings Project



Purpose: Challenge chemical vendors to reduce freshwater usage.



Shelby – ESI P2 Award Project Overview

Water Savings Project



1. PM5 Area

❖ Flush Water Reduction for Chemical Dispersion

Flush Water Reduction						
Zone		Flow (l/min)		Total Water Usage (gal)		
		De fault	Optimized	De fault	Optimized	Savings
1	flume	25	5	137.5	27.5	110
2	cooling twr	25	5	137.5	27.5	110
3	broke ch	25	21	137.5	115.5	22
4	cww	25	8	137.5	44	93.5
			Total (liters)	550	214.5	335.5
			Total (gal)	145	57	89
			Gallons/Year @350 Operation Days			31,024

Shelby – ESI P2 Award Project Overview

Water Savings Project

2. PM5 Area

- Defoamer Push Water Reduction
 - Flume and Effluent addition points-flow reduction of 33%, each
 - Savings of 1,440 gpd = 525,600 gpy

3. PM5 Area

- EDAF and Sludge Press Push Water
 - Four pumps – flow reduction of 50%, each
 - Savings of 6,177,600 gpy

Shelby – ESI P2 Award Project Overview

Water Savings Project



4. PM5 Area

- Boiler Room
 - Boiler blowdown being discharged
 - Tested water proved to be satisfactory for reuse in the process
 - Water flowing at 1,200 gph was piped into a process tank
 - ~10 MM gallon capture

Shelby – ESI P2 Award Project Overview

Water Savings Project

1. PM6 Area

- Coag/Floc Carry Water
 - Recycled water piping ran in parallel to the freshwater piping
 - Freshwater valves were turned off; recycled water turned on
 - Savings = 17 gpm, each. ~17MM gpy

Shelby – ESI P2 Award Project Overview

Water Savings Project



SOP PM5:

Ensure that pump flow rates are checked, daily, for the optimal settings

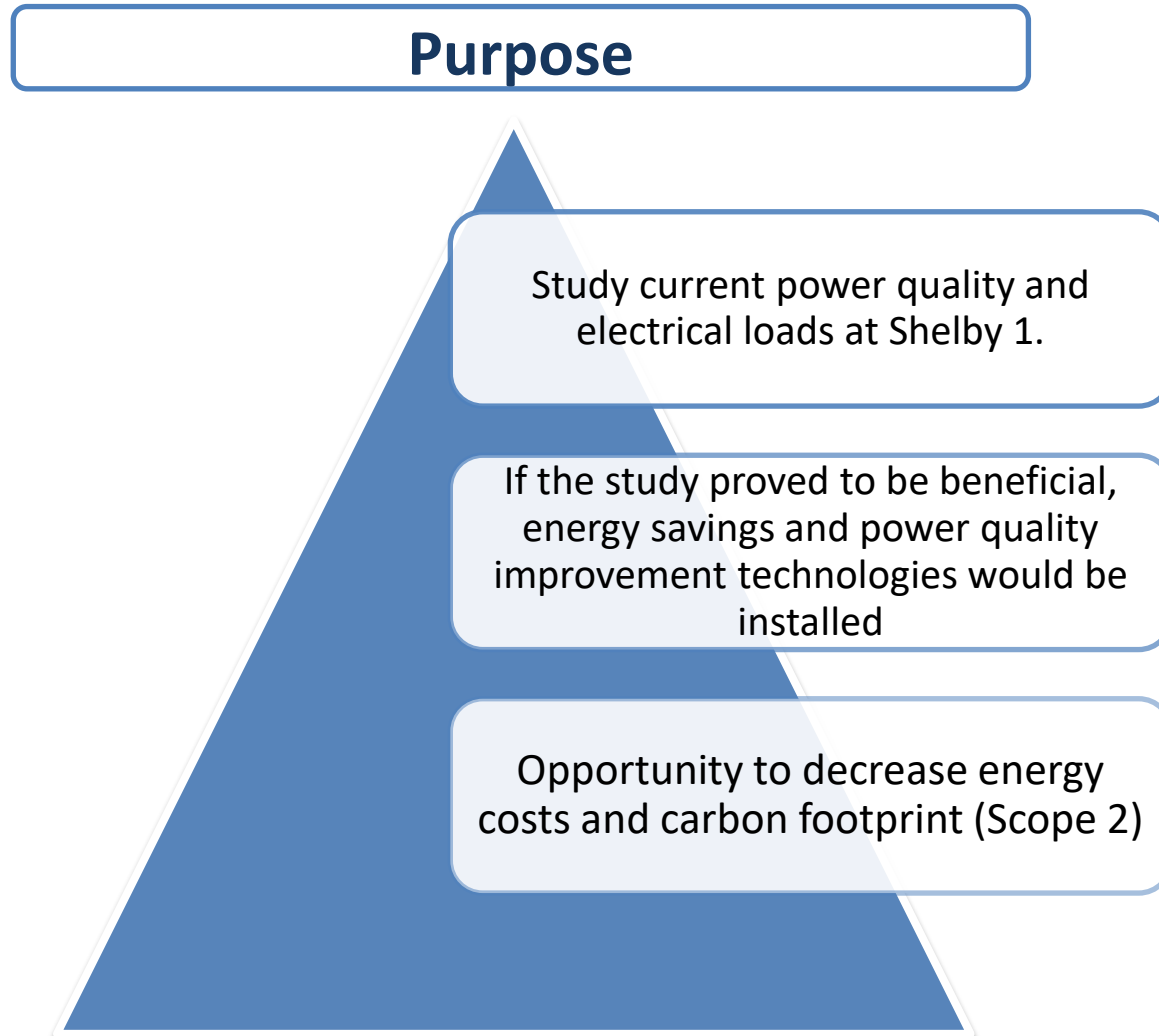


SOP PM6:

Return the piping valves back to the recycled water if they are switched to fresh water during an outage.

Shelby – ESI P2 Award Project Overview

Energy Savings Project



Shelby – ESI P2 Award Project Overview

Energy Savings Project

Benefits

- Improvements will capture savings on equipment and lighting loads
- Stabilizing voltage and reducing harmful harmonics during equipment start up
- Contribute to electrical health by minimizing equipment failures and improving reliability

Scope

- Reduction of monthly energy bills, power usage, and carbon footprint (Scope 2)
- The scope of the project included an on-site systems study and lighting audit

Shelby – ESI P2 Award Project Overview

Energy Savings Project

Study

- Consultant studied the site kVAR (useless power) via metering on the Shelby 1 power distribution equipment.
- This captured data was analyzed through a DOE software program.

