

### **Energy Project Data at Your Fingertips**







### eProject Builder (ePB) Overview

- Secure, web-based project tracking/reporting system
- Free tool maintained by LBNL for U.S. DOE
- ePB enables ESCOs and their customers to securely:
  - Preserve and track project information including Measurement & Verification data in perpetuity
  - Develop project scenarios using standardized calculations
  - Generate data and reports on portfolios of projects
  - Benchmark proposed projects against historical ones
- Status: contains >1,500 projects across all markets (as of 12/20)
  - ~ 32% federal, ~ 62% state/local/educational/public housing and 6% commercial/other
  - Total investment of \$11.6 billion and total guaranteed savings of \$20.7 billion.



## The Power of Data Management

- Institutionalizes ability to report program & project impacts; enables you being audit-ready
- Demonstrates the value of projects and programs
- Enables fulfilment of reporting requirements
- Identifies where work has been completed and where remaining potential exists
- Tracks M&V and persistence validation for the full term of the agreement
- Identifies persistence of achieved savings year over year
- Illustrates that benefits are being achieved in similar projects (by folks just like you)



### ePB Benefits

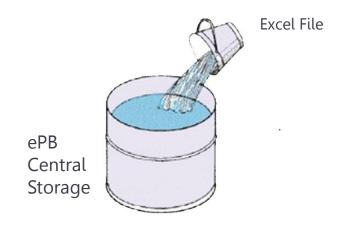
- Enables users to leverage the power of data management
- Standardizes energy project data collection and reporting – across markets, ESCOs and regions
- Preserves customers' critical data through the contract term and beyond
- Enables robust analysis and reporting of project/ program performance
- **Empowers customers** by providing them access to data for their portfolio of projects



## ePB Components and Security

### Two System Components

- Excel-based data template for ESCO to enter data and develop project scenarios
- Online system where data and documents are uploaded, accessed and tracked



### Security Features

- Encrypted protocol (https)
- Two-step log-in similar to high-security e-commerce sites
- Project access restricted to one ESCO and one customer account
- Zero risk score via 2 levels of vulnerability testing/remediation
  - National lab IT security scans
  - 3<sup>rd</sup>-party scans from gov't. cyber security expert



### ePB Roles

## Customer "Project Initiator"



- Registers (individually, not by organization)
- Initiates project (takes less than 1 minute)
- Reviews project data
- Approves submitted project
- Unlocks project for revision, if necessary
- Invites Project Viewer(s)

## ESCO "Project Builder"





- Registers (individually, or by company)
- Enters project data
- Reviews project data with customer
- Submits project for approval
- Revises project data, if necessary
- Invites Project Viewer(s)

### Other Stakeholder "Project Viewer"





- Registers
- Views project information, only when invited



### Log In



Project Statistics ▼

Help/Documentation

About



eProject Builder (ePB) is a secure, web-based data management platform that allows customers and ESCOs to preserve, track and report information for their portfolio of energy projects. Read about the benefits of ePB below.



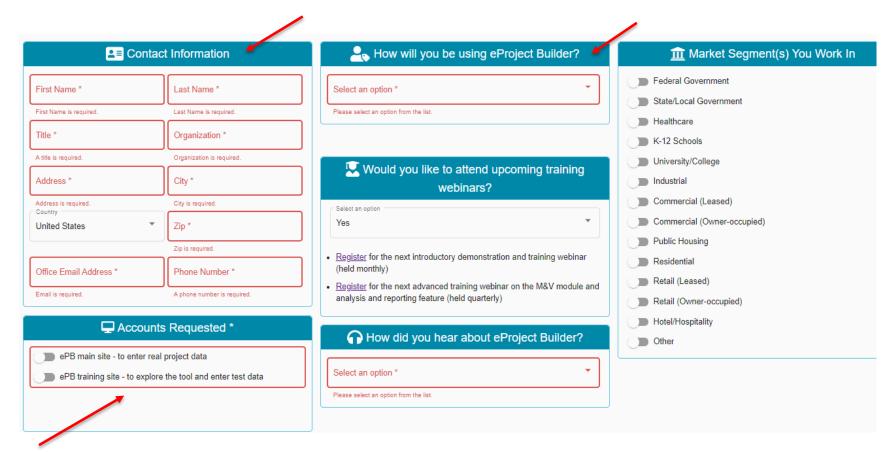


This free system was developed and is maintained by Lawrence Berkeley National Laboratory on behalf of the U.S. Department of Energy.

