

Financing – Develop Evaluation Plans

Description

Evaluation of your financing activities is critical to ensuring that you meet your program's [goals and objectives](#). The collection and evaluation of data on your financing activities will help you identify the strategies and processes that are working and those that could use improvement to help your program achieve success.

Because your financing activities are part of a larger effort by your program to promote home energy upgrades, you will need to [develop one overall process evaluation plan](#) that addresses all aspects of your program (e.g., Financing, [Program Design & Customer Experience](#), [Marketing & Outreach](#), [Contractor Engagement & Workforce Development](#)). The metrics and measurement strategies for evaluating your financing activities will feed into this overall plan.

Planning the evaluation of your financing activities involves four key steps:

- Establish metrics based on your goals and objectives
- Design the measurement strategies
- Establish how data will be transferred, stored, and managed
- Design the process and the schedule for data review and assessment.

Recall that, ideally, financing will allow:

- More homeowners in your community to proceed with home energy upgrades
- Homeowners to acquire deeper, more comprehensive upgrades.

Your evaluation will assess the extent to which your financing activities help you to achieve these, and other, goals you have established, and the steps you can take to enhance success. The financing metrics you track and the feedback you collect from your evaluation will also be inputs into the [continuous improvement process](#) of your program. Metrics (e.g., rate of loan uptake among your target customers) will help you identify whether you need to adjust your financing process.

Financing

Stages:

[Overview](#)

1. [Assess the Market](#)
2. [Set Goals & Objectives](#)
3. [Identify Partners](#)
4. [Make Design Decisions](#)
5. [Develop Implementation Plans](#)
6. **Develop Evaluation Plans**
7. [Develop Resources](#)
8. [Deliver Program](#)
9. [Assess & Improve Processes](#)
10. [Communicate Impacts](#)

Find related information across other program components:

- **Market Position & Business Model – Develop Evaluation Plans**
Develop processes to evaluate your organization’s strengths, weaknesses, and market position on a regular basis.
- **Program Design & Customer Experience – Develop Evaluation Plans**
Establish metrics and measurement strategies for understanding whether you are effectively achieving your program goals and meeting your customers’ needs, while identifying areas that can be improved.
- **Evaluation & Data Collection – Develop Evaluation Plans**
Identify the right questions to ask, appropriate metrics to collect, and the processes needed to initiate third-party impact and process evaluations.
- **Marketing & Outreach – Develop Evaluation Plans**
Develop a plan and metrics to evaluate the effectiveness of your marketing and outreach strategies.
- **Contractor Engagement & Workforce Development – Develop Evaluation Plans**
Determine processes for collecting and sharing data about key contractor metrics and workforce development activities.

Step-by-Step

After [making design decisions](#) and [developing an implementation plan](#) for your financing activities, your next task is to develop an evaluation plan that will allow you to determine progress toward your program’s [goals and objectives](#).

Remember that financing is part of a larger effort by your program to promote home energy upgrades which involves activities related to marketing and outreach, contractor engagement and workforce development, etc. The evaluation decisions you make regarding financing will feed into one [overall process evaluation plan](#) for your program.

The following describes the key evaluation planning steps for financing.

Establish metrics based on your goals and objectives

Data that you collect will allow you to measure progress towards meeting your program’s financing [goals and objectives](#) and help to [improve overall program performance](#).

For each of your financing objectives, develop a set of metrics that will allow you to measure progress toward meeting that objective. For each metric, you will also want to determine how and when you will measure it. The following table contains examples of financing goals, objectives, and metrics.