Study

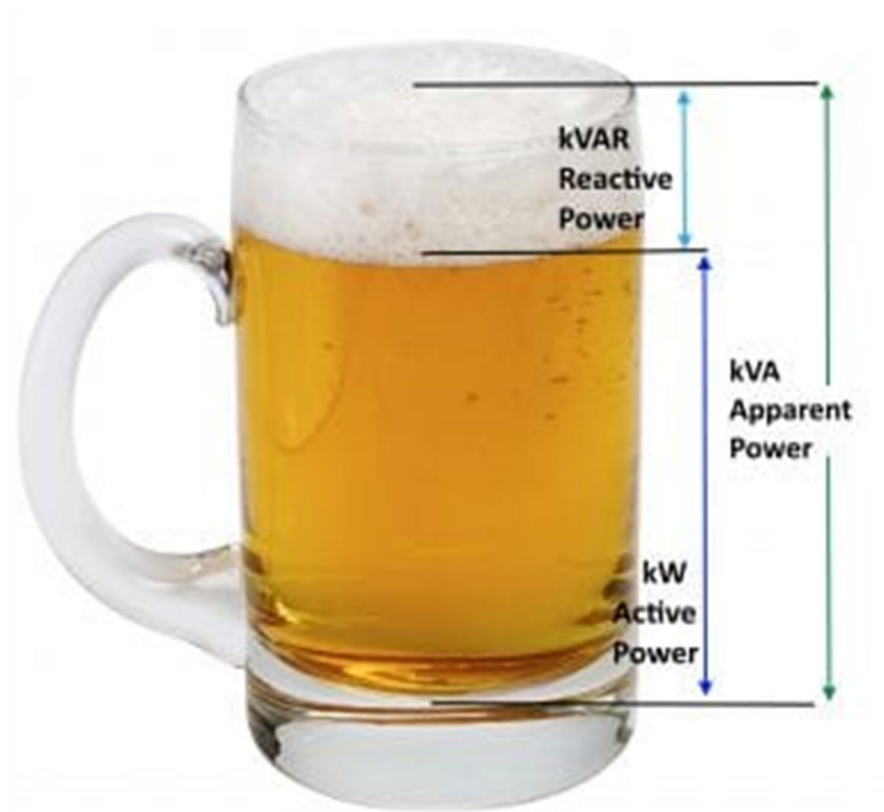
- The PM5 study proved a minimum monthly savings of 8%. Smart capacitors would be installed on PM5 to control kVAR.
- In addition, the lighting audit would provide alternative lighting options for energy savings.