https://eprojectbuilder.lbl.gov



## **Registration Page**



- Register for account on main site, training site or both <u>https://eprojectbuilder.lbl.gov/</u>
- 2<sup>nd</sup> email is required for training site; user receives both ESCO and customer type roles to explore complete project entry and approval cycle



### Log In



Project Statistics ▼

Help/Documentation

About



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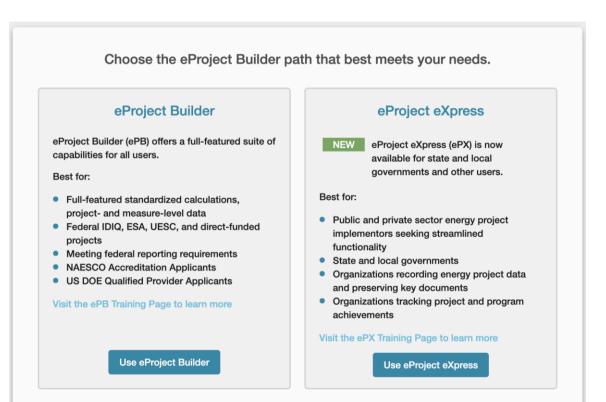


### Landing Page – Choose Your Pathway for First-Time Users

After logging into <a href="https://eprojectbuilder.lbl.gov/">https://eprojectbuilder.lbl.gov/</a>

visitors will be presented with a choice of pathways:

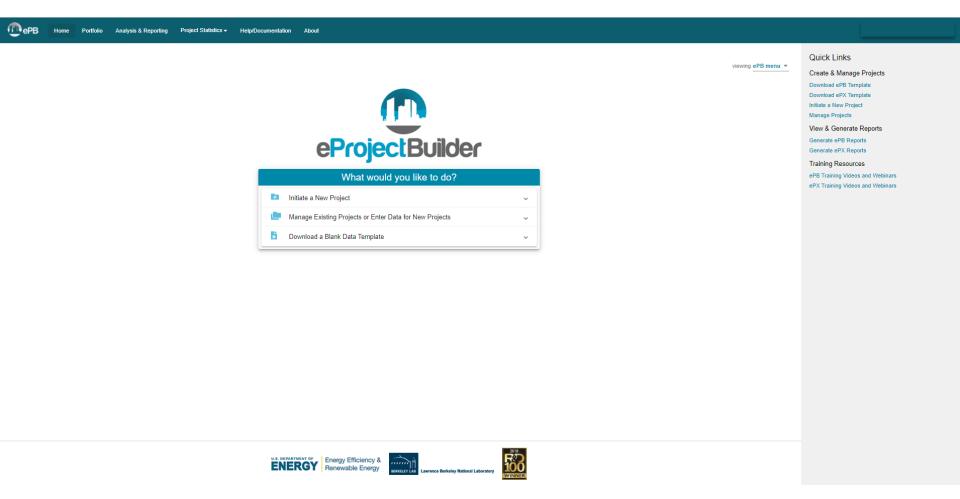
# eProjectBuilder or eProjecteXpress



All projects reside in the eProject Builder system. Users can create and access projects under both the ePX and ePB pathways.