Sample Financing Goals, Objectives, Metrics, and Measurement Approaches

OBJECTIVE	METRIC	HOW IS IT MEASURED?	WHEN?
Goal 1: Transform the marketplace so credit enhancements are no longer needed to attract lenders, and there is competition among lenders to provide attractive financing for home energy upgrades.			
Identify at least one lender that will offer affordable energy efficiency loans without a loan loss reserve by the end of program year 2.	Number of lenders offering loans without loan loss reserve	Conversations with lenders; Research of loan products available to customers	Quarterly communications with lender; track progress annually
Goal 2: Ensure that contractors are knowledgeable about and offer financing to their customers.			
Train 20 qualified contractors (and their sales staff) on the loan products available through your program in program year 1.	Number of trainings conducted; Number of contractors that participated in training	Count of contractors participating in training	Track quarterly and/or maintain current counts as trainings are completed
Goal 3: Facilitate access to financing for certain market segments, such as low- or moderate-income households.			
Achieve a decline rate of less than 30 percent for income-qualified loan applicants in program year 3 through alternative underwriting criteria.	Number of loan applications received; Percent approved and rejected	Sum of applications received, approved, and rejected	Track progress semi-annually
Goal 4: Expand the availability and uptake of low interest rate financing.			
Originate loans for 30% of customers completing upgrades in program year 2.	Number of upgrades completed and number of loans originated	Contractor project submissions and origination updates from lenders	Track progress quarterly
Goal 5: Attract financial investment from lenders or investors			
Secure lending capital from one or more private or public sources (e.g., banks, state/local institutional investors, socially responsible investment funds) by program year 2.	Dollars committed by institution	Sum of committed dollars	Track progress quarterly

Source: U.S. Department of Energy, 2014.

For each metric you identify, make sure to define the data elements to be collected. These may include:

- A qualitative or quantitative response
- The units of measurement.

Each of your metrics and the corresponding data elements can be compiled into a data dictionary for reference by you and your program's partners.

Common Metrics for Financing Activities

The following are common metrics that you may decide to track. The specific metrics you decide to track will depend on the financing goals and objectives you set for your program.

Loan Performance

- Number of loan applications received per time period
- Percent of loan applications approved and rejected
- Reasons for loans being rejected
- Percentage of early payment defaults (e.g., defaults in the first three months)
- Loan performance delinquencies (e.g., 30, 60, and 90 day) and trends (increasing, decreasing, etc.)
- Annual and cumulative default rates, reason for defaults, and trends
- Prepayment rate (loans paying off prior to maturity)
- Severity of loss from defaulted loans (e.g., were any funds collected after the loan was charged-off?)
- Loan and reserve fund balances

Borrower Information

- Borrower characteristics (e.g., age, credit score, income, debt ratio)

Loan Process

- Borrower, contractor and lender feedback on loan process
- Elapsed time or date of initiation and completion for the following processes: application, underwriting, origination, and loan funding

Property and Project Characteristics

- Property characteristics (e.g., single-home, apartment, address, age, square footage, energy types)
- Upgrade project characteristics (e.g., list of home energy upgrades financed, cost and estimated savings)

Other

- Number of lending partners
- Contractor characteristics (e.g., name, address, license number, certifications, services offered)
- Number of outreach activities performed (e.g., flyers produced, trainings conducted)

An Initiative to Collect and Analyze Loan Performance and Energy Savings Data from Energy Efficiency Upgrades

The Environmental Defense Fund's (EDF) [Investor Confidence Project](#), with support from its partners, developed the [Open Energy Data Initiative](#) to provide open access to energy and loan performance data and analytics.

This initiative aims to address the lack of data standards and lack of available data on loan performance and energy savings, which capital providers, policy makers, and building owners have cited as limiting their investment in building upgrades.

Lenders rely on rigorous, historical loan performance data (e.g., default rates) in making lending decisions. Since energy efficiency investing is in the early stages of development, historical loan performance data is limited, and what does exist is not aggregated or standardized. Additionally, a wide array of investors, including building owners, energy service companies, insurance providers, and even utilities want to ensure savings are realized and lack the clear data and replicable protocols necessary to accurately underwrite loans.

Currently, contributors to the Open Energy Data Initiative include [Enhabit](#), the [Greater Cincinnati Energy Alliance](#), [NYSERDA](#), and [Pennsylvania Treasury](#). Data includes:

- Personal information about the borrower and property (e.g., credit score, debt-to-income ratio, city, state, building type, year building constructed)
- Loan information (e.g., amount, interest rate, term, loan product, charge off amount, loan capital source)
- Project information (e.g., project work done, contractor name, project start and completion dates, total job hours, auditor name)
- Energy usage and improvement information (e.g., original energy consumption [use and dollars], energy savings estimate [energy units and dollars], name of electricity and gas provider).

Design the measurement strategies relevant to your financing model

When [making design decisions](#), the most common models, sometimes combined, are those in which the program:

- Sponsors an existing loan product or program
- Provides capital, either to lend directly or as a credit enhancement.

