

Introduction

The Kilowatt Crackdown is an energy efficiency competition that challenges commercial buildings to reduce energy consumption and adopt energy management best practices. NEEA launched the program in Portland in 2007 as the “Office Energy Showdown” and successfully engaged more than 250 commercial office buildings representing 30% of the Northwest office market. The program resulted in more than eight average megawatts of total regional savings while supporting participation in local utility programs and accelerating market change.

This document provides an overview of the program for groups interested in launching a similar commercial program. Supporting appendices provide useful templates.

Program Goals and Strategies

The Kilowatt Crackdown program:

- Targets whole-building energy savings, allowing for building teams to take advantage of operational and low- and no-cost energy efficiency improvements
- Relies on partnerships with industry associations, in this case Building Owners and Managers Association (BOMA), to facilitate outreach, recruitment, marketing and recognition efforts
- Deploys behavioral and social tactics to take advantage of the competitive nature of the commercial real estate industry—stimulating peer pressure, awareness, and market recognition as tools to encourage improved building performance
- Establishes a marketing, communications and behavior-change platform that mobilizes a scattered set of commercial real estate market actors, allowing program organizers to deliver programs and resources in a compelling way

Program goals are to:

- Produce energy savings, measured via ENERGY STAR® Portfolio Manager consumption data
- Drive participation in utility incentives and programs
- Educate and equip commercial building teams to adopt energy management best practices as a standard market practice, starting with benchmarking
- Foster a market expectation of energy performance, linking energy efficiency to competitive advantage, peer recognition and professional success

Key program strategies include the following.

- Leverage industry and community relationships for outreach, recruitment, and publicity
- Require energy tracking and monitoring through ENERGY STAR Portfolio Manager
- Assess the needs and capabilities of each building and assist them through a progression of activities appropriate to their experience with efficiency
- Provide technical engineering resources to office buildings, accelerating the identification and implementation of energy savings projects using all applicable utility programs
- Develop customized action plans that promote energy performance goals, allocation of internal resources and management review

- Provide ENERGY STAR® certifications to all eligible office buildings
- Directly link buildings to applicable programs and incentives from utility and energy efficiency organizations and municipal programs
- Establish a platform for group communication, challenges, and rewards, enabling participants to support and assist each other if desired
- Create a compelling competition that is fun and engaging

Utility Coordination

NEEA, in partnership with Northwest utilities, worked to align marketing, recruitment, and outreach objectives. They conducted monthly coordination meetings, reviewing building statuses, needs, history, and next steps, while ensuring participant and utility needs and goals aligned. During the implementation phase, NEEA program staff and utility staff invited customer account representatives to observe building walk-throughs and review meetings with property teams. Relevant utility programs were actively promoted during all phases of the program.

Evaluation

NEEA engaged third-party evaluators to produce impact assessments of the program energy savings from 2010-13. Evaluators correlated implementation documentation with regression analysis of energy use data to validate energy savings. To collect pre-and post-program energy use data, the competition collects building energy performance information through ENERGY STAR® Portfolio Manager. Participants agree to input data for prior year, program year, and post-program years. Energy Coaches conduct follow-up meetings with teams completing the program to ensure they provide evaluators current documentation of measures implemented by property teams, using action plans introduced early in the program.

In 2015, evaluators also published a process evaluation of market adoption of energy management best practices by competition participants. See evaluation studies below.

- Commercial Real Estate Participant Cohorts Market Progress Report (March 2015), http://neea.org/docs/default-source/reports/cadmus-2013-cre-sem-evaluation_final_2014-12-31.pdf
- 2013 Energy Savings Results for the Commercial Real Estate Cohorts (April 2014), <http://neea.org/docs/default-source/reports/2013-energy-savings-results-for-the-commercial-real-estate-cohorts.pdf>
- Commercial Real Estate Initiative 2012 Impact Analysis (April 2013), <http://neea.org/docs/default-source/reports/commercial-real-estate-initiative-2012-impact-analysis.pdf>

