



Energy Trust of Oregon 2019 Management Review Report

September 11, 2019



Submitted by
1961 Consulting LLC

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Executive Summary

The Oregon Public Utility Commission (OPUC) grant agreement requires Energy Trust conduct an independent management review and evaluation at least every five years. “The Management Review will be designed to review the efficiency and effectiveness of Energy Trust operations under this Agreement and make specific suggestions for improvement.” The OPUC, Audit Committee and Energy Trust Management identified three areas for this Review:

- Topic Area A | Cost Allocation Methodology and Billing
- Topic Area B | Time Tracking
- Topic Area C | Resourcing and Financing Innovation

This Management Review Report shares relevant information gathered from a current state review of Energy Trust practices in these three areas and provides benchmarking and leading practices from interviews with 26 organizations, the consultants’ first-hand experiences, and secondary research. Opportunities deemed worth the investment in time or dollars are shared as Recommendations. Others that may not rise to the same level of impact or priority are noted as Suggestions.

Through the Management Review the interconnections of these three topic areas became clear. As Energy Trust diligently seeks to tap new areas for energy efficiency savings or renewables opportunities, it will involve greater risk with less certainty of outcomes. To provide that greater freedom to innovate while maintaining good governance, the organization will need to accurately and quickly see and evaluate how time and other resources are being spent to confirm investment decisions, or course correct. This tracking of time and other program or project costs includes non-direct/shared costs. Managing, accurately reporting, and billing shared costs and their allocations will be important to managing these innovations, and reporting to stakeholders.

Two themes emerged as we worked through this Management Review: balance and agility. All three Management Review topics are important to Energy Trust and require prioritizing because funds and resources are limited. In each area and amongst the three areas, leadership must balance how to direct organizational effort. In cost allocation, there is more specificity possible, but what the Accounting Team does today is sufficient—let them spend their time on higher priority activities, like the upcoming budget systems and process changes. In time tracking there are highly complex systems and processes for capturing time-related information and even connecting them seamlessly to cost allocations and billing. Those systems are not inherently “best practice” though; it depends on how important that information is to the organization’s strategic priorities and the opportunity cost of that effort—is there something else staff could be working on that would be more valuable? Our recommendations balance the benefits of this additional information with the time, cost, and change management that will be required to implement time tracking beyond today’s practices. Starting small, especially given the upcoming budget systems and process changes, is our recommendation. Potentially, start by tracking time spent on innovation, thereby informing leadership about those efforts to help make better resourcing decisions. For both time tracking and innovation, the first decisions will likely not be final or perfect, and that is why agility is important. Leadership and staff need to be agile decision-makers, assessing and course correcting as a regular part of business. The supporting

structures and processes should enable agility, not slow it down. The Management Review does not cover the leading practices in structure or process supporting innovation; rather, it focuses on the resourcing and how to balance between three types of innovation: core, adjacent and transformational. That balance is important to ensure a robust pipeline and that day-to-day program design and delivery goals are met this year and in subsequent years.

We're excited to see where Energy Trust will lead in the next five years. Thank you for letting us contribute through this Management Review.

*Respectfully submitted,
~ 1961 Consulting*

Management Review Methodology

The Management Review used a two phased approach: Understand current state practices, processes and structures; then, compare to leading practices to determine if there were recommended improvements.

During current state (May—June 2019), 1961 Consulting reviewed Energy Trust documents in each of the Topic Areas. A deeper understanding of Energy Trust's current state was provided through a series of internal interviews. In addition, Board members and the Oregon Public Utility were interviewed (see Appendix 1 for those interviewed).

In the benchmarking and secondary research phase (June – early August 2019), 26 organizations were interviewed (see Appendix 1), including Board members, the OPUC, funding utilities, PMCs, organizations delivering energy efficiency and renewables, organizations supporting the energy efficiency and broader energy industry, and organizations outside the energy industry. These interviews focused on innovation resourcing and financing, but also included Topic Areas A and B on cost allocation and time tracking. Additionally, secondary research was conducted to identify resourcing guidelines or ratios used by other organizations to successfully balance innovation with day-to-day operations delivery requirements. All sources are cited in Appendix 7.

This Management Review Report summarizes the Energy Trust current state, benchmark and secondary research findings. From this analysis, recommendations and suggestions are proposed for Energy Trust's consideration.

This report relies on information available to 1961 Consulting at the time of the Management Review. As is the case with any operational review, processes and systems change over time. The current state documented in this Review and the recommendations provided are reflective of the organization at the point in time when this Management Review was performed.

Recommendations Summary

Following is a summary of the Recommendations found in the Management Review. Before recommendations are shared, the full scope of each Topic Area is detailed.

Topic Area A | Cost Allocation Methodology and Billing: Review systems and procedures in place to ensure shared costs, such as facilities, information technology, and administration are appropriately and fairly allocated between Energy Trust’s primary programs administered with public purpose charge funds provided to Energy Trust under its grant agreement with the OPUC, and a small number of other programs funded by other sources such as Oregon Community Solar and NW Natural in Southwest Washington. In addition, review policies and procedures for billing for services.

Management Review Area	Recommendation	Page #
A	1. Track time spent on major cross-functional/organizational initiatives to shared cost centers rather than program cost centers.	15
A	2. Where possible, customize a program-specific ‘shared cost’ markup percentage when pricing each non-PPC funded program.	15

Topic Area B | Time Tracking: Review current practices for tracking time against various programs and projects and recommend best practices and tools. Consider tracking time by program, project, and task. Consider implications for cost accounting, resourcing decisions, billing for services, and to assist communicating with stakeholders regarding the cost of special projects and analyses. Provide some guidance on considerations for implementing such a system.

Management Review Area	Recommendation	Page #
B	3. Change the time reporting cycle to a weekly frequency.	19
B	4. Report actual time worked for all employees, rather than limiting time reported to 40 hours per week for salaried.	19
B	5. Require all contractors working on projects (that require time tracking) to record time in Energy Trust’s enterprise Payroll System, following the same requirements as employees.	19
B	6. Define “project” in a way that is consistent with strategic goals. Consider how it will be used in time tracking, budgeting, forecasting, and billing processes.	23
B	7. Implement business processes to streamline the use of reported time as an input to invoices for additional funding sources.	23
B	8. Begin with simple performance metrics that can be realistically delivered and managed by the business.	27



B	9. Initiate a Proof of Concept (POC) / pilot Agile project to design and deploy a new project-based time tracking system.	27
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Topic Area C | Resourcing and Financing Innovation: Review current practice and provide best practices in our industry regarding the proportion of effort staff should spend on program innovation and design versus day-to-day delivery and program operations activities. Help draw relationships between current savings acquisition and design for future savings innovation. Provide best practices or benchmarks of ratios that might relate to this balance between developing for the near future versus process for the current state. Consider the near- and long-term impact of activities related to programs funded with sources other than public purpose charge funds on the efficiency and effectiveness of Energy Trust primary program operations.

Management Review Area	Recommendation	Page #
C	10. Be specific about what problems to solve and where to focus innovation resources.	43
C	11. Allocate a budget carve out for adjacent and transformational innovation.	43
C	12. Adopt an innovation resourcing strategy and structure that utilizes internal and external resources and sets Innovation Ambition levels amongst core, adjacent and transformational innovation.	43
C	13. Focus innovation efforts using existing PPC funding and collaboration with resource multipliers.	44

Findings, Suggestions and Recommendations

Area A: Cost Allocations and Billing

The OPUC grant agreement stipulates that each management review include an analysis of cost allocations between administration, management and programs, and offer suggestions for appropriate changes. With the addition of non-PPC funded programs, this Management Review asked for additional distinctions:

Review systems and procedures in place to ensure **shared costs**, such as facilities, information technology, and administration are appropriately and fairly allocated between Energy Trust’s primary programs administered with public purpose charge funds provided to Energy Trust under its grant agreement with the OPUC, and a small number of other programs funded by other sources such as Oregon Community Solar and NW Natural in Southwest Washington. In addition, review policies and procedures for billing for services.

Defining Shared Costs. For purposes of the Management Review, the term “shared costs” includes all costs which are allocated. This includes shared costs as defined by the OPUC and program services costs as defined by Energy Trust.

The OPUC defines “shared costs” for purposes of an Energy Trust performance metric that evaluates these three categories of cost against a not-to-exceed percent of revenue. The three categories making up shared costs are:

Management and General - Governance/board activities, interest/financing costs, accounting, payroll, human resources, general legal support, and other general organizational management costs.