Under the sponsorship model, your program partners with one or more lenders that originate and service loans. These institutions manage their lending activities with loan origination systems and servicing systems. As a sponsor of their loan product, you can request weekly or monthly reports that include information on applications, approvals, originations, and servicing activity.

Under the model in which you provide capital to fund loans, you will have a close relationship with your lending partners and can request access to their origination and servicing systems to access data such as applications received, applications approved and denied, etc.; after all, it is your capital at risk.

Under the model in which your program provides a credit enhancement, you can request weekly or monthly reports from the lender, similar to the sponsorship model. Regardless of the type of credit enhancement you are providing (e.g., loan loss reserve, interest rate buy-down, debt service reserve, subordinate capital), you will need detailed reporting to track the use of your funds. Each of these credit enhancements will use funds at different times during a transaction and for different purposes; consequently there are numerous options for managing this data:

- A **loan loss reserve** is possibly the most complex and requires a management process and ideally an automated system through which lenders can place requests for a loss reserve amount and receive a confirmation of that commitment to fund the loan loss reserve. This process could also be used to allow the financial institution(s) to process claims against the fund and to recover losses from defaulted loans. Preferably, your program can partner with an independent financial institution to manage this function, but if not it will need to become part of your program's accounting activities.
- An **interest rate buy-down** is a one-time per loan payment to the financial institution. Data from this transaction can be tracked without elaborate systems, and your lender can provide a full data report.
- **Debt service coverage payments** are paid to the owner/investor of the loan when delinquencies interrupt the flow of payments and these funds are returned to the debt service account when payments are made or the loan is charged off. As such, tracking this activity can only be performed by the loan servicer's system. Consequently, you need comprehensive reporting from your servicer to insure that you can properly track the use of your funds.
- **Subordinate capital** is essentially an investment in another party's loan portfolio, and you will receive investor reporting from your lender.

In addition to accessing financial data on borrowers and the origination and servicing of loans, you may choose to collect property, project, and energy performance data. Contractors can provide property and project data that can typically be delivered to the lender as part of the loan origination process. Alternatively, contractors can send this data directly to your program to avoid over burdening the lender, as some lenders prefer to only provide data related to the loan itself. It may be possible to also collect energy data (i.e., energy consumption before and after the upgrade) but doing so will require a consent waiver signed by the borrower and the approval and support from the utility company. The combination of financial and energy project data will allow you to evaluate cost effectiveness and explore possible correlations among borrower, property, project, energy performance and financial performance.

Keep in mind that certain data (e.g., name, address, social security number) are considered personally identifiable information (PII), and the handling of this data is highly regulated. If for any reason you need to share the PII data that you collect, you will need to acquire a legally viable consent waiver from each borrower. Consequently, you will need to review and understand the state and federal regulations related to data collection and sharing. State regulations can be identified by contacting your state's attorney general and the banking division. Federal regulations are contained in [Gramm, Leach, Bliley legislation](#). You may need external expert advice to ensure your program complies with these regulations.

Establish how data will be transferred, stored, and managed

Your approach to transferring (i.e., between capital providers, lenders, investors, and your program), storing, and managing data will depend on the size of your program, your information systems budget, and your evaluation needs. If you intend to capture less than 20 data elements for fewer than one or two thousand loans, a conventional spreadsheet may be sufficient to capture and transfer data. The spreadsheet approach has a very low initial cost, but maintaining it is a manual process and will require substantial, regular staff time that will increase as program volume grows.

If you have greater resources, and data needs, your program will need to include an information technology staff person (or subcontractor) who will help you identify data management options for building and maintaining a database. There are generally two key steps in the developmental effort.

- The first step is to create the **data schema**, a listing of the data elements, their definitions and the file format for transferring and storing the data.
- The second step is to develop the **data platform** that allows financial institutions or other data providers and users to link to your database using automated programming interfaces (API) and servers to store, manage and access the data.

In most cases, developing a database with functionality beyond the use of simple spreadsheets will exceed the resources of most programs. The U.S. Department of Energy has developed the [Building Energy Data Exchange Specification \(BEDES\)](#) and the [Standard Energy Efficiency Data platform \(SEED\)](#). These two DOE systems will allow you to adopt a pre-developed data schema and data platform, respectively.

See the [Evaluation & Data Collection's Develop Resources](#) handbook for information on how to transfer, store, and manage your program's data.