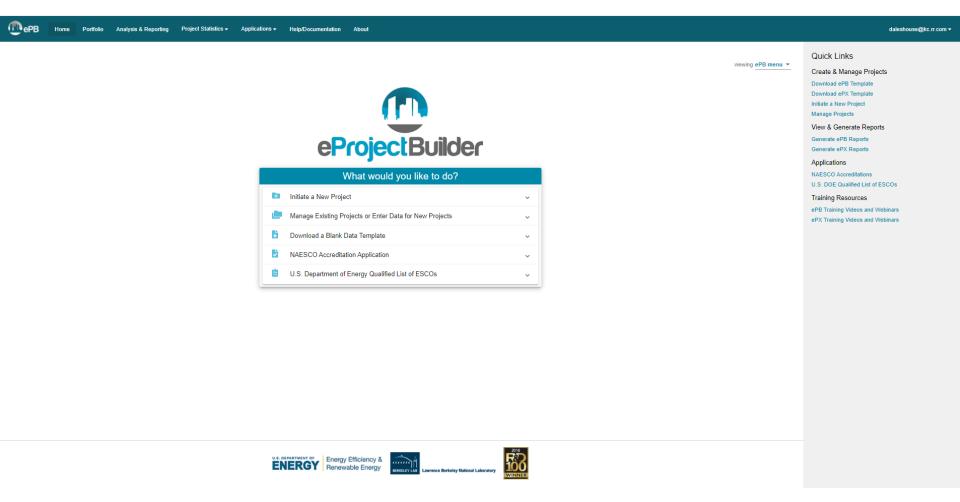


## Project Initiator Landing (Home) Page



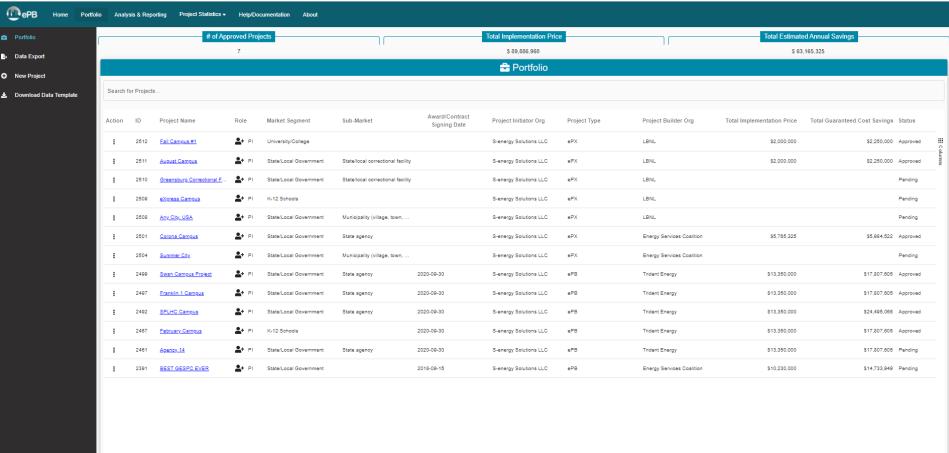


## Project Builder Landing (Home) Page



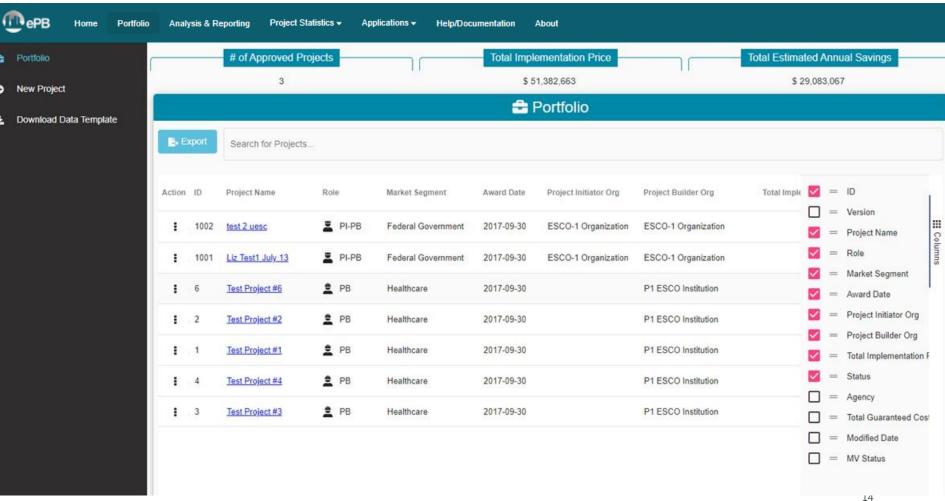


## Portfolio Page





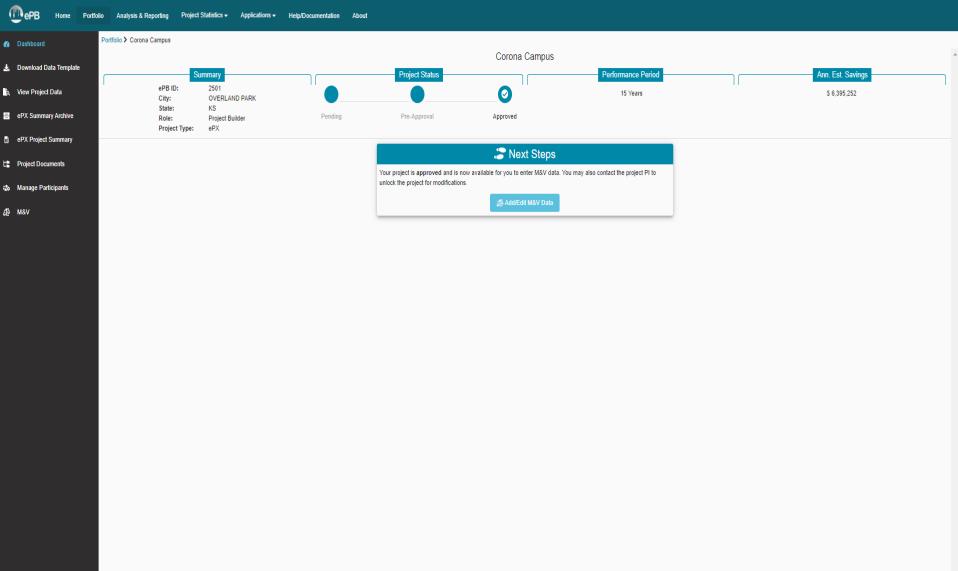
## Portfolio Page – View Options



15

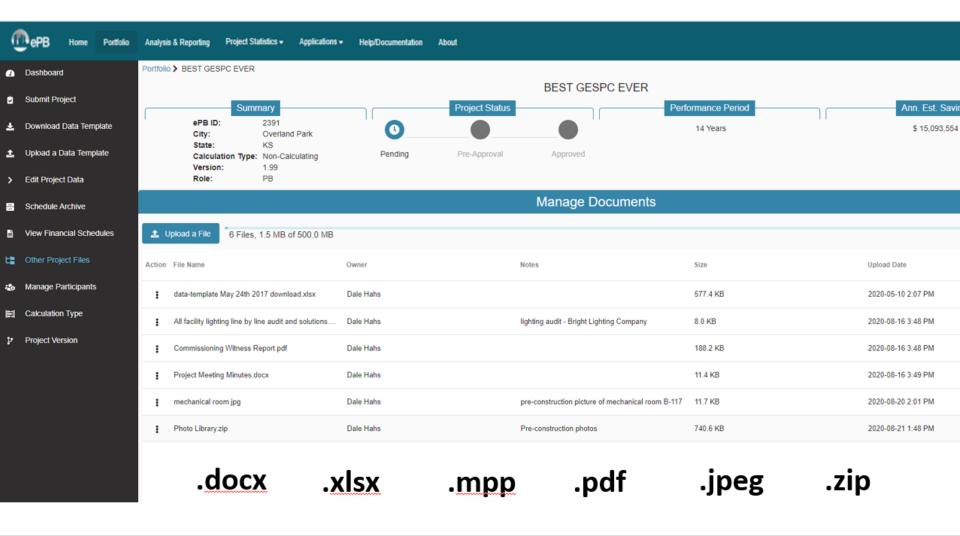


## **Project Dashboard**





## **Project Dashboard**





### **M&V Reports**

Output single year and cumulative project reports

\*\*\* Draft: not approved \*\*\*

Test IDIQ project - M&V Year 0

ANNUAL PERFORMANCE PERIOD M&V FOR YEAR ANNUAL EXPECTED SAVINGS BY ENERGY CONSERVATION													
ECM			Details of Expected Energy and Cost Saving:										
ECM Number	Short Description	First Year M&V Option	b1n	b2n	c1n	c2n	d1n	d2n	e1an	e2an	e1bn	e2bn	fn = 0.003413'b1n+d1n+e1ar
			Electric energy savings (kWh/yr)	Electric energy savings (\$/yr)		Electric demand savings (\$/yr)	Natural gas savings (MMBtu/yr)	Natural gas savings (\$/yr)	Other Savings Type 1: Other (MMBtu/yr)	Other Savings Type 1: Other (\$/yr)	Other Savings Type 2: (MMBtu/yr)	Other Savings Type 2:	Total energy saving (MMBtu/yr)
1	Bidgs 20, 30, 40 - ballasts and lamps	Option A		\$140,000		\$25,000							
2	Blds 3, 4 - Chillers	Option C		\$128,000		\$12,000							
3	Bldgs 20, 30, 40 - roof and wall insulation	Option C		\$90,000									