General Communications and Outreach - Expenditures of a general nature, conveying the nonprofit mission of the organization and general public awareness of services available to customers.

Program Support Costs - Costs incurred directly by programs, but of an indirect nature such as conferences, travel, supplies and meetings.

At Energy Trust, each of these categories include an allocated share of indirect costs, including rent/facilities, supplies, computer equipment/support and depreciation. Some of the program support costs are managed directly by programs, but the majority of costs in these three categories is managed centrally and allocated to programs.

Due to the inclusion of program services, which are considered to directly benefit programs, figures in this report should not be compared to the OPUC performance metric for Administrative and Program Support.

Energy Trust defines “program services” as services directly in support of programs which are managed centrally and allocated to programs. This includes the following services:

- Planning & Evaluation

- Targeted Load Management
- Customer Service Management
- Trade Ally

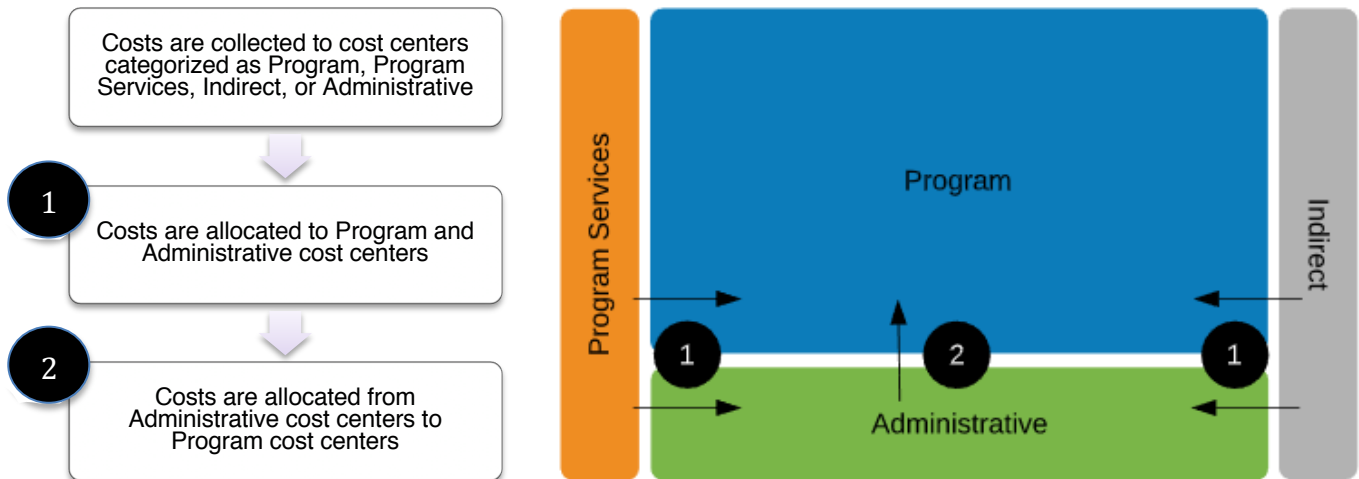
Current State: Cost Allocation Methodology

Initially, costs are collected in four types of cost centers:

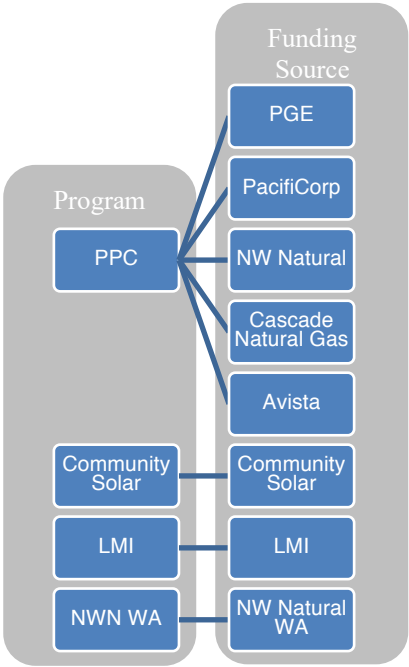
1. Program: Direct program costs include incentives (which makes up more than 50% of PPC program costs), Program Delivery subcontracts, staffing costs, and other direct costs. Staffing costs are collected based on timesheets, reported as actual hours for hourly-based employees, and typically reported as 40 hours per week for salaried even if hours worked exceed 40 per week..
2. Program Services: Certain functions like planning, customer service and trade ally support are managed centrally and allocated to programs based on approximate usage of their services.
3. Indirect: Costs for facilities and information technology are managed centrally and allocated to program and administrative cost centers.
4. Administrative: These are allocated to programs after the other allocations are completed. This allows the shared IT and facility costs that were allocated to the administrative cost centers to then be allocated to the programs.

Costs from program services, indirect, and administrative cost centers are allocated to program cost centers to ensure that all of Energy Trust’s costs are ultimately associated with a PPC-funded or non-PPC funded program. The following graphic illustrates the process:

Program Cost Allocation Process



Within programs, costs are also allocated to funding sources. As shown in the diagram below, for non-PPC programs, all costs are allocated to one funding source; therefore, there is clear delineation from those that are PPC-funded.



When Energy Trust developed its cost allocation methodology, cost drivers were identified that were measurable within reasonable effort. The table below outlines the cost allocation methodology utilized for all expense categories contributing to shared costs. A more detailed explanation of the methodology is provided in Appendix 2. Each is its own cost center, and the allocation method is applied to all costs within the cost center cost pool.

Expenses	Allocation Method
Shared Office / Facility Cost	Payroll hours per cost center based on timesheets
IT Costs	IT users based on annual staffing plan (budget) & PMC headcount (Internals = 1, Externals = .5)
P&E (Planning & Evaluation)	Annual predetermined usage developed during budget process
CSM (Customer Service Management)	# of calls to call center per program by month
Trade Ally Network	Total to date number of trade allies per program
TLM (Targeted Load Management)	Annual predetermined usage developed during budget process
C&O (Communications & Outreach)	YTD Ratio: individual program expenses to total program expenses (includes incentives)
M&G (Management & General Administration)	YTD Ratio: individual program expenses to total program expenses (includes incentives)



The table below outlines the source and target cost center for each allocation of shared cost.

		Administrative						Program				
	Cost Centers	C&O	M&G: Govern /Board	M&G: Legal	M&G: HR	M&G: Office Mgmt	M&G: Fin & Compl	PPC	NWN WA ¹	Comm Solar	LMI ²	Spec Proj Dev ³
1	Shared Office	X	X	X	X	X	X	X	X	X	X	X
	IT	X	X	X	X	X	X	X	X	X	X	X
	P&E ⁴	X			X			X	X			
	CSM ⁵							X	X			
	Trade Ally ⁶							X	X			
	TLM ⁷							X				
2	C&O							X	X	X	X	X
	M&G							X	X	X	X	X

Current State: Billing Process

In addition to reviewing cost allocation methodology, the Management Review covers billing for non-PPC funded programs. 1961 reviewed contracts and invoices, and the following is a brief explanation of how billing occurs for these three programs:

NW Natural-Washington is not billed; similar to NW Natural-Oregon, funding is agreed upon during the budget cycle and paid to Energy Trust on a predetermined schedule. The use of a separate cost center ensures the ability to budget and cost specifically for the non-PPC Washington programs separately from Oregon expenses and revenue.

Community Solar bills on a time and materials basis. Direct hours and costs are captured to the Community Solar program code, including internal staff effort for generating Community Solar invoices. Bill rates include 10% markup to cover indirect costs plus a 30% markup.

LMI bills direct costs based on actuals plus a 10% indirect charge, which is the maximum allowed for federal grants in the absence of a negotiated indirect cost rate. Direct billable costs include staff cost based on employee hours charged on timesheets to the LMI cost center. Markup is not allowed, and billings must remain within the contracted amount. Efforts beyond the contracted amount are services Energy Trust would provide to the LMI initiative under the solar program regardless, as the goals fit with the solar program design and exempt purpose. The value of these services is reported as 'Match'. The staff effort for additional match reporting

¹ NWN WA = NW Natural of Washington

² LMI = Low and moderate income solar program

³ Special Project Development = Other funding source development activities

⁴ Community solar, LMI, and some administrative cost centers do not currently use these services and therefore do not receive costs from this allocation

⁵ Community Solar and LMI do not use CSM services

⁶ Does not impact non-PPC programs because they do not use Trade Ally network services

⁷ Does not impact non-PPC programs because they do not use TLM services

is captured as a direct cost to the LMI cost center. Internal staff effort for generating LMI invoices is captured as an administrative cost.