Key Program Components

Component	Description and role in program
Partnering organizations	Each competition is branded and presented by Building Owners and Managers Association (BOMA). This gives the Kilowatt Crackdown credibility with the commercial real estate community, and opens up marketing and outreach possibilities. Additional partners such as utilities, cities or EcoDistricts can provide resources and marketing strength.
Benchmarking with ENERGY STAR® Portfolio Manager	ENERGY STAR Portfolio Manager acts as the primary data warehouse and evaluation tool. To receive technical support and be eligible for awards, participants must track and share energy data with competition administrators. (See Rules in Appendix I). As the industry standard tool in commercial real estate, Portfolio Manager allows for normalized energy use comparisons and trending, certifications, and a common measurement tool for evaluating progress and determining winners. Energy use is not disclosed publicly. Individual building data is not released beyond program representatives, utility program staff, BOMA staff, or other competition partners.
ENERGY STAR certifications	ENERGY STAR certifications can be provided to eligible buildings through an experienced professional engineer. This certification allows qualified buildings a marketing opportunity to highlight their performance, and offers significant motivation to participate.
Technical scoping studies	<p>Technical scoping studies consist of a building walk-through and a report identifying no-and low- cost operational changes that can reduce energy consumption. The scoping studies drive energy savings, build market awareness of the possibilities of enhanced operations and maintenance, and educates property managers and building operations staff on best practices.</p> <p><i>See Appendix 2 for sample template</i></p>
Energy Coaches	Acting as a mentor and coordinator to participants, Energy Coaches assist each property team with ENERGY STAR Portfolio Manager issues, coordinate delivery of technical support, assist with the development of action plans, and encourage and enable greater momentum in tracking and reducing energy consumption.
Action plans	<p>Action plans act as an energy management planning tool, spurring property teams to document capital and operations projects recommended by the program technical advisor. Action plans function as a worksheet for participants to set targets, secure management approval, and prioritize and track the implementation of energy efficiency measures.</p> <p><i>See Appendix 3 for sample template</i></p>
Awards and recognition	<p>Awards and recognition include press releases, advertisement inserts in local Business Journal publications, social media, awards ceremonies at BOMA meetings, and public events with City officials.</p> <p><i>See page 1 for samples</i></p>

Program Phases

The competitions consist of these overlapping phases:

Phase	Timeline
Planning Partners meet regularly to plan strategy for recruitment, and review approaches to meet program goals	June through October, prior year
Recruitment and Registration Marketing team develops content and designs collateral for partners. Ongoing coordination with partners is key	October through December, prior year
Building Investigation Once the Energy Coach validates a building's Portfolio Manager account, the program technical advisor provides a scoping study to building teams, or additional coaching for prior participants	December, prior year through August, program year
Implementation and Budgeting This phase begins after the Energy Coach and building teams prioritize implementation ideas from the scoping study and document in action plans. Buildings compete to save energy through December	January through December, program year
Evaluation Formal evaluation can begin once participants complete full data entry in Portfolio Manager of the prior year and program year. Data collection may not be complete until February, when full prior year billing data is available	November, program year, through April, post-program year
Awards and Recognition Recognition occurs throughout the competition as buildings achieve results. Once participants enter all program year data, judges meet to select winners. Partnering organizations then present awards	May, post-program year

Program Success Factors

- Behavior change strategies.** The Kilowatt Crackdown boils down to fostering competition and stimulating peer pressure to meet program goals. This is particularly viable in the commercial real estate sector due its sometimes insular nature, the role of personal relationships and the constant pursuit of competitive advantage. By understanding and leveraging these dynamics, Kilowatt Crackdown administrators can apply numerous behavior change and social science strategies. These include concepts such as cognitive dissonance, scripting, social norms, choice architecture, goal-setting, single-action bias, loss-aversion and others. Layering these concepts into program design enables more compelling means to engage a time-constrained target audience.

- **Industry partnerships.** Breaking into the world of commercial real estate typically requires a personal referral. In many ways it is a club mentality where business transactions occur behind closed doors and between friends and colleagues. Partnering with the Building Owners and Managers Association (BOMA) helps overcome this barrier. BOMA’s involvement with the Kilowatt Crackdown brings credibility to the program, and opens up marketing and recruiting opportunities. For example, in support of the competition, BOMA staff can engage their membership base, Board of Directors, and service provider network to assist with recruiting; identify and distribute resources; provide training venues; and encourage participants to meet milestones.