4	Site PV array	Option B		\$100,000		\$20,000							
	TOTALS:			\$458,000		\$57,000							

#### IMPORTANT INFORMATION:

- 1. Energy conversion factors for MMBtu:MMBtu=106 Btu; Electricity 0.003413 MMBtu/kWh; Natural Gas 0.1 MMBtu/therm; #2 Heating Oil 0.13859 MMBtu/gal; Gasoline 0. Propanel.091333 MMBtu/gal
- Demand savings (kWimo) represent an average kW reduction figure. Demand savings can (and usually do) vary by season and in their conversion rate to dollar savings.
   For post installation report, please enter expected year one savings values. For annual report, please enter verified annual savings values.

GUARANTEED AND VERIFIED COST SAVINOS											
	(a)	(b)	(c)	(d)=(c)-(b)							
Implementation Period (Year 0)	Estimated Cost Savings	Guaranteed Cost Savings	Verified Cost Savings	Variance in Implementation Period Cost Savings	Status						
	\$350,000	\$350,000	\$350,000	\$0	Approved						
Performance Period	(e)	<b>(f)</b>	(g)	(h)=(g)-(f)							
(Year)	Estimated Annual Cost Savings	Guaranteed Annual Cost Savings	Verified Annual Cost Savings	Variance in Annual Cost Savings							
1	\$792,682	\$753,048	\$792,049	\$39,001	Approved						
2	\$815,777	\$774,988	\$814,000	\$39,012	Approved						
3	\$839,544	\$797,567	\$840,235	\$42,668	Approved						
4	\$864,005	\$820,804	\$862,989	\$42,185	Pre-Approval						
5	\$889,178	\$844,719		\$-844,719							