Current State: Control Process

Energy Trust takes seriously its responsibility to ensure PPC-funded programs are not bearing the costs for non-PPC programs.

Energy Trust uses discreet program codes for all PPC and non-PPC programs. Managers direct work effort and monitor charging of time to ensure effort is expended in the correct programs and this effort is recorded accurately. This is especially applicable in cases where there may be subtle differences between programs or uncertainty (e.g., solar work for LMI versus solar work for Solar Electric).

Revenues and expenditures for non-PPC programs are tracked separately in the financial statements. There is additional breakdown for PPC-funded programs to help funders see their portion of Energy Trust's work. The 'Income Statement by Service Territory' report shows every funder revenue, cost, and net assets. Financial statements are monitored on a monthly basis.

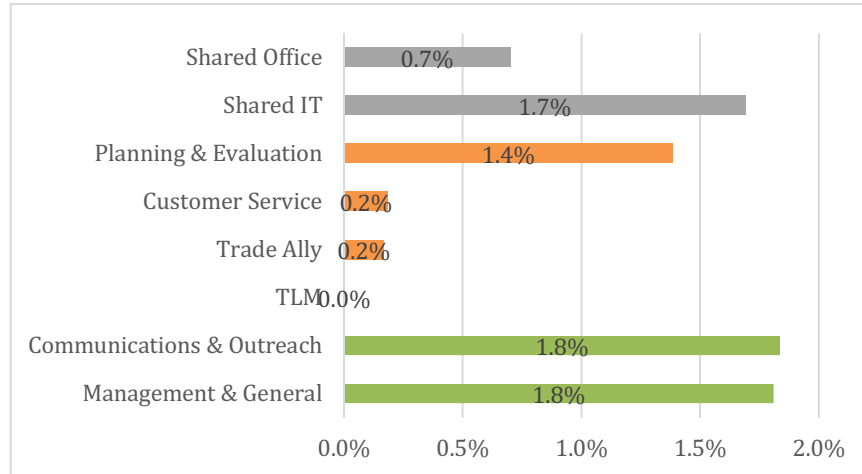
Moss Adams performs an audit each year to determine whether the financial statements are prepared in conformity with Generally Accepted Accounting Principles (GAAP). Cost allocation in financial statements is one of the elements governed by GAAP. On the subject of significant accounting estimates, Moss Adams considered Energy Trust's allocation methodology "reasonable in relation to the financial statements as a whole." Community Solar has not yet gone through a Moss Adams Audit cycle. We recognize that it will be included in the 2019 audit and expect that a sample of transactions will be audited for compliance to the internal method as part of the normal audit procedure.

Assessment: Cost Allocation Methodology

Generally Accepted Accounting Principles allow the allocation of certain costs to avoid effort beyond the value gained by tracking the exact portion of the cost used by each part of the organization. Allocating administrative costs based on proportion of actual costs, IT & planning costs based on manually assigned percentage, and customer service costs based on call center activity are all common and appropriate methods. Most organizations aim to keep a small number of allocation bases, unless using an activity-based costing system. Activity-based costing methods may be more accurate, but they are also more time consuming. It is typically used only in organizations where usage data exists and is easily consumed, or this level of accuracy is a requirement. Energy Trust uses allocation methods specific to the costs being allocated, when reasonably possible. A generic method is applied only for Administrative allocations, where more specific metrics are not readily available.

In 2018 allocated costs as a percentage of total expenditures were 7.8%.⁸ The figure below shows proportion of each allocated cost category as compared to 2018 expenditures.

Allocated Costs by Source as a Percent of Total 2018 Expenditures



As part of the Management Review, KPMG retired audit partner Becky Graham reviewed the methodology. She states that organizations need to consider whether the allocation practices are a productive exercise. Allocation methodologies require practical application and an understanding of the overall objective of the allocation. Organizations have been known to develop overly sophisticated methods that take extensive time and effort to operate. At times, the benefit does not outweigh the cost of the system. Often administrative costs are allocated as a group when further breakdown is not considered cost effective. No allocation method, regardless of the complexity, is without some element of judgment and practical application.

To be considered when determining cost allocation policy, it is recommended that the policy:

- Stand the test of time and is modified if circumstances change
- Support the decision-making needs of the organization and its stakeholders
- Consider the practical application of the methodology – does the time and effort required outweigh the benefit
- Provide internal comparability between periods and a basis for understanding and managing costs. Although Energy Trust may consider external comparability, as long as GAAP and other regulatory requirements are followed, financial reporting will meet comparability expectations for external users.

⁸ Source: 2018 Statement of Functional Expenses. Note: this is not intended to reflect the OPUC metric which compares administrative costs to revenue. This includes all allocated costs as compared to total expenditures.

Given the effort for value criteria, the current cost allocation methods fairly and appropriately distribute shared costs between PPC and non-PPC funding sources.

Time Tracking and Cost Collection

As with most organizations that track time, the Energy Trust current state review showed some variation in level of accuracy in time tracking for both internal staff and program management contractors (PMCs). These variations could impact allocations, though most examples were found to be minor, for example:

- Unless resources are working directly on non-PPC programs, the staff typically charge time to their home cost center(s). Program staff may spend time on cross-functional initiatives or administrative activities that are still charged to their program. Usually when an Energy Trust employee works on a cross-functional project their role is as a subject matter expert representing their respective program or support function needs. Charging time back to their respective program makes sense. However, in the last few years Energy Trust has embarked on a handful of significant initiatives with administratively focused objectives, where it would have been more appropriate to charge time to an administrative function, and not programs. The best example is the Organizational Review in 2017/18, which was to benefit the entire organization. Resources spending a significant amount of time on this initiative continued to charge all hours to their program cost center, rather than charging a portion to a program support or administrative cost center. For two of the five-person team approximately 20% of their time was recorded as program time, rather than the administratively focused effort.
- A representative from one PMC stated that their allocation of labor and expenses between Oregon and NW Natural Washington is based on their judgment and would be difficult to measure. Energy Trust recognizes there is some benefit to Washington programs and has asked the PMC to estimate that effort to their best ability, without incurring additional cost to do so.

Organizations may aim to reduce these variations in accuracy by encouraging staff to track time throughout the day, or establishing an operating rhythm, e.g., to end each meeting with attendees tracking their time. Considering the need to balance effort and complexity against value, the recommendation will not be to go to this effort, except related to significant non-program time or non-PPC funded activities, the latter of which is in place.

Assessment: Billing Process for non-PPC Programs

Based on the review of current state and responsible accounting practice, 1961 Consulting considers the billing process to be fair and appropriate.

Two main questions were considered relative to the fairness and appropriateness of billing for non-PPC programs. This assessment also revealed future areas to address should non-PPC funded programs and initiatives grow in the future.

1. Are all costs incurred by non-PPC funded programs or initiatives captured and allocated appropriately and fairly?

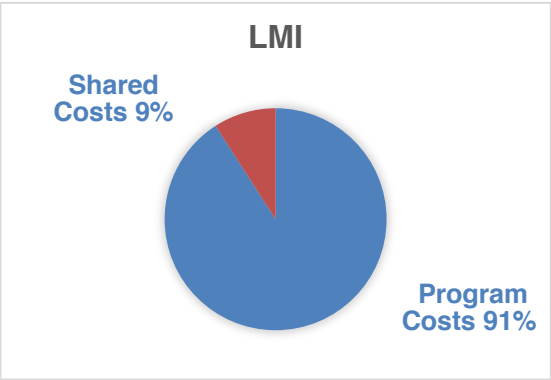
As demonstrated in the Cost Allocation Methodology assessment, all costs incurred by non-PPC funded programs or initiatives are captured and allocated appropriately and fairly. However, a small portion of program costs may be mischaracterized because of the practice described earlier of capturing time for cross-organizational initiatives directly to home program cost centers. Because there are few administratively focused initiatives, and non-PPC programs or initiatives are very small, the impact today is small. If administrative initiatives expand or the number of non-PPC funded programs larger than LMI and Community Solar expand, attention should be paid to how the staff costs are attributed to ensure allocations are fair and appropriate. The current risk that mischaracterization is occurring is minimal.