Building operations. The commercial real estate industry is highly focused on financial performance, often has short hold-periods that suppress the motivation to make capital investments, and can be risk-averse to new technologies within their buildings. By focusing on building operations, and no- and low-cost whole-building energy conservation approaches, the Kilowatt Crackdown short-circuits these market barriers by offering low-risk, easily implementable, and short payback pathways to energy efficiency. By identifying and implementing “quick wins” through improved building operations, many property teams and building owners develop a greater appetite for energy efficiency, and are more likely to pursue utility program offerings and larger capital projects. The building operations focus of the Kilowatt Crackdown aligns with industry practices, enabling participation by a wider audience, and charts a pathway to substantial energy savings within the competition timeframe.

- **Coaching.** Common market pressures and industry needs faced by real estate professionals include limited time and technical expertise, and the challenges of an increasingly complex business environment. To counter this, the Kilowatt Crackdown competitions offer an Energy Coach who acts as a personal guide, coordinator, and resource for each participant. While the level of support can vary – from focusing on benchmarking assistance and coordinating scoping studies, to providing strategic energy management consulting and guidance – the coaching function is critical. It allows busy property teams to maximize their participation and also builds a unique and valuable connection point to utility programs and staff.
- **Awards and recognition.** Commercial real estate firms constantly seek ways to distinguish themselves and enhance their brand. As such, the Kilowatt Crackdown makes use of high-profile awards and recognition events, traditional and social media, plaques and trophies, public relations, and advertisements. This offers participants significant incentive to win prizes and bragging rights—and to avoid the risk of being last. (In fact, when compared with cash prizes versus public recognition in the local business journal, several participants indicated they preferred the latter.) Programs targeting a real estate audience should consider ways to leverage public recognition and awards, and enable participants to market their successes in energy efficiency and sustainability. Examples of awards and recognition are found on page one.

Program Design Recommendations

- **Keep it simple.** Avoid “over-programming” the competition. The typical property manager and building engineer are time-constrained, and program administrators have a limited window of

opportunity to engage them. A limited scope and objectives that target one or two specific behavioral changes will be most effective.

- **Build the program around industry calendars and budget cycles.** The typical real estate calendar is built around budget cycles, industry events, and seasonal changes affecting building operations. To maximize the impact of competitions, consider these in the program design and timeline, recognizing that most building budgets are being developed in the summer and early fall for the following year. Efforts to identify energy efficiency measures will need to occur prior to this budgeting window to have the best chance for ownership approval. Likewise, recognizing the seasonality of building operations – and the impacts on different fuel types such as natural gas for heating – will allow for delivering “just-in-time” technical resources and assistance given the participants current operating mindset. Work with BOMA or other industry partners to coordinate and align with their membership education and training offerings.
- **Capture post-competition results.** The annual commercial real estate budget cycle drives the identification and pricing of most capital items, and occurs primarily in the summer and early fall with budgets finalized in Q4. Assuming an energy efficiency measure is identified prior to this cycle, the earliest that the measure would be installed or completed is the first quarter of the following year. And operational or tenant convenience considerations may affect the timing of installation, causing further delay – often as much as 12-18 months between project identification and realization of energy savings. Program administrators and evaluators should build in long-term tracking and data collection strategies for up to two years beyond the competition close.
- **Align with demand-side management (DSM) program priorities.** Create program-specific incentives, aligning with utility pilot initiatives such as whole-building performance and strategic energy management, and leverage the skills and capabilities of account managers.
- **Simplify the administrative team.** Focus on a core group consisting of three major functions: administration, primary industry partner (e.g. BOMA), and utility program representatives.

