ENERGY PERFORMANCE IMPROVEMENT

ENERGY SAVINGS AND OCCUPANT AWARENESS PROGRAM AT TEXAS A&M UNIVERSITY

GOALS

Raise awareness and identify opportunities for improved efficiency and sustainability

Implement energy system technical solutions to improve facility operating efficiency and reduce energy consumption & cost

THROUGH OCCUPANT ENGAGEMENT AND PARTICIPATION

PROCESS

PROJECT INITIATION

Identify stakeholders (occupants, dept. representatives, proctor)
Obtain approval for EPI | Establish working committee
Create direct line of communication with occupants
Create baseline energy consumption model

KICK - OFF MEETING

Review occupant concerns | Present improvement ideas
Request feedback | Customize energy conservation projects
Obtain approval for projects from stakeholders

PERFORMANCE PERIOD

Typically involves 12 months
Educate occupants on building energy systems
Implement changes | Request feedback from occupants
Make necessary changes
Calculate monthly energy & cost savings
Conduct regular meetings for stakeholders on progress

PROJECT CLOSE - OUT

Conduct final close-out meeting
Present annual savings to the occupants | Reward with incentives
Provide further energy saving opportunities
Monitor implemented changes

PILOT PHASE | Feb 2017 – Jan 2018

OBJECTIVE

To engage the building occupants in energy conservation related decisions and identify areas of energy savings, consisting of various occupancy and operation types

BUILDINGS SELECTED

- High energy use intensity
- Recently constructed with efficient equipment & control systems
- Varied occupancy and operation
- Appropriate for efficiently utilizing available resources
- Easy to monitor & verify success at each step

EPI Pilot Program Buildings	Energy Cost Savings per Year	Percent of Annual Energy Cost	Avoided GHG Emissions* (in Metric Tons CO^2)
Texas A&M Institute for Preclinical Studies	$244,972	45%	824
Emerging Technologies Building	$138,424	24%	436
Interdisciplinary Life Sciences Building	$72,361	5%	190
Liberal Arts & Humanities Building	$44,043	38%	149
TOTAL SAVINGS	**$499,800**	**19%**	**1,599**

CASE STUDY

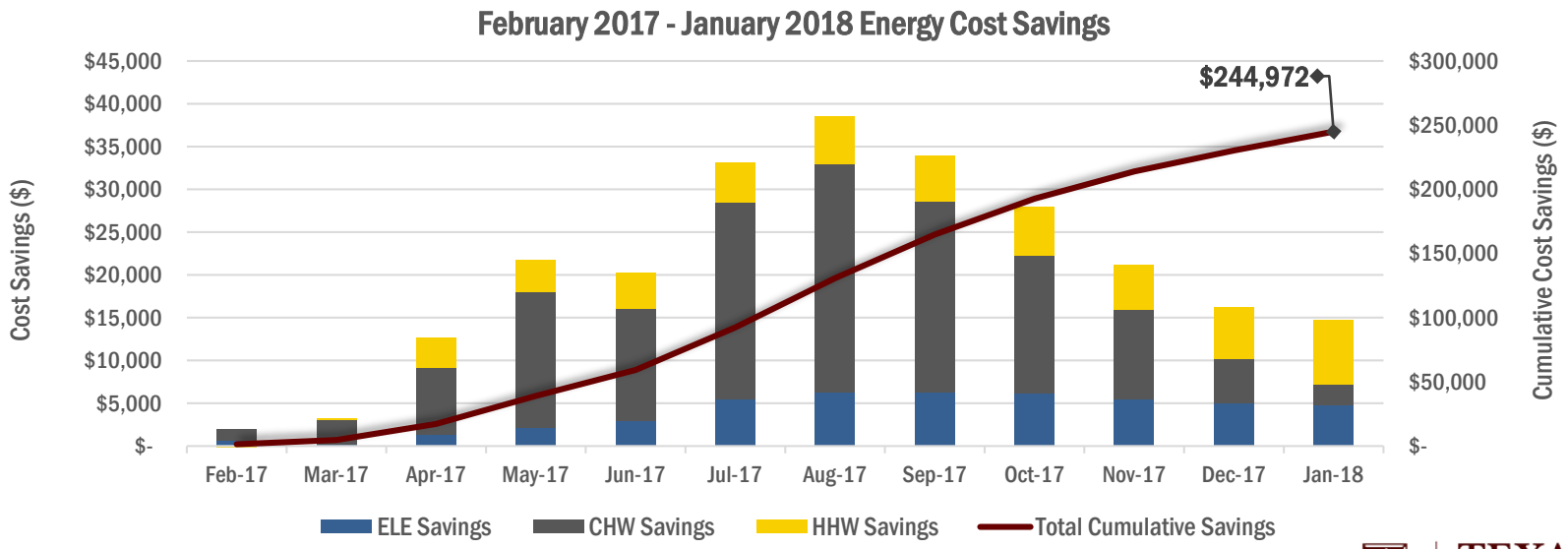
TEXAS A&M INSTITUTE FOR PRECLINICAL STUDIES

BUILDING TYPE

Surgery Rooms | Diagnostic & Research Laboratories | Clinics | Animal Holding Rooms | Conference Rooms | Offices | Storage Areas | Equipment Rooms