2. Do billings for non-PPC programs cover all costs, including ‘shared costs’?

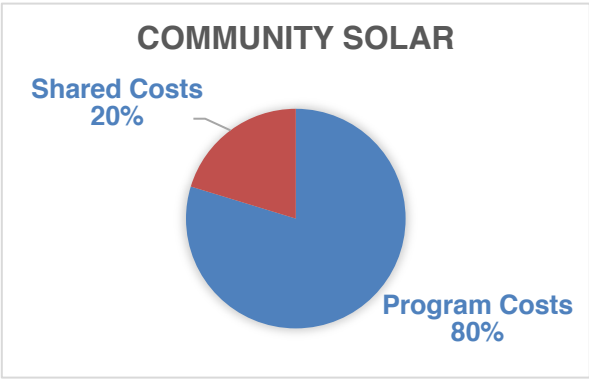
Both the details of the billing processes and the figures on Energy Trust’s income statements show that non-PPC revenue covers non-PPC program costs. Shared costs were specifically evaluated for the non-PPC funded programs, Community Solar and LMI. Details are not shown for Northwest Natural Washington because Energy Trust does not generate a bill; funding is based on budgeted costs, which include shared costs. If necessary, NW Natural augments funding to cover actual costs, e.g. more incentive cost than forecasted.

LMI shared costs as a percentage of total year-to-date expenditures are 9%, which is equal to the allowed indirect amount per the federal grant.

Source: Income Statement by Service Territory for Five Months ending May 31, 2019



The Community Solar program began in late March 2019. The financial data for the first two months of startup show shared costs as a percentage of total expenditures at 31%. The 2019 budget for Community Solar estimates shared costs to finish



Source: Amended 2019 Budget

at 20% of total expenditures. This budget variance was identified during the Management Review, and is being reviewed to better understand and make adjustments, if needed. Regular review of budget variances will be built in as a normal management practice.

These three examples demonstrate the variation and risks in billing shared costs based on a fixed percentage.

If future programs funded outside the PPC are budgeted with shared cost percentages higher than 10%, the indirect markup percentage built into pricing should reflect the budget, or indirect costs should be billed based on actuals (as is the case for NW Natural).



Recommendations

1. Track time spent on major cross-functional/organizational initiatives to shared cost centers rather than program cost centers.

Energy Trust has the ability for staff to report time across multiple cost centers—LMI and Community Solar are examples. To the extent that a unique effort benefits multiple cost centers (particularly if that includes non-PPC programs), and the effort/initiative is anticipated to require significant time, we recommend program staff time be charged to a shared cost center. An example of such an organizational initiative would have been the Organizational Review Initiative.

Note: Time Tracking could be a means of accomplishing this—to be discussed in next Topic Area.

2. Where possible, customize a program-specific ‘shared cost’ markup percentage when pricing each non-PPC funded program.

For future non-PPC funded programs or initiatives, it would be more cautious to use a ‘shared cost’ markup percentage based on the individual budget, rather than applying 10%. The 10% more than covers Energy Trust’s PPC-funded portion of shared costs, but as was shown with Community Solar, that is not the case for all programs or initiatives, especially in early implementation. To ensure billing (revenue) covers shared costs for future non-PPC funded programs, a more detailed budget estimate may be required that includes shared cost-type activities. For federal contracts, which require documentation to support indirect costs in excess of a 10% markup, contract language that characterizes certain services as direct or indirect becomes key in ensuring all costs are covered.

Suggestions

- **Track IT time using the same categories as budgeted (Infrastructure, Reporting, and Development) to substantiate and refine the IT allocation.**

Please note: The organization is planning to do this in the future. IT personnel already aligns to these categories, which gives the ability for the organization to re-cast the 2020 costs this way.

- **Consider the implication to allocations if all employees report all hours worked, rather than only reporting a 40-hour week for salaried employees.**

Only the Shared Office / Facility costs allocation is based on reported hours; therefore, this change in policy (which is a Recommendation in Topic Area B) would not significantly impact cost allocations. The exception is if this were any in a non-PPC funded program.

Area B: Time Tracking

As Energy Trust pursues new ways of finding energy efficiency savings, the organization is stretching into new areas and new ways of working. Tracking its investment in various new methods and activities is meaningful in order to manage effectively. The big questions though are “How?” and “How much?”. Specifically, the Management Review was asked to:

Review current practices for tracking time against various programs and projects and recommend best practices and tools. Consider tracking time by program, project, and task. Consider implications for cost accounting, resourcing decisions, billing for services, and to assist communicating with stakeholders regarding the cost of special projects and analyses. Provide some guidance on considerations for implementing such a system.

In order to assess the current state of time tracking at Energy Trust, interviews were conducted with cross functional stakeholders, including the Management Review project sponsors, Executive Team, Finance and Accounting, Program and Project Managers and staff members at ICF, one of Energy Trust’s PMCs. These interviews provided understanding about Energy Trust’s structure, processes, systems, policies, reporting and metrics related to time tracking. Since Energy Trust is a program-centric organization, understanding how programs and projects are organized and managed across the enterprise is key to developing a time tracking system that adds value. Prior experience working with other service and project-oriented organizations has shown us that time tracking is only effective as a management tool when it is designed holistically, integrating time processes and data with other key enterprise functions. Key functions to integrate include project portfolio management, resource management, billing/receivables, project accounting, budgeting and forecasting. Once these functions and data become integrated, the organization can develop real insights into business performance. The insights will allow leadership to take proactive, corrective measures during project delivery that optimize business performance and results. Given this perspective, many of the Management Review recommendations have integration as a common theme.

The recommendations recognize Energy Trust’s historical approach to resource management and time tracking that balances simplicity with complexity. There is increasing employee burden and effort when they are asked to track time at a detailed level. As time reporting detail increases, there are diminishing returns in the value derived from the information. Carried to an extreme, too much detail becomes counterproductive for the employees tracking time, as well as the organization’s ability to manage the related processes and setup data. Too much detail may also negatively impact the organization’s ability to develop meaningful insights from approved time.

Time tracking recommendations are intended to strike a balance and recognize the tradeoffs between too much detail and an optimal level that is efficient and streamlined for employees and the organization to process. This consideration should be highlighted in change management to gain support of and acceptance to change. It will be important for Energy Trust to continue to seek this balance as time tracking processes change and evolve in the future.

Lastly, recommendations seek to balance effort and investment versus value and risk. Recommendations are made only if the level of effort and investment are justified based on

the potential value and benefit that can be realized in Energy Trust's current state. In some cases, potential changes that are not worth pursuing now are identified for consideration in the future once processes and systems are further evolved. In addition, recommendations have been designed to provide quick wins that are more agile in nature and minimize risks associated with change. One example is the proof of concept approach for time tracking that has been proven to be successful in many other organizations.

Time Tracking Goals and Benefits

Throughout the course of the interviews and time tracking workshop, many goals and benefits were raised and discussed. The goals and benefits identified were less about implementing a new time tracking system, given one exists, and more about the need for balance—in other words, the effort to gather additional time tracking detail must provide meaningful value. Following are the common goals and benefits articulated.

- 1. Program/Project management, and overall resource management, can be improved with more timely and detailed information.** All stakeholders interviewed identified this as the greatest immediate goal. Energy Trust project teams “do what it takes” to produce high-quality deliverables under existing cost-effectiveness rules, but given the lack of time tracking, staff cannot readily quantify the total hours spent. This inhibits their ability to assess and change course, should that be desirable based on the cost versus benefit. In addition, Energy Trust is implementing new budgeting and forecasting tools. More detailed time and labor cost data has the potential to be integrated with these to provide variance reporting at a program or project level. Improved project performance metrics could then support better project management and resource utilization. Stakeholders pointed out that estimating efforts for business plan initiatives, especially the cross-functional initiatives, is estimated given the lack of historical project time and labor information. Tracking actual time across the project portfolio (e.g., the Organizational Review Initiative) will support more accurate planning and establishing of baseline estimates for future projects. All of these factors point to new opportunities to better manage resources—time tracking can assist in that oversight and periodic risk assessment.
- 2. Improved reporting to the OPUC, other external stakeholders and internal management.** As will be discussed in Area C, the Board, Executive Team, OPUC and Energy Trust Innovation Team are interested in investing “the right amount” in innovation to ensure Energy Trust's continued strong contribution to energy efficiency and renewable energy. The OPUC is sensitive to data requests that take Energy Trust time to fulfill and wants to track these hours. In the future, these or other projects could be considered billable or allow exceptions to existing staffing performance metrics, as well as program cost-effectiveness requirements. Lastly, internal management is more frequently asking for information on the work that is being executed across the organization, as well as historical records. More detailed time tracking and better labor reporting and analytics would support these new requests.
- 3. Administrative efficiencies in reporting and billing.** If and when higher volumes of new funding sources are added, integrating more detailed time and labor data with billing

and project costing functions will provide administrative efficiencies. Today, the Accounting Team is successfully completing these requirements for two active non-PPC projects that require invoicing (LMI and Community Solar). Expansion into new funding sources will become more cumbersome to track, and the manual processes will not be scalable. Based on the opportunities allowed for in the 2020-24 Strategic Plan, and the development of new funding sources, more detailed time tracking processes will be a proactive step in maturing the administrative model to support a more integrated billing and project costing function.