Shelby – ESI P2 Award Project Overview

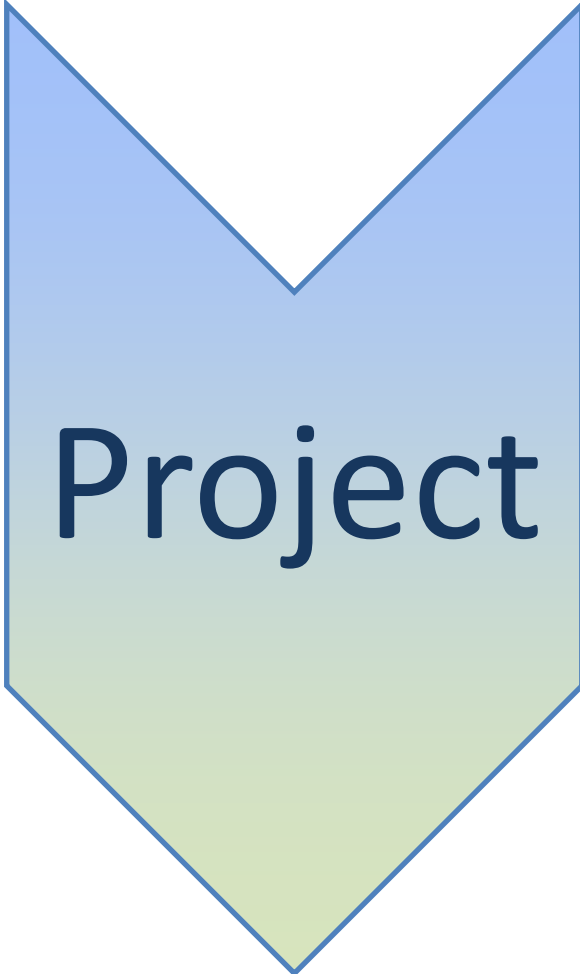
Energy Savings Project

Beer Mug Analogy



Shelby – ESI P2 Award Project Overview

Energy Savings Project



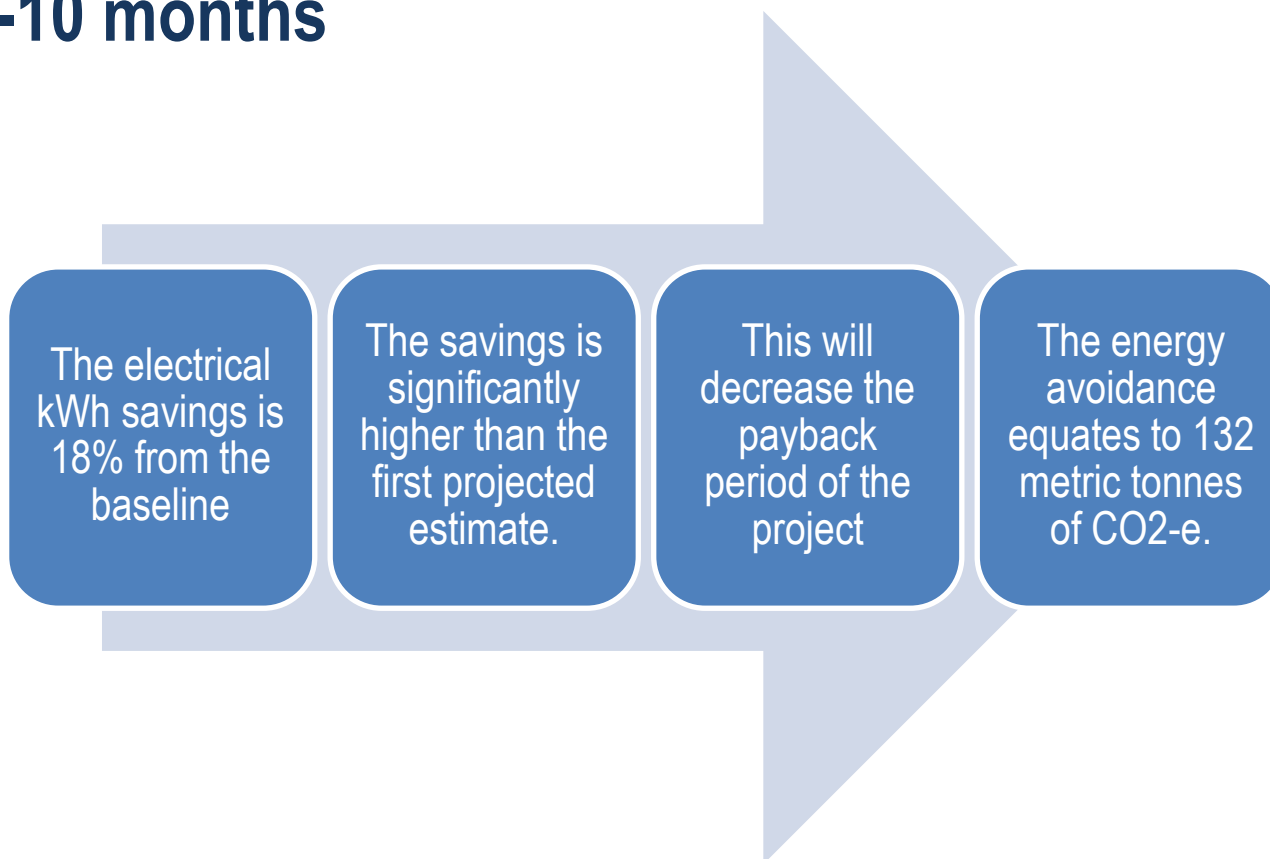
Project

- Installation of four Elspec units (SMART Capacitors) in parallel on the PM5 power distribution lines to improve power factor
- Installation of two Elspec units in parallel to Converting 1 and 2 distribution lines to improve power factor
- Installation of LED lighting at PM5

Shelby – ESI P2 Award Project Overview

Energy Savings Project

Results -10 months



Shelby – ESI P2 Award Project Overview

Energy Savings Project

Challenges

- Original contractor removal; caused significant delay
- Contractor replacement and reassignment of roles
- Runnability issues of equipment; challenges from manufacturer
- Timeline extended by nearly 2 years
- Persistence, troubleshooting, and leadership support enabled success
- Strong site-level ownership and leadership commitment

Lessons

- Anticipate integration risks and contractor reliability

Shelby – ESI P2 Award Project Overview

Energy Savings Project

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