Marketing and Communications

Key Messages

- Emphasize participant benefits for recruiting
- Tap into competitive nature of real estate professionals to spur competition
- Personalize energy savings techniques through stories

Key Tactics

- Recruit prominent media (business journals, trade press and professional blogs) to follow competition and develop stories
- Use social media to generate community awareness and allow for participant or Energy Coach storytelling

Website

- Serves to foster and sustain high energy throughout competition

- Interactive portion enables participants to post progress reports, facilitating tracking and final reporting
- Building Profile pages offer an anonymous or public dashboard of building status, projects identified, and progress against milestones
- Incorporate portions of sample deliverables to aide in recruiting, e.g. action plan, or scoping study

PR & Collateral

- Weekly emails to participants maintain engagement
- Media stories of accomplishments
- Possible “sideline reporter” or character that acts as the voice of the competition, providing real-time commentary

Appendix I – Website Content

HOME PAGE

<PARTNER NAMES> are looking to find the local office buildings that will save the most energy in (xxxx/xxxx) and recognize these leaders in the greater <CITY> market. The Kilowatt Crackdown is a fun, free competitive challenge designed to raise energy-efficiency awareness and enable <CITY>-area buildings to benchmark their energy performance, analyze data, develop action plans, and implement strategies that save energy and reduce operating expenses.

What you'll get by participating:

- FREE training, technical support and data review of your ENERGY STAR® benchmarking profile
- FREE advertising and recognition of your property's participation in the contest
- Your own FREE Energy Coach to coordinate resources and assist you in developing your building's energy saving initiatives
- Customized energy assessment
- FREE tips and best practices to reduce energy use and operating costs
- FREE ENERGY STAR certification for qualifying buildings
- Recognition for leadership

RULES

- 1) Properties must be eligible to earn an energy performance rating under the office category as defined by ENERGY STAR. Properties not able to meet these criteria may still participate in the Kilowatt Crackdown, but may not be eligible for all prize categories.
- 2) Participants must submit an entry form by 12/31/xxxx].
- 3) Building teams must complete ENERGY STAR benchmarking for (full prior year, full program year, and full year post-program) to be eligible for technical support, resources, and awards.
- 4) If necessary, representatives of (sponsoring organization) will be allowed to verify submittal data and inspect properties to confirm ENERGY STAR ratings or other data.
- 5) Energy performance ratings will be submitted to a specified master account via the ENERGY STAR Portfolio Manager Share feature. The competition jury may consider Energy Use Intensity (EUI) in addition to ENERGY STAR ratings if deemed necessary.
- 6) Buildings must meet indoor air quality and lighting standards as stipulated in the xxxx Licensed Professional's Guide to the ENERGY STAR® Label for Commercial Buildings to be recognized for any competition prize category.
- 7) Building teams agree to release technical scoping study reports, action plans, or other documentation to their local utility for use in identifying and evaluating applicable financial resources and incentives.

FAQ PAGE

What is the Kilowatt Crackdown?

The Kilowatt Crackdown is an energy efficiency competition among <CITY>-area office buildings, providing information, tools, and resources that can accelerate efforts to save energy and reduce operating expenses. Over the course of the competition, participants will track energy use, identify and act on ways to save energy, measure progress, and earn recognition for their successes through an awards ceremony and public announcements.

How does the Kilowatt Crackdown work?

The competition centers on improving energy performance through actions taken over the course of a year. Buildings sign up to participate and begin benchmarking energy performance through ENERGY STAR® Portfolio Manager Tool. Throughout the year, building teams can implement energy efficiency strategies however they prefer. Training and technical resources will be available to assist building teams in identifying cost-effective strategies to reduce energy consumption, from changes in building operations to equipment upgrades and retrofits. At the end of the competition, performance levels will be assessed through ENERGY STAR, comparing the highest performing buildings and those demonstrating greatest improvement.

How do I participate, and what happens next?

To sign your building up, simply fill out the registration form on this website. Once you are registered, you will be assigned an Energy Coach that will act as your guide throughout the competition. You and your coach will discuss your goals for participating in the competition, begin gathering data, benchmarking performance, and scheduling technical assistance as needed.

Who determines winners and which buildings are to be recognized?

Partners will nominate an independent jury to analyze energy performance data and determine competition winners and the recognition of building teams. To protect the privacy of individual building data, members of the jury will be objective, third-party individuals from non-competitive companies, non-profits, and supporting organizations.

What is Portfolio Manager?