Area B: Time Tracking

Focus #1: Time Tracking Technology and Process

Findings and Leading Practices:

There are multiple decisions when considering the technology and process for employees and contractors to record their time: frequency of reporting, actual time versus a standard work-week, and method of collection. Energy Trust's current Payroll System was deployed in 2018 as the enterprise software for employee time tracking. When this system was implemented, it was determined that time would be recorded by all internal employees for each day and submitted bi-weekly, which coincides with Payroll runs. Hourly employees record actual time worked; salaried employees record time worked up to a 40-hour per week maximum. Managers approve the hours worked and ensure project costing is accurate. Time is assigned to various data elements that map back to the Accounting System Chart of Account segments (see Appendix 3).

Contractor/PMC time is not recorded in the Payroll System's time tracking module. Energy Trust works with a staffing/temp agency and employs between 15 and 25 contractors on average. Contractors do not currently record time in Energy Trust's Payroll System. They submit timesheets to their staffing/temp agency, which are approved by Energy Trust contract managers and entered in the Accounts Payable module of the Accounting System.

The method for tracking staff time varies. In addition to the current Payroll System, staff track time utilizing different methods and applications:

- During the annual budgeting process, those involved were asked to record Microsoft calendar events to track time spent on budgeting tasks. Periodically, the individuals were asked to email summaries of their time worked to the project manager (PM), so the PM could consolidate total hours worked to better understand and manage resource allocation.
- Individuals working on grant-funded projects utilized mobile phone applications to track time worked on various activities prior to entering into the Energy Trust Payroll System.
- IT tracks time on IT agile projects and development efforts utilizing Microsoft Team Foundation Suite (TFS).

Energy Trust is already following aspects of leading practice, but there are a couple gaps:

- Weekly timesheet submissions are a common model for most project and service-oriented organizations. At ICF, all employees and consultants working for Energy Trust are required to log time daily and submit timesheets for approval on a weekly basis. When ICF instituted this practice to comply with federal requirements, they decided to implement across all projects.
- Project-oriented organizations typically report actual time worked, rather than limiting time reported to any specific maximum value. Although this requires more effort from employees and contractors, having visibility into the true effort to complete the work makes it worthwhile.
- Project-oriented organizations require time to be reported, approved and processed in their internal enterprise time tracking system by all resources, including agency contractors. This allows them to bill their customers and to create a record of the cost – in hours and dollars – for internal projects. The rationale is that without this holistic view of hours worked to complete a project, decisions would be based on incomplete data.

Recommendations

3. Change the time reporting cycle to a weekly frequency.

Weekly timesheet submissions will provide a timelier view of resource effort and align closely with standard industry practices.

4. Report actual time worked for all employees, rather than limiting time reported to 40 hours per week for salaried.

Capping the number of hours reported results in an inaccurate representation of work effort. Visibility to actual time worked allows managers to properly balance workloads, understand where overruns are occurring, and ensure accurate historical work effort is recorded for decisions that will be based on this information.

5. Require all contractors working on projects (that require time tracking) to record time in Energy Trust's Payroll System, following the same requirements as employees.

This policy will ensure all historical resources and effort are recorded consistently and accurately for project management, future project planning and historical time and cost analytics.

Suggestions

- **Utilize a diluted or standard costing methodology if or when a change is made to report actual time.**

If a salaried employee records more than 40 hours in a week, dilution spreads the weekly salary cost rate across all hours. This method effectively calculates a reduced hourly cost rate during weeks where salaried employees work more than 40 hours.

Standard costing utilizes a single standard cost rate, regardless of the number of hours worked in a week. This method results in a higher total project cost for weeks where more than 40 hours are worked by salaried employees.

The benefit to utilizing a standard cost rate is that historical cost data always reflects a labor cost where it is not assumed that salaried staff work overtime. In weeks where salaried staff work more than 40 hours, dilution effectively minimizes total cost by not factoring in the cost of each hour worked over 40 hours.

- **Use 30 to 60-minute time increments when reporting time.** Smaller time increments will not provide additional value at this point and will burden employees with more administration. The exception could be where billable projects require greater detail.
- **Make clear the difference between the personal flexibility to find a method to gather or track time and the requirement to enter that time in one enterprise system.** It is common for organizations to support multiple methods to track time in multiple applications, as Energy Trust does today. The key is for that time data to consistently be entered in the enterprise time tracking system.

People work differently, and it can vary by the minute, hour and day. Depending how and where an individual works may dictate the frequency and exactly how time is captured. This freedom and flexibility should continue to be encouraged by Energy Trust. As discussed during the various interviews, Energy Trust supports personal time tracking flexibility. It was questioned by some during the interviews whether the different practices make sense. It is suggested that Energy Trust communicate and raise awareness to the differences between how an individual gathers their time, and compliance to a policy to enter that time into the company's time tracking system.

Another method in use at Energy Trust is Agile. To correctly apply the Agile methodology, there are strict processes and metrics that must be captured. Time tracking is a common Agile requirement, which allows IT managers to track burn down of tasks within a sprint. Agile management applications, such as Microsoft TFS, are utilized to track IT staff time while working on application development and support. Since the applications are IT specific, it is common for IT staff to report time in two applications (Agile and Payroll System) at different levels. During interviews with Project Managers, this process variation was raised as an exception to the enterprise time tracking process. It is suggested that this variation be highlighted and communicated as a unique requirement for IT projects. In addition, Energy Trust could evaluate the benefit to implement an interface or data exchange between the Agile system and enterprise time tracking system in order to eliminate duplicate time entry across applications.

Area B: Time Tracking

Focus #2: Project and Portfolio Management Integration

Findings and Leading Practices:

Data Structure and Process for Time Tracking. Energy Trust does not have a formal business process or data structure to track enterprise “Projects”. There is a Program Management Office, and they use a variety of tools, mostly Excel sheets for project management, but not a project accounting tool. Project-oriented organizations leverage project portfolio management processes and tools to:

- Plan and prioritize the project portfolio on an annual basis, as well as manage new project requests and change requests (changes in resources, scope or funding) throughout the year
- Simplify project planning, budgeting and forecasting
- Capture, standardize and control project time and costs
- Maintain hierarchies or trees that manage and show the relationships between projects, programs and the full portfolio
- Streamline customer invoicing and revenue recognition
- Gain insight into project performance to improve decision-making

ICF and other project-oriented organizations establish project controls to maintain data integrity:

- A limited group of people are responsible for creating projects
- Projects go through a set of closing activities upon completion
- Project teams are used to control who can charge time to a project
- Project managers approve time entry and are responsible for controlling costs

Enterprise resource planning (ERP) systems are used by medium to large organizations to enable the seamless integration of tracked time into billing and a project costing function. These systems automate many support functions, improve data integrity, and provide real-time analytics to support decision making. Smaller organizations often leverage existing systems or software-as-a-service (SaaS) platforms and adopt business processes to manage the integration of data between systems at a lower cost. See Focus #5: Guidance on Implementation Considerations—Time Tracking System Selection for more information.

Defining a “Project.” The concept of “programs” is clear and consistent at Energy Trust, but not so with the definition of a “project.” When companies start tracking time at a more detailed level, it is necessary to also define “projects” to charge that time. For project-oriented organizations, deciding on the definition of a “project” is foundational.

Today at Energy Trust, the closest data element to a project is an initiative defined during the annual Business Planning process (See Appendix 4 for a partial listing). These initiatives include core program work with various funding sources, as well as other types of work, which are not considered core to the business, but are necessary initiatives bringing long-term benefits to operations and may be worthy of time tracking (e.g., the Organizational Review). In interviews with staff, they did not think additional time tracking for all business plan initiatives would provide benefit, e.g., the core activities within each of the energy efficiency and renewables programs.

Non-PPC funded programs (e.g., Community Solar and LMI), have already been segregated as separate cost centers for time tracking and cost accounting.