Effective Data Collection for Energy Efficiency Lending

More than 200 energy efficiency loan programs in 49 states are administered by utilities, state/local government agencies, or private lenders. This distributed model for efficiency financing has led to significant variation in program design and implementation practices including how data is collected and used.

[Energy Efficiency Finance Programs: Use-case Analysis to Define Data Needs and Guidelines](#), issued by the State and Local Energy Efficiency Action Network's Financing Solutions Working Group and prepared by Lawrence Berkeley National Laboratory, makes the case for establishment of common data collection practices for energy efficiency lending. The report can be used by two groups:

- Program administrators and policy makers who can learn lessons about more effective program design from the comparative analysis of data from diverse program types and approaches.
- Lenders and investors who can use loan performance data to more accurately account for risk and thereby potentially increase lending and lower financing costs. Consistent data collection may also provide an enhanced ability to sell loan pools to replenish program funds.

The report covers:

- Rationales for collecting more consistent data from energy efficiency finance programs
- Discussion of energy efficiency finance program use cases
- Challenges with collecting information from customers who participate in finance programs
- Issues with data consolidation and aggregation across multiple finance programs.

Design the process and the schedule for data review and assessment

In addition to identifying the data you intend to collect, your evaluation plan should also establish the process and schedule for reviewing and sharing data with your program partners and stakeholders. An effective approach is to develop a standard reporting format and produce a monthly report, which can be shared with your partners, including lenders, capital providers, contractor managers, inspection services, and other stakeholders. After providing reports, you can schedule reviews and assessment sessions to identify and communicate findings from the reporting and to consider program modifications.

More information about the review and assessment of your financing activities is available in the [Financing-Assess & Improve Processes handbook](#).

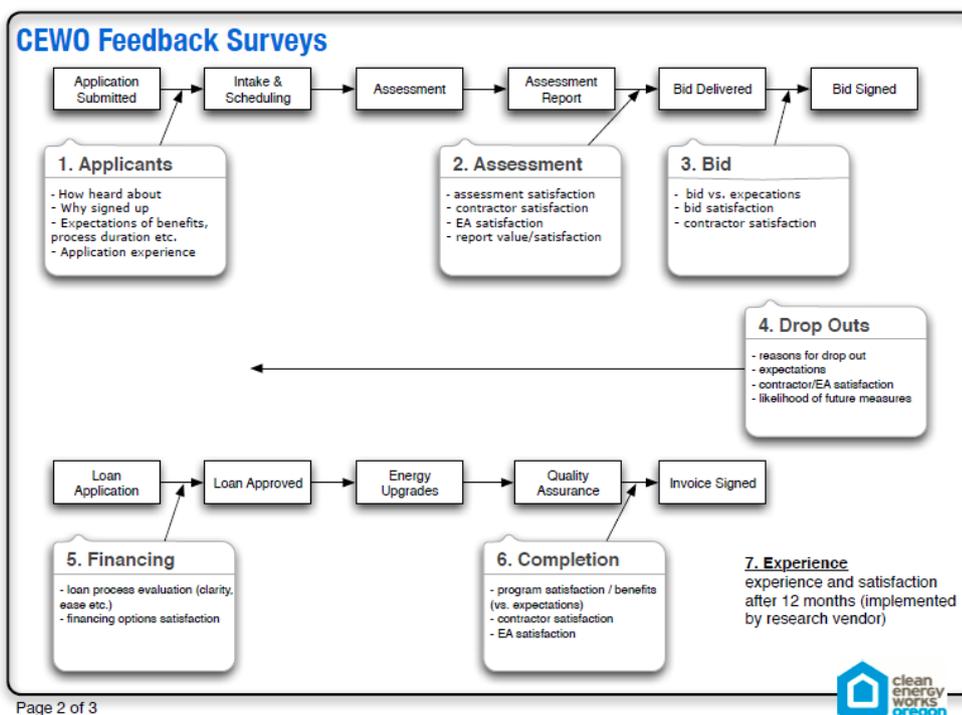
Tips for Success

In recent years, hundreds of communities have been working to promote home energy upgrades through programs such as the Better Buildings Neighborhood Program, Home Performance with ENERGY STAR, utility-sponsored programs, and others. The following tips present the top lessons these programs want to share related to this handbook. This list is not exhaustive.