6	\$915,085	\$869,331		\$-869,331							
7	\$941,748	\$894,660		\$-894,660							
8	\$969,187	\$920,728		\$-920,728							
9	\$997,427	\$947,555		\$-947,555							
10	\$1,026,489	\$975,165		\$-975,165							
11	\$1,056,399	\$1,003,579		\$-1,003,579							
12	\$1,087,181	\$1,032,822		\$-1,032,822							
13	\$1,118,860	\$1,062,917		\$-1,062,917							
14	\$1,151,462	\$1,093,889		\$-1,093,889							
15	\$1,185,015	\$1,125,764		\$-1,125,764							
16	\$1,219,546	\$1,158,569		\$-1,158,569							
17	\$1,255,084	\$1,192,330		\$-1,192,330							
18	\$1,291,658	\$1,227,075		\$-1,227,075							
19	\$1,329,298	\$1,262,833		\$-1,262,833							
20	\$1,368,035	\$1,299,634		\$-1,299,634							
21	\$1,407,902	\$1,337,507		\$-1,337,507							

PERFORMANCE PERIOD M&V SUMMARY
GUARANTEED AND VERIFIED COST SAVINGS

#### IMPORTANT INFORMATION:

Total Implementation &

Performance Period
Implementation &

Performance Period to

Date 4

- 1. The Guaranteed Annual Cost Savings are based on Schedule 1 for the final approved project proposal.
- 2. Negative Variance in Annual Cost Savings (d&h) indicates that the Verified Annual Cost Savings are less than the Guaranteed Cost Savings.

\$21,395,484

**Total Guaranteed Cost** 

Savings

\$21,395,484

Please note that Annual Verified and Implementation & Performance Period to Date Cost Savings may change as some of the reports to date may not be approved.