The types of initiatives where Board, Executive Team, OPUC or staff thought there was value in having ready access to time-related information were:

- Large initiatives from business planning
- Cross-functional program work not considered critical or core to program delivery
- Innovation work
- Non-program work performed by a staff member aligned to a program
- Other projects and/or new programs that may develop from the 2020-2024 Strategic Plan area of focus related to new funding sources beyond PPC

There may also be value in Energy Trust following the practices of other project-oriented organizations, and use “operational projects” to track time and costs for key on-going functional activities. These could include functions, such as finance, human resources, information technology, and marketing, as well as cross-functional activities, such as training, business planning and budgeting. Although these do not follow a strict definition of a project with a defined scope, beginning and end, they are often treated as a finite project with start and end dates aligning with the fiscal year. The benefits in having projects to track operational work is to improve the allocation of costs, to understand resource requirements just as with programs, and to promote a standard business process and system structure. Operational functions, like true projects, require planning, execution and control and are constrained by limited resources. Tracking actual time spent on these efforts could provide Energy Trust management and interested stakeholders better visibility into resources consumed.

Aligning Time Tracking with Budgeting. Energy Trust’s annual budgeting process is time consuming and manual, though this is being addressed with the current Budget Planning and Process Initiative. Leading practice shows that when time is tracked at a level that aligns to budgeting (either directly or via rollup or mapping), there are opportunities to better manage project performance based on actual time and labor cost captured via time tracking. Integration of actual time with budgeting and forecasting tools enable this capability in an automated fashion. The integrations of historical time and budget data can also be performed in business intelligence tools.

Activity or Task-level Time Tracking. In limited cases, Energy Trust staff tracks time at a project level, or the more detailed activity or task level. Presently it is tracking for the Targeted Load Management projects and specific data requests. Some organizations find value in tracking time and budgeting at a project task and activity level. This can provide additional project control, analytics aligned with project execution gates, and insight into profitability by common tasks across projects.

At this time, there is insufficient value for Energy Trust to track time at a task level. Should Energy Trust choose to move forward with additional time tracking, a good starting point is at a project level. With that experience and lessons learned, the decision can be made whether to move to greater detail—is the effort worth the benefit?

Recommendations

6. Define “project” in a way that is consistent with strategic goals. Consider how it will be used in time tracking, budgeting, forecasting, and billing processes.

As part of this, establish operational/cross-functional projects to which team members can record time. In the annual budgeting process example, the project manager was seeking information and insight into the project that did not exist. In this case, if annual budgeting was defined as an operational project where a code or structure was defined to track the work, the project manager could have been more efficient.

Evaluate the Business Planning initiatives to determine which are candidates for time tracking. Ask the question, “What will be gained with the new information of hours by each initiative?” The answer cannot simply be interesting or informative; it should be actionable. Many of the Business Planning ‘business as usual’ initiatives would lack sufficient value to track actual hours to those activities. Energy Trust should develop clear criteria and incorporate it into the planning process to determine if time should be tracked for each initiative. For example, establish a minimum threshold of estimated effort for an initiative to become a separate project for time-tracking. All time for initiatives with lower efforts can be tracked to generic projects.

Depending on the additional projects Energy Trust chooses to track time against, an additional benefit will be to simplify the allocation issues identified in Topic Area A.

For organizations new to time tracking at a project level, less is typically optimal. Many concurrent projects become unmanageable while an organization is developing the rhythm for managing the creation, controls, and closeout of those projects. We recommend that Energy Trust continue to test that the new definition of a project achieves the time tracking and strategic goals outlined and adjust as beneficial.

7. Implement business processes to streamline the use of reported time as an input to invoices for additional funding sources.

Enterprise service automation software that integrates time tracking, project costing, and billing functions can be costly. Until more new funding sources are procured that would justify this investment, modifying business processes to work with existing or best-of-breed tools is a start.

Suggestions

- **Consider a time tracking process and system that can integrate with a project accounting tool.**

Although it is not required currently, since the volume of grant-funded projects is small, continue to monitor volumes and consider picking a technology solution for time tracking that has integrated project costing functionality that can be added in the future. Given

that most of Energy Trust’s costs outside of incentives are from labor, time tracking would be a valuable input into a project accounting system.

- **Define time tracking at a level that supports the budgeting process.**
Start out with a manual cross walk between time tracking projects and budgeted initiatives. Evaluate quarterly, or at least annually, how actuals are trending against the budget. Use this information to inform the next budget and the forecast.

Area B: Time Tracking

Focus #3: Reporting and Analytics

Findings and Leading Practices:

As previously noted, Energy Trust does not have a project accounting system that would allow accounting for project budgets, milestones, and actual resources expended at the project level. Time sheets were designed to allow time tracking at the initiative (task) and sub-task levels, which could be used to represent projects. However, because these costs cannot be compared to a project budget or milestones, it is of limited value, and currently used infrequently.

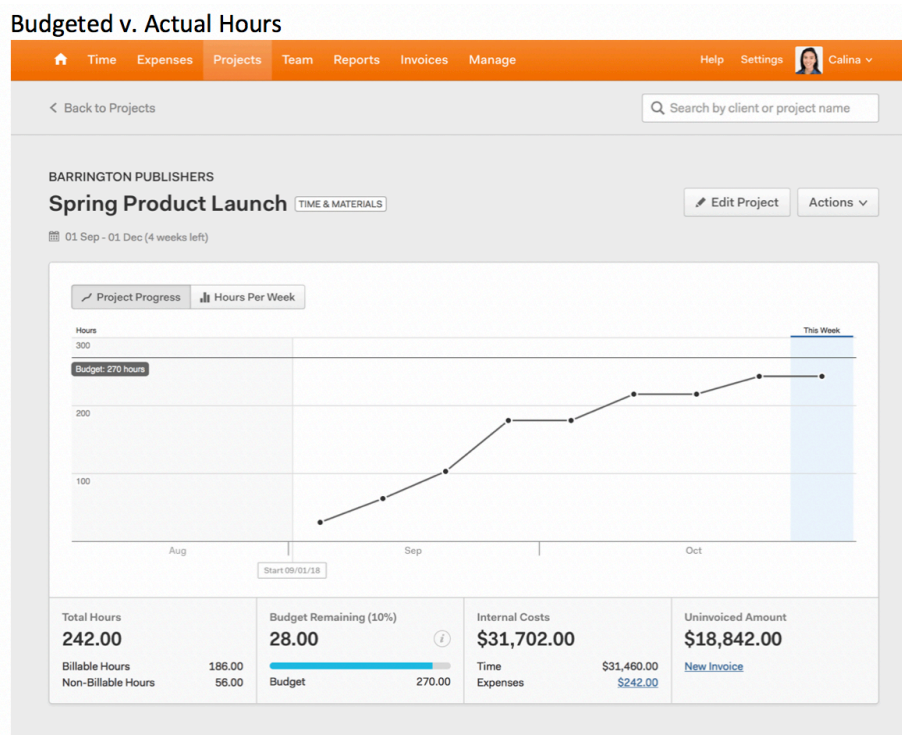
Finance provides several system-generated reports that show time by Cost Center year to date, by month, and breakdowns with labor cost by Cost Center. An example output showing hours by cost center and very limited use of “Task” is shown below.

2019 HOURS WORKED BY COST CENTER									
Timecard Worked Cost			Timecard Worked						
Timecard Work Cost Center	Center Description	Timecard Work Ta	Task Description	Total Hours worked	Jan	Feb	Mar	Apr	May
100-1000	Ops Analysts	00000	General	4,578.0	966.0	854.0	902.0	970.0	886.0
100-1001	Programs Director	00000	General	696.0	164.0	64.0	147.0	164.5	156.5
110-1130	New Buildings	00000	General	1,393.8	288.3	261.0	316.5	245.0	283.0
110-1170	Existing Buildings	00000	General	3,600.6	729.0	674.1	743.5	747.0	707.0
110-1173	Multifamily	00000	General	1,467.5	299.0	279.0	309.5	318.3	261.8
110-2170	WA Existing Buildings	00000	General	233.0	53.0	43.0	32.0	56.0	49.0
140-1400	Industrial	00000	General	6,810.5	1,436.5	1,202.5	1,336.0	1,398.0	1,437.5
150-1500	Residential	00000	General	6,413.4	1,339.4	1,125.0	1,183.5	1,418.0	1,347.5
150-2500	WA Residential	00000	General	240.0	57.3	46.3	30.5	55.0	51.0
300-3010	CCS General	00000	General	11,238.5	2,250.5	2,020.5	2,028.5	2,470.5	2,468.5
350-3500	Customer Service	00000	General	986.0	217.0	181.5	174.5	210.5	202.5
350-3550	Trade Ally	00000	General	1,406.5	287.0	269.0	272.5	297.5	280.5
405-4085	Solar	00000	General	2,623.5	480.8	439.8	511.3	559.2	632.5
405-4085	Solar	00001	Project Specific	1,074.0	273.0	265.5	213.5	183.0	139.0
405-4085	Solar	00020	LMI Match	162.0	50.0	30.5	47.0	11.0	23.5
430-4300	Other Renewables	00000	General	1,833.6	398.3	288.1	387.0	414.2	346.1
430-4300	Other Renewables	00001	Project Specific	1,239.4	248.6	220.0	243.9	261.1	265.8
701-7001	Community Solar	00000	General	441.8			115.6	160.5	165.7
900-9010	IT	00000	General	11,090.0	2,074.0	1,928.0	2,292.5	2,497.5	2,298.0
Total Hours worked				81,034.0	16,679.8	14,363.7	15,823.2	17,241.2	16,926.1
total paid time off				12,452.4	3,174.3	2,498.4	2,188.0	1,700.5	2,891.2
Total unpaid time (leave of absence)				195.0	-	130.0	60.0	-	5.0
GRAND TOTAL HOURS				93,681.36					