PROJECTS IMPLEMENTED

| HVAC & lighting scheduling modifications |
| HVAC system optimization |
| Reduction in room ventilation (ACH) to avoid excess space conditioning |
| Adjustment to operation of occupancy sensors |



TEXAS A&M UNIVERSITY

OBSERVATIONS

BUILDING OCCUPANTS

- Sense of ownership of energy projects & building energy usage
- Understanding of building energy systems & the effect of increasing energy efficiency in respective workspaces
- Willingness to participate through research & discussion of possible energy saving opportunities
- Motivated to adopt energy-saving behavioral changes

BUILDING OPERATORS

- Ability to understand localized energy concerns from the end user
- Obtaining occupant specific feedback allows quicker response
- Fewer complaints from occupants post-implementation of energy projects
- Higher energy savings than non-occupant involvement projects
- Increased awareness in the other buildings on campus and interest to participate
- Expanded the program for a second phase in 2019

OCCUPANT ENGAGEMENT

Establish direct communication through regular visits with occupants

Educate occupants on the building energy systems and importance of achieving higher energy efficiency

Encourage consistent input in developing energy conservation projects

Create working groups (with building proctors and departments) to easily identify localized energy concerns

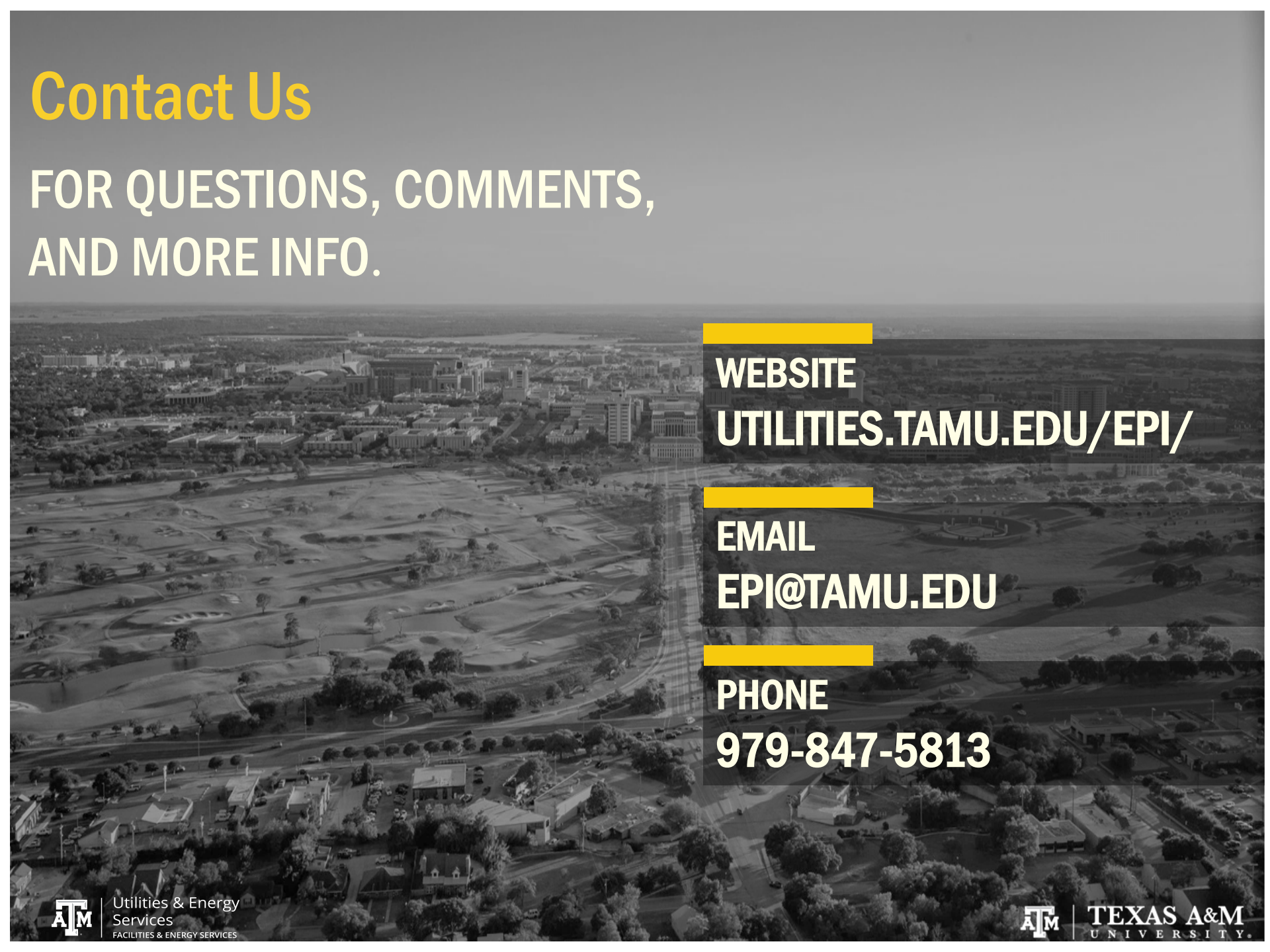
Follow up after implementation of projects to assure their comfort & request feedback

Update current progress and future plans through regular meetings

Provide reports with pre and post project energy consumption at their areas, when available

Contact Us

FOR QUESTIONS, COMMENTS, AND MORE INFO.



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