Total Verified Cost Savings

\$3,309,273

4. For years with available Verified Annual Cost Savings data

\$22,521,561

Total Estimated Cost

Savings

\$22,521,561

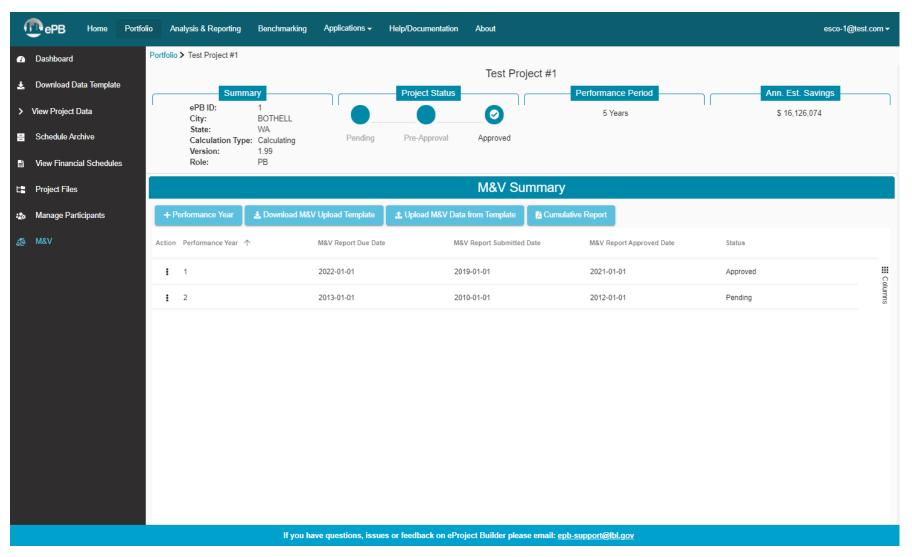
**Total Variance in Cost** 

Savings

\$-18,086,211



## **M&V Summary Page**



# ESPC: Measurement and Verification (M&V)

- Goal: Accurately quantify and document savings achieved by an ESPC project and assure any shortfalls are addressed.
- M&V can
  - Allocate risks between the contractor and the customer
  - Accurately assess energy savings for a project
  - Reduce uncertainties in a project
  - Aid in monitoring equipment performance
  - Identify additional savings
  - Suggest improvements to operations and maintenance



The Business Case for Conducting Measurement and Verification In State and Local Government Energy Savings Performance Contract Projects

- New M&V Resources
  - The Business Case for Applying M&V in State and Local Government ESPC
     Projects Highlights the substantial, cost-effective benefits of incorporating well-documented M&V of savings in state and local ESPC projects
  - ESPC for State and Local Governments: Strategies for Successful M&V Provides
     ESPC program administrators with a selection of tested strategies to support successful M&V for state and local ESPC projects
  - Understanding your ESPC Savings Guarantee Examines the savings guarantee in ESPC and provides a list of resources

National Laboratory (affiliate) ey National Laboratory

(ESC)
of Energy Service Companies (NAESCO)
f State Energy Officials (NASEO)

### **ESPC: Resources for State and Local** Leaders

- State ESPC Program and Project Principles A set of principles to help strengthen and expand the use of ESPC to cost-effectively upgrade state, local, and other public-sector buildings and facilities
- **ESPC Toolkit** Includes proven practices that states, cities, and K-12 schools have used to successfully establish and implement ESPC

Resource categories:

- Considering ESPC
- Implementing ESPC
- **Establishing ESPC**
- **Expanding ESPC**
- Results



#### New Measurement and Verification (M&V) Resources:

The Business Case for Applying M&V in State and Local **Government ESPC Projects** – Highlights the substantial, costeffective benefits of incorporating well-documented M&V of savings in state and local ESPC projects

**ESPC for State and Local Governments: Strategies for** 

Successful M&V – Provides ESPC program administrators with a selection of tested strategies to support successful M&V for state and local ESPC projects