Measure and evaluate performance at key points in the process

Measuring performance at key points in the upgrade process (e.g., assessments, conversion rates, and financing applications) has helped programs understand where their processes are working smoothly and where they are not. This information has helped them continuously improve their program design and implementation. To monitor progress, successful programs have combined information from their project tracking systems with customer surveys, information from call centers, and feedback from contractors and lenders to understand the customer experience. Make data accessible for program staff to track progress, identify successful strategies, and detect points of failure.

- **Enhabit**, formerly Clean Energy Works Oregon, established an extensive process for getting customer feedback at key points in the program delivery process to evaluate customer satisfaction and better understand why some homeowners chose to undertake upgrades while others did not. The program identified seven points in the program delivery process to gather information through feedback surveys and phone interviews: application, assessment, bid, drop-out, financing, completion, and experience after 12 months. The program credited this kind of customer communication and feedback as one of the keys to its ongoing success.



Source: Clean Energy Works Research Planning, Will Villota, CEWO, 2012 (Presented during January 19, 2012 Better Buildings Residential Neighborhood Program peer exchange call).

- Boulder County's **EnergySmart** program sent an online customer **feedback survey** to homeowners who had completed upgrades. Among other things, the customer surveys affirmed customer satisfaction and identified the opportunity for word-of-mouth marketing. Surveys found that the vast majority of the respondents would recommend the EnergySmart service to a friend or neighbor. The surveys also surfaced some weaknesses that the program resolved. For example, some respondents noted contractor's lack of response and professionalism as an issue, which led the program to develop **guidelines for professionalism and customer contact**. Surveys also noted that the assessment report was long and confusing, leading the program to develop a new, customized report that was easier to follow and clearer about next steps.

- Connecticut's [Neighbor to Neighbor Energy Challenge](#) used qualitative contractor and customer feedback combined with quantitative data to [evaluate how well its outreach efforts led to home energy assessments](#). When informal contractor feedback alerted program managers that relatively few interested customers were following through to have assessments conducted on their homes, the program analyzed project data and found that only around a quarter of customers who expressed interest in an assessment had completed one. To diagnose the problem, the program analyzed data to see how customers were acquired, how long it took to send leads to contractors, and how long it took contractors to follow up with customers to arrange for an assessment. Through qualitative analysis, the program found, among other things, that customers didn't understand what they were signing up for and may have been unwilling to say "no" to young and enthusiastic outreach staff. The program also found that its staff wasn't following up quickly enough with people that wanted more information. In response, the program improved its process for distributing leads to contractors (e.g., linking contractors to homeowners in 1-2 days), created a "receipt" for interested customers outlining next steps, and set up a system to call non-responsive leads after two weeks. With these and other steps, the program increased its close rate 35% in one month after changes were implemented.

Examples

The following resources are examples from individual residential energy efficiency programs, which include case studies, program presentations and reports, and program materials. The U.S. Department of Energy does not endorse these materials.

Case Studies

None available at this time.

Program Presentations & Reports

[Evaluation of the Efficiency Maine Trust Residential Direct Install Program: Final Evaluation Report](#)

Author: Opinion Dynamics Corporation

Publication Date: 2013

This report presents the results of an independent evaluation of Efficiency Maine Trust's Residential Direct Install Program for Fiscal Year 2013.

[Michigan Saves: Using Loan Performance Data to Inform Program Implementation](#) (3 MB)

Author: Mary Templeton, Michigan Saves

Publication Date: 2014

This presentation describes the financial data Michigan Saves tracks and how the program uses the data to inform program implementation.

[California Energy Efficiency Finance Project – Data Working Group Report](#)

Author: Harcourt Brown & Carey

Publication Date: 2013

This report proposes a set of data elements that should be collected for each residential and non-residential project, including borrower, property, project, and financing information at the time of the installation. The data set also includes post-installation information on the performance of both the financing and the project. These data elements were selected based on an assessment of various data “users” (financial institutions, policy makers, vendors, program administrators, etc.) and their “uses” for the data (what questions would the users want the data to answer). The report also sets out the sources of the data and a methodology for collecting, managing and providing access to the data, and addresses privacy issues and the use of data anonymization and aggregation.