ENERGY STAR Portfolio Manager is the EPA's measurement and tracking tool for building energy performance. This free, web-based benchmarking tool allows users to enter their building's energy data and costs, establish a baseline, and track energy performance over time. It accounts for weather, building location, use, and operating characteristics – giving an impartial measure of building efficiency. Properties that achieve a score of 75 or higher on the 100-point scale qualify for the ENERGY STAR certification. Portfolio Manager is the industry standard for commercial real estate energy benchmarking – with over 176,000 buildings and more than 26,000 users benchmarking annually.
<http://www.energystar.gov/benchmark>.

What is a Scoping Study?

A scoping study is a technical assessment of a building's energy systems to identify the potential for improving building performance relative to: equipment reliability, occupant comfort, and energy efficiency. Opportunities identified typically involve adjusting sequences of operations, procedures, optimization of controls, and equipment scheduling, and can often be funded through operating budgets. Contestants will participate in a short building walk-through and interview to identify recommendations, and receive a specific scope-of-work document to give to their preferred service provider in support of a building tune-up. This service has a market value of approximately \$750 to \$3,000 per building.

What is an Action Plan?

An action plan is a three-year plan that outlines the building’s priorities and tasks in addressing energy efficiency. Action items may include operational improvements, recommendations for further analyses, capital investments, and administrative changes. A standard template will be available, and the action plan can be customized to meet the individual needs of the building and its tenants.

Each participating building will have access to an Energy Coach to lead them through the process and the development of the Project Bank.

What is a Project Review?

Master’s Track participants receive Project Reviews, where an Energy Coach analyzes a building’s Project Bank and interviews building managers and operators to verify project cost and efficiency estimates. The Project Review determines how Energy Coaches best support Master’s Track participants and connect participants to both optimal energy saving projects and appropriate utility incentives.

What is an Energy Coach?

Each building that participates in the Kilowatt Crackdown will be assigned an Energy Coach. This individual will act as your guide through the competition, assisting with data gathering, benchmarking, coordination, and the development of your Project Bank. Coaches are provided by NEEA through its network of consultants, and will be available free to participating buildings for a set number of hours.

Who will have access to my building’s data?

Individual building energy data will remain confidential. The only publicly shared information will be final winning building names and aggregated data summarizing averages, trends, and rankings. For concerns about confidentiality and data privacy – please contact xxxx, the competition administrator – xxxx@xxxx.com

PRIZE CATEGORIES

Category	Description
The Grand Prize (Kilowatt Cup – or other trophy name)	Rotating trophy, awarded to the firm, building, or team achieving superior accomplishments in energy efficiency. Winners get to display the trophy for one year, until the next winner is announced.
Highest Performing Buildings	1st, 2nd, and 3rd place prizes to buildings with the highest ENERGY STAR® scores as of December xxxx. (Based on ENERGY STAR scores, verified by Jury)

Category	Description
Most Improved Performance	1st, 2nd, and 3rd place prizes to buildings showing the greatest percentage gain in ENERGY STAR scores year over year. (Based on ENERGY STAR scores, verified by Jury)
Special Bonuses	Prizes, gift certificates, and extra recognition awarded throughout the year for meeting milestones and demonstrating leadership.

STATUS BOARD

The Status Board page will display real-time progress of each building at a glance. The Board should spur competition by allowing side-by-side comparison of buildings in the same city and/or region. Due to confidentiality, all buildings will be represented by pseudonyms or avatars, but building participants will be able to see if they are ahead or behind. If a building wishes to use its real name, then they are encouraged to do so. The Board will show completion of major work pieces, such as Project Review or action plan. It can also be used to show whether or not buildings have updated their Portfolio Manager account.

PROFILE PAGES

Profile Pages are intended to spur competition and increase recognition for top performing buildings by displaying a personalized and in-depth success story for those select buildings. Content for these pages would be developed by the sponsoring organization/s, drawing from Energy Coaches and building representatives. These pages could also serve to augment tracking and reporting savings and behavior change according to program goals.

RESOURCE LIBRARY

Below is a list of tools and templates for inclusion on the website:

- Energy efficiency questionnaire
- Sample action plan
- Sample scoping studies
- Select links to briefs on BetterBricks.com

CALENDAR

Should show three months at a time and include:

- Important deadlines
- KWCD training
- Partner or relevant training/meetings



Appendix 2 – Scoping Study Template – see website for link

Appendix 3 – Action Plan Template – see website for link