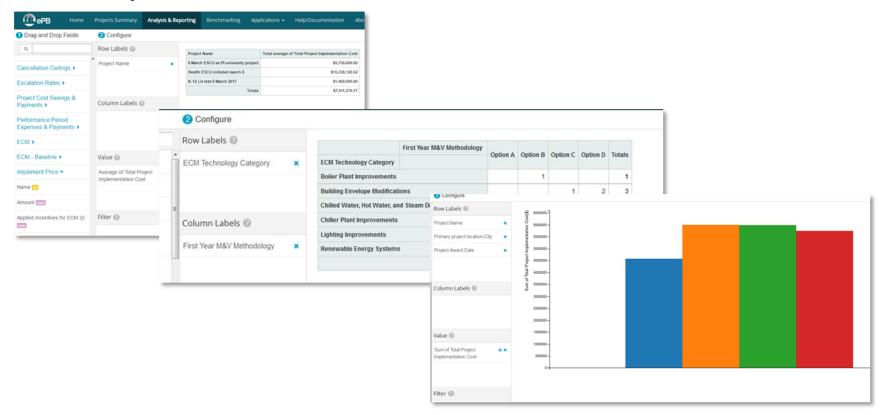
**Understanding your ESPC Savings Guarantee** – Examines the savings guarantee in ESPC and provides a list of resources





## **Analysis & Reporting Tool**

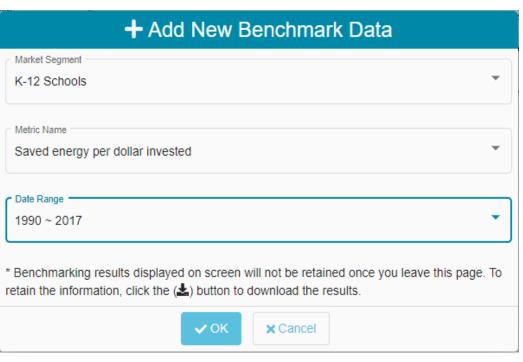
- Choose fields to include in analysis, similar to pivot tables
- Display and download tables and graphs
- Start with library canned queries or create your own
- Save your favorite queries
- Currently unavailable new version to be released in Fall, 2020





## **Benchmarking Page**

- Benchmarking statistics for different combinations of metrics, market segments, and years
- Users query aggregated data from the LBNL/NAESCO database of ~
   6,000 ESCO projects (not projects in ePB)







## **Benchmarking Page**









## Typical ePB Workflow

- Customer and ESCO register for ePB accounts (upon ESCO selection)
- Customer initiates project online, providing ESCO contact e-mail
- System automatically notifies ESCO that new project is available
- ESCO downloads data template from ePB site
- ESCO inputs project data into template and uploads completed version to online system
- ESCO may generate PDF schedules for project proposals
- When project is at award stage, ESCO submits for customer approval
- Customer reviews project data via output schedule; if deemed final, customer approves project and schedules are archived in ePB
- M&V module becomes available
- ESCO enters and submits annual M&V data; customer approves
- Customer has the ability to "unlock" project for revisions (e.g., mods)



### ePB FAQ

### Am I required to use ePB?

Federal agencies using DOE/FEMP's new indefinite quantity contracts ("IDIQ 3") must use ePB. Several state agencies also require ePB.

### What projects can use ePB?

 ePB is used for ESPC and other types of energy projects such as utility energy service contracts (UESCs) and conventional bid-to-spec projects.

### Who will see my project information?

 By default only authorized ESCO and customer personnel may view project data. However, ESCOs and customers may invite other project viewers. A few federal agency and national lab staff have the authority to view federal projects, as is current practice.

### What outputs does ePB provide?

- Project financial/savings schedules
- Tables and graphs with analysis of portfolio of projects
- M&V annual and cumulative reports
- Spreadsheets with data for all of your approved projects for analysis or transfer to your own system
- https://eprojectbuilder.lbl.gov/home/#help

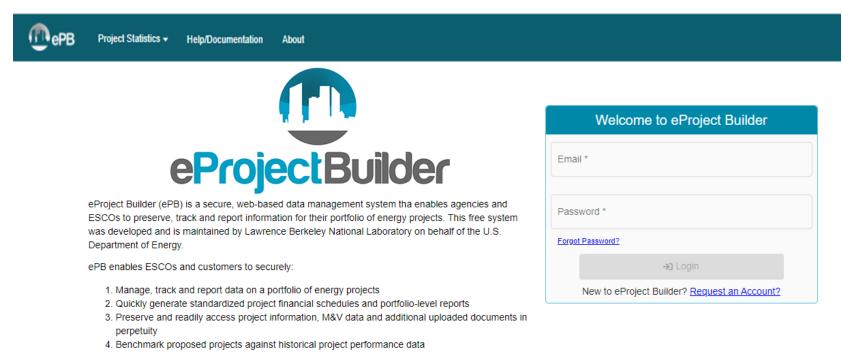


### ePB Software Requirements

- Minimum browser requirements
  - Mozilla Firefox 10.0.7
  - Google Chrome 30
  - Safari 9
  - Internet Explorer 11
- Spreadsheet for data template
  - Microsoft Excel 14.0 (2010 Windows, 2011 Mac) or higher



