



# Energy Treasure Hunts

## Cross Functional Teams Identify Energy Efficiency Improvements


### What are Energy Treasure Hunts?


An Energy Treasure Hunt is an onsite three-day event utilizing cross-functional teams of employees identify energy efficiency improvements within a facility. Treasure Hunts also enable employees to build a culture of continuous improvement for implementing energy control measures that reduce use, costs, and associated greenhouse gas emissions.

The U.S. Department of Energy's Treasure Hunt program is providing free technical assistance to groups (cohorts) of energy team members from U.S.-based industrial, commercial, and institutional sites that would like to implement an Energy Treasure Hunt to reduce their facilities' energy use by up to 15%.

### What are the Benefits of a FEMP Treasure Hunt?

 Reduce energy, operating, and maintenance costs

 Help build a culture of continuous improvement

 Identify inefficiency and unnecessary equipment in a facility

 Align with requirements of EISA 432

### Step-by-Step Support and Training

During the Treasure Hunt process, an experienced facilitator helps coordinate participants at the site to identify energy reduction opportunities and quantify the value and validity. Participants typically represent many disciplines (engineering, maintenance, operations, etc.). Participants are trained to identify potential energy saving recommendations in a classroom setting, then tour the site and apply their training, searching for opportunities.

Potential projects are identified by participants. Time is spent training participants to utilize diagnostic equipment and to collect data. The data is then used with software tools, such as DOE's MEASUR tool, to calculate the savings potential of the identified opportunities. At the end of the event, participants prepare and present a close-out presentation for the host facility's management to review. If recommendations are viable, opportunities are pursued at the discretion of the local facility.

### Treasure Hunts Align with Federal Statutes

Section 432 of the Energy Independence and Security Act of 2007 (EISA 432) requires federal agencies to conduct energy and water evaluations at each covered facility every four years to identify potential conservation measures. EISA requires agencies to report progress towards these requirements using the Federal Energy Management Programs' (FEMP) [EISA 432 Compliance Tracking System](#). Treasure hunts can support your facility's efforts meeting this federal statute.

## Success Stories

**TOYOTA** Since FY08, 40 Toyota suppliers have hosted Treasure Hunt training events. Employees from 180 Tier 1 suppliers have participated and been trained on the Treasure Hunt process. There has been \$4.4 M in total annual energy reduction opportunities identified, the equivalent of 43.5 million kilowatt-hours or 15,200 metric tons of CO2 per year.

At the New River Valley (NRV) truck assembly plant, during a Treasure Hunt event, three teams identified a total potential annual energy cost savings of \$538,000 across building envelope, cross-cutting systems, e.g. compressed air, and process equipment.



For Volvo's Mack Truck Macungie, Pennsylvania, plant, three Treasure Hunt teams identified total annual energy cost savings of over \$134,000, which included more than 60% of the identified opportunities with paybacks of less than one year.



During a Treasure Hunt at Magic Hat Brewing Company, a potential electric and natural gas usage reductions of 40% were identified with a total potential annual cost savings of \$320,000. Total potential kilowatt-hours saved annually were roughly 1.6M kWh. The total potential MMBTUs saved per year were 15,344 MMBTUs. This was roughly enough to power and heat 170 Vermont homes for a whole year.

## Summary

- Treasure Hunts are an effective means to quickly identify low- and no-cost energy reduction opportunities
- Dedicated participation and true engagement of facility employees and operational staff is the key to identifying achievable actions
- Early involvement and facility leadership sponsorship is critical to ensure Treasure Hunts are successful
- Training participants on the process and easy-to-use tools will enable the Treasure Hunts to be quickly replicated at other facilities
- Treasure Hunts offer professional training on project identification, use of diagnostic tools, and evaluating project estimated cost savings and validity.



## How to Join or Learn More

To join, site leadership will commit staff and resources to complete the Treasure Hunt for their site.

Please contact Kendall Kam to hear more about the technical assistance and how to join.

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