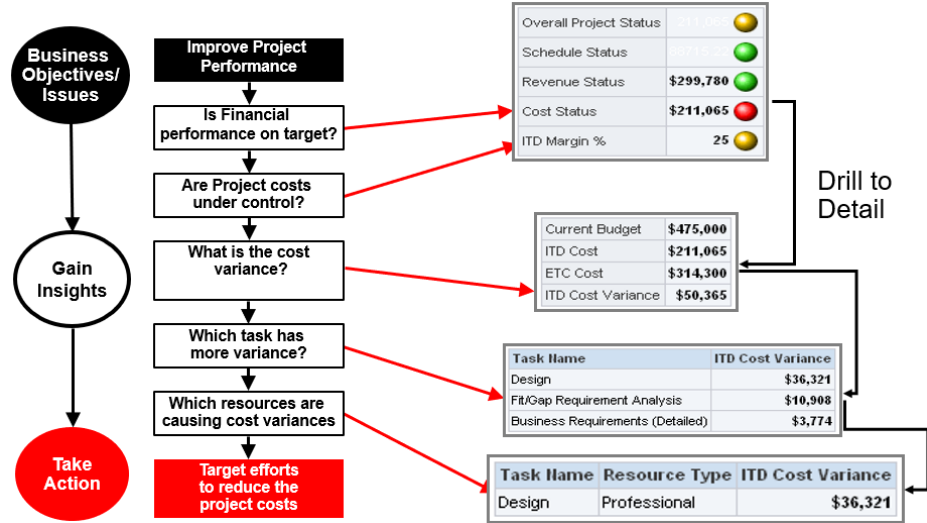
Beyond the above type of reporting, limitations in data from the current systems hamper Finance’s ability to efficiently provide reporting analytics. For example, in order to provide planned versus actual hours metrics, time must be tracked at the initiative level, and business plan data must be linked to actual time reported. Budget versus actuals would be a useful performance metric, but budget data will likely not exist until the budgeting system is implemented at the project level.



Time tracking systems can efficiently provide some of these types of analytics. The first image below is one example from the Harvest time tracking system of what is possible. Notice the “insight” provided with this type of reporting that incorporates analytics:



The second example demonstrates project analytics that utilize specific measures to answer high level business questions and then drill into the details to answer subsequent questions. In this example, the high-level business question is “Are my projects meeting their performance KPIs?”. If the answer to the top-level question is “No” for any one question, the analytics are designed with drill down measures to provide insight and answer why and where out of compliance activity is taking place. The subsequent answers (measures) provide the insight required to take corrective action and bring KPIs back into an acceptable yellow or green range.



Additional examples from various time tracking systems are provided in Appendix 5.

When other organizations adopt leading practices in time tracking reporting and analytics, it is managed as a small project itself. The reason is time tracking systems open a new set of information to management and stakeholders; if not managed and prioritized, creating reports and analytics can consume more time than is really valuable. The key considerations when developing this analytic and reporting capability are:

- Identify a business sponsor and business process lead who can work across stakeholders to identify a small number of metrics and related reports to better manage the business
- Identify new metrics and report data requirements and data gaps
- Develop plans to implement new business processes and/or tools to close data gaps and deliver analytics
- Key Performance Indicators (KPIs) should be defined using the SMART criteria: Specific, Measurable, Attainable, Relevant, and Time-bound.

Metrics requested during interviews included:

- Hours by program/project
- Return on Investment (ROI) by project. This may not be the traditional financial metric with investment representing capital dollars, but may be total budget or hours of investment. The intent was to provide a means to measure value
- Planned Value (Value of what is left to complete in a project)

Other metrics that could be valuable to Energy Trust include:

- Percent of time spent on
 - The 3 different types of innovation: core, adjacent and transformative
 - PPC v. non-PPC work
 - Program v. program support v. administrative work
- Resource utilization
- Planned hours vs. actual time spent

Recommendations

8. Begin with simple performance metrics that can be realistically delivered and managed by the business.

When new metrics are being designed and developed with new data sets, it can take months to fully deploy across the organization with change management. Targeting pilot groups first is the ideal approach.

Area B: Time Tracking

Focus #4: Guidance on Implementation Considerations—Proof of Concept (POC)

Agile product development methodologies have become a leading IT practice across all industries. The Agile approach has gained wide adoption because it is designed to slice work into smaller, lower risk components. These components can be quickly solved and deployed to deliver immediate value. Once initial solutions are deployed, the design is iterated based on business feedback; the highest priority features or fixes are redeployed first. This cycle, called a sprint, continues so that new value is continuously delivered, and designs are improved and evolve over time.

Multiple reasons point to a proof of concept approach as a means of finding a minimally viable solution: (a) IT team utilizes an Agile development methodology, so this is not new to the organization;(b) the Organization Development Initiative identified Energy Trust’s need to become more adaptive, flexible and nimble organization; and (c) the organization’s fear of time tracking becoming a behemoth endeavor. Many clients start with a minimally viable product with just enough features to satisfy key goals (refer back to the beginning of this Topic Area) and provide feedback for future development or build out of this functionality and any supporting system.

Recommendations

9. Initiate a POC / pilot Agile project to design and deploy a new project-based time tracking system.

The POC approach is recommended in lieu of moving forward with selecting a new time tracking system and design detailed tracking for the entire organization. A POC aligns with Agile in that it can be implemented faster, impacts a much smaller number of employees and carries a far lower risk and investment. To receive the intended benefit, Energy Trust needs to be comfortable that the design approach is intended to have a light touch and low effort, which may not be its norm.

It is recommended that the POC scope include a more detailed time tracking process within the existing Payroll System’s time-tracking module. The POC should be designed to test and validate the goals and benefits surfaced in this Management Review. Scope would include defining requirements and designing the organizational change management, business processes, technology and reporting and analytics on a small scale. Once



deployed, benefits can be validated and lessons learned can be documented and applied to broader deployments that might follow, should it identify benefits that make additional effort or investment worthwhile.

Suggestions

- **Identify a few (3-5) different types of projects that will achieve Energy Trust's goals and benefits for time tracking.**
Examples might include new, adjacent or transformative innovation projects, new initiatives from business planning, or other new cross-functional initiatives.
- **Setup new project values in the Payroll System, so the current time keeping process can be utilized.**
Design and develop a recurring reporting process to track project team time and performance compared to budgeted time and cost. Incorporate the new information into project management status and governance processes to work through how the information can be utilized from a project and program management perspective.
- **Consider defining a Project segment in the existing Chart of Accounts.**
Segment 5 (Initiative) is a good option for storing the newly defined Project ID. Project attributes can be maintained offline given the small volume of projects. Standard practice is not to maintain project-level detail in the general ledger, but this could allow Energy Trust to capture project profitability without the need for a separate project management tool.
- **Develop a change management plan, utilizing recently acquired knowledge of the Prosci methodology.**
Because of feedback received about the implementation of Energy Trust's Payroll System and prior experience from other organizations' time tracking implementations, a separate focus area is provided on the topic (see below).
- **Document issues, new requirements, benefits and lessons learned throughout the pilot.**
During project closeout, ask the team how the historical budget and actuals information could be utilized to better plan a similar future project? Was the baseline plan accurate and how would the project be planned differently next?

Utilize this information to refine the business case for a potential new time tracking system selection and broader detailed time tracking project.

Area B: Time Tracking

Focus #5: Guidance on Implementation Considerations—Time Tracking System Selection

Assuming the POC / pilot is successful, and Energy Trust moves forward with selecting and implementing a new time tracking system, below are some application models and examples to consider.