### How do I access ePB?



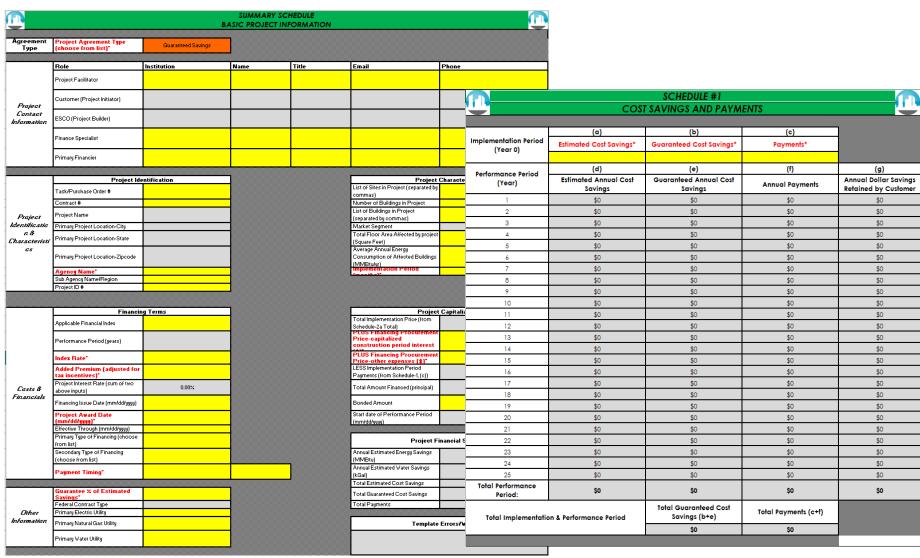
### Go to eprojectbuilder.lbl.gov and request an account for:

Learn More

- Main ePB site (eprojectbuilder.lbl.gov) to enter actual projects; and/or
- Training site (epb-test.lbl.gov) to enter test data and explore tool from both ESCO and customer perspectives



## **Excel-based Data Template**





### **Customized Group Training**

# For customized training for groups or teams Contact to schedule

dhahs@energyservicescoalition.org

Or for general support:

Email: epb-support@lbl.gov

Phone: (510) 486-7442







### Training and Tech Assistance

- Website: <u>eprojectbuilder.lbl.gov</u>
- Upcoming training webinars:
  - 3<sup>rd</sup> Thursday of every month @ 1:00 eastern
  - Next opportunity; Thursday September 16, 2021;

1:00 pm eastern daylight time

- Mark your calendars now! Share the date with peers and co-workers.
- Ask LBNL to help you:
  - Analyze and map your project data to ePB and streamline data upload

### **Contact Us:**

Email: epb-support@lbl.gov

Phone: (510) 486-7442

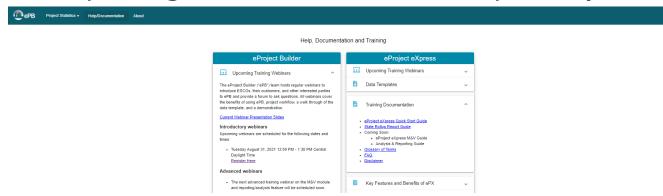




### Training and Tech Assistance

### Advanced webinars

Advanced training webinar covering the **NEW** M&V module and Analysis & Reporting Feature are scheduled quarterly.



https://energyservicescoalition.org/videos

ePB YouTube Videos

https://www.youtube.com/channel/UCT5SDquawmI2ptPZWDi5-UA

Email: epb-support@lbl.gov

Phone: (510) 486-7442





# Thank you!

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