[California 2010-2012 On-Bill Financing Process Evaluation and Market Assessment](#)

Author: California Public Utilities Commission

Publication Date: 2012

This report focuses on four utilities in California. The research for this report included reviewing program documents and tracking databases, conducting two rounds of interviews with four investor owned utility program managers, interviewing California Public Utility Commission staff members and an intervener, surveying 76 on-bill financing program participants and 29 vendors who helped deliver the program, interviewing 12 account executives, and conducting six focus groups across California with 46 energy audit participants who had not participated in on-bill financing.

[Key Findings and Recommendations From the Process Evaluation of Clean Energy Works Oregon \(now Enhabit\)](#) (4 MB)

Author: Energy Trust Oregon (Prepared by Johnson Consulting Group)

Publication Date: 2012

This report presents key findings and recommendations from the process evaluation of Clean Energy Works Oregon's (now Enhabit's) energy efficiency financing program. Table 1 provides a good list of key process evaluation research questions which may help others scope comprehensive process evaluations.

Program Materials

[Sample RFP: Third-party Process Evaluator](#)

Author: Michigan Saves

Publication Date: 2009

Sample RFP from Michigan Saves for a third-party to conduct an evaluability assessment and process evaluation for the program during the first phase of implementation.

Toolbox

The following resources are available to help design, implement, and evaluate possible activities related to this handbook. These resources include templates and forms, as well as tools and calculators. The U.S. Department of Energy does not endorse these materials.

Templates & Forms

[Creating an Evaluation Plan Worksheet](#)

Author: U.S. Department of Energy

This worksheet can help you organize your ideas and methods for creating an effective evaluation plan.

Tools & Calculators

None available at this time.

Topical Resources

The following resources provide additional topical information related to this handbook, which include presentations, publications, and webcasts. Visit [Examples](#) for materials from and about individual programs.

Topical Presentations

[Program Management and Continuous Improvement for Financing Programs \(5 MB\)](#)

Author: Chris Lohmann, U.S. Department of Energy

Publication Date: 2011

Presentation providing an overview of financing programs, a strategy for continuous improvement, tools for program management, a risk management strategy, and common risks associated with financing programs.

Publications

[Energy Efficiency Finance Programs: Use-case Analysis to Define Data Needs and Guidelines](#)

Author: Southeast Energy Efficiency Alliance; Lawrence Berkeley National Laboratory

Publication Date: 2014

The report makes the case for establishment of common data collection practices for energy efficiency lending. The report reviews existing practices for the collection of four categories of data from energy efficiency financing programs: (1) customer data; (2) financial product and performance data; (3) facility-level data; and (4) energy efficiency project data. The report then identifies high-priority needs, characterizes potential uses for finance program data, and identifies use cases that describe how stakeholders use data for key objectives and actions.

[Energy Efficiency Financing Program Implementation Primer](#)

Author: State and Local Energy Efficiency Action Network

Publication Date: 2014

This report provides an overview of considerations for designing and implementing successful energy efficiency financing programs for existing buildings in the residential and commercial sectors. Information on key issues related to energy efficiency financing programs, guidance to existing resources that provide more in-depth financing program design and implementation information, and strategies for delivering broad customer access to attractive financing products that enhance customer capacity and willingness to invest in energy efficiency to address "first cost" barriers are included.

[DOE State and Local Solution Center: Financing for Energy Efficiency and Renewable Energy](#)

Author: U.S. Department of Energy

Publication Date: 2015

Provides tactical information on financing program key elements and descriptions of financing program types by market sector for state and local governments working to set up financing programs.

[Clean Energy Financing Programs: A Decision Resource for States and Communities](#)

Author: U.S. Environmental Protection Agency

Publication Date: 2011

Helps state and local governments design the appropriate finance programs for their jurisdiction. It describes financing program options, key components of these programs, and factors for states and communities to consider as they make decisions about getting started or updating their programs.

[Making it Count: Understanding the Value of Energy Efficiency Financing Programs Funded by Utility Customers](#)

Author: State and Local Energy Efficiency Action Network

Publication Date: 2015

This report lays the groundwork for a dialogue to explore regulatory and policy mechanisms for ensuring that efficiency financing initiatives provide value for society and protection for consumers. Through case studies of Connecticut, New York, Massachusetts, California, and Maryland, it explores emerging issues that jurisdictions will need to tackle when considering an increased reliance on financing.

Webcasts

None available at this time.