- 1. Best-of-breed systems.** These typically provide deep, feature-rich time and labor functionality. The downside with best-of-breed applications is that the time and labor application must be integrated with existing enterprise systems such as Payroll, Finance/Accounting, Budgeting and Planning. A variety of integration tools and options are provided (varies based on the product) to help reduce interface development work. There are many best-of-breed time keeping systems available on the market. See below for a few options:
 - Kronos: <https://www.kronos.com/>
 - Harvest: <https://www.getharvest.com/>
 - Workforce: <https://www.workforcesoftware.com/>
 - 10,000ft: <https://www.10000ft.com/>
- 2. Enterprise Resource Planning (ERP) or Enterprise Service Automation (ESA) applications.** Typical systems provide time and labor applications that are delivered with integration to the many other modules included in the full ERP / ESA product suite. The major benefit to this approach is the ability to buy and implement time and labor applications and then add-on new modules (e.g., Resource Management, Project Costing, Expenses, AR and Billing) as needed in the future. The downside to this approach is that organizations are limited by their existing ERP application. In some cases, it might make sense to license a full or light ESA application that does not overlap with existing ERP functionality and can be integrated in the future.

Example ERP and ESA systems include.

 - Oracle Netsuite: <https://www.netsuite.com/portal/home.shtml>
 - Oracle PeopleSoft: <https://www.oracle.com/applications/peoplesoft/>
 - Microsoft Dynamics: <https://dynamics.microsoft.com/en-us/>
 - Sage Intacct: <https://www.sageintacct.com/>
 - Deltek: <https://www.deltek.com/en>
- 3. Custom Time Tracking Solutions.** Some organizations choose to develop their own custom solutions built to address their unique requirements. The main benefit of a custom solution is the flexibility and control that comes with it. Custom applications can be built in a wide variety of development tools including Microsoft Excel, SmartSheet, Java and .net.

Area B: Time Tracking

Focus #6: Guidance on Implementation Considerations—Change Management

Findings and Leading Practices:

Based on interviews and the time tracking workshop, staff and management repeated that a new, more detailed time tracking process and system will require a major focus on change management. Even among those who agree with the need for more detailed time tracking, trepidation exists. Based on experience from helping other organizations navigate this change, the concerns are warranted, especially when an organization has professional services-type of work, even innovation-centric, like Energy Trust.

Currently, about half of Energy Trust's employees charge time only to their default 'home' cost center; and for the majority of these a single cost center is appropriate. As is being discussed, if additional cost centers or projects were introduced, the need for staff to charge outside their home cost center will increase, potentially becoming the norm.

There is a step-up in organizational change at Energy Trust—whether it is the introduction of the Payroll System and formalized time tracking, the DEI Initiative, the Org Development Initiative, or adding new funding sources—Energy Trust leadership recognizes this could have a negative impact to staff if they are not minding the people-side of change. Earlier in 2019 leadership began workshops to teach all levels of leadership, and interested staff, how to be better change leaders and manage the people-side of change. Two staff have been formally trained in Prosci, the leading framework for change management, and change management plans are beginning to be the norm for major initiatives, just like formal project management has been for years. At a general level, should Energy Trust decide to expand present time tracking requirements and adopt new process and systems that impact staff, Prosci's ADKAR (Awareness-Desire-Knowledge-Ability-Reinforcement) framework should be applied and followed.

To help inform that ADKAR thinking, following change management suggestions based on prior client implementations:

- a. Start communications and raise awareness early. Let people know the change is coming well in advance of the change. Create two-way communication opportunities for initial input and feedback on design.
- b. Start at the top. Agreement and conviction at the executive level is a key to success. This includes strong sponsorship of the project, participating in time tracking and ensuring all are held to a similar level of accountability.
- c. Develop 'change agents' to buy into and champion the change. Every organization has employees excited to be part of improving areas of the organization where they are passionate. Garner that positive energy for the cause. Encourage them to participate in a pilot program, provide their feedback, and share the high-level changes and wins with others. These resources can also become part of a help network for employees who have questions or issues.



- d. Highlight benefits to Employee, Managers and organization. This is the “What is in it for me?” In the opening of this Topic Area, staff articulated benefits, and in sharing back those, and likely more, staff will appreciate the value of changes made to time tracking process and personal requirements.
- e. Make sure staff understands the intent is not to micromanage or monitor. Recognize this misperception can be a source of stress and reduce morale. Professionals (outside of industries that require time-based billing) often see the request to time track as a request to justify how they spend their day. Being clear that the intent is to help Energy Trust to continue to serve its mission and demonstrate all the important work that Energy Trust executes for current and potentially new funders is the driver.
- f. Make it easy. Adoption rates are higher when the change is easy. Keep the tool and process simple for the person reporting time. Allow personal choice and flexibility, where possible, without sacrificing efficiency or veracity of the time data.
- g. Conduct training early and often in multiple formats.
- h. Leverage employee performance planning and metrics to help drive compliance. Performing detailed time tracking on a timely basis is a challenge for virtually all organizations when it is first implemented. It is common to include metrics and incentives for accurate and timely time tracking in employee’s performance plans to incentivize compliance.
- i. Implement a time approval step for hours recorded against non-PPC-funded grants and projects during initial implementation to help with reinforcement of the change. This control mechanism will ensure that time entered is appropriate for each grant or project. This approval will also ensure only authorized team members are working and reporting time to projects. Once the organization has integrated this activity as a norm, drop this additional level of oversight. The regular time tracking reports will be sufficient oversight to ensure all staff are recording time as needed.
- j. Celebrate wins. Convert early wins, regardless of size, into success stories and communicate them broadly. This reinforces that small contributions and gains matter.
- k. Continue the dialogue. Check in periodically to ensure implementation is proceeding smoothly. Provide a venue for feedback for continual improvement. Offer follow up training sessions

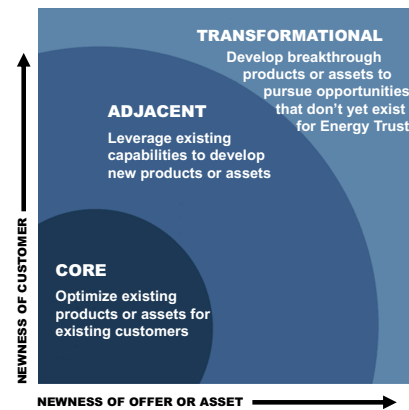
Area C: Innovation

As more than one interviewee noted, Energy Trust’s success in energy efficiency and renewable energy has been driven by innovation since its inception in 2001. Innovation is even an organizational value. This Management Review is not about how to start innovating, but how to achieve the historical pace of innovation now that “low hanging fruit” is gone.

Innovation is a broad topic, and the Management Review requested the focus be around resourcing and financing, as those elements relate to moving innovation forward while ensuring delivery on the day-to-day program goals. Specifically, the Management Review request was:

Review current practice and provide best practices in our industry regarding the proportion of effort staff should spend on program innovation and design versus day-to-day delivery and program operations activities. Help draw relationships between current savings acquisition and design for future savings innovation. Provide best practices or benchmarks of ratios that might relate to this balance between developing for the near future versus process for the current state. Consider the near- and long-term impact of activities related to programs funded with sources other than public purpose charge funds on the efficiency and effectiveness of Energy Trust primary program operations.

Because innovation can have different meanings, it was important to have a common definition. For purposes of the Management Review, innovation was defined using the framework Energy Trust has chosen: the Innovation Ambition Matrix by Bansi Nagji and Geoff Tuff from Monitor Group. The Innovation Ambition Matrix divides innovation into three categories: core, adjacent and transformational. Applying these categories to Energy Trust’s business shows the following differentiation around target customers and examples of innovation:



Core: The customers would be ratepayers of funding utilities with a high propensity and opportunity for utilizing core energy efficiency and renewable energy (EE/RE) services. Example innovations would be changes to existing measures, incremental improvements to existing EE/RE programs, strengthened existing delivery channels, or improvement in internal operations.

Adjacent: The customers would be ratepayers of funding utilities who have a low propensity or opportunity for the core EE/RE services. Example innovations would be significant changes to EE/RE programs, new measures and pilots, new program delivery channels, new strategic partnerships, complimentary funding, or significant operational improvements.

Transformational: The customers would be outside of those found in core or adjacent innovation. Example innovations would be radical new programs, EE/RE with new funding partners, new products for new markets, new customer needs beyond EE/RE, or building internal capabilities to explore new products and customers.

Where it is relevant to current state, benchmarking and research, and recommendations, the Management Review makes distinctions about innovation using these categories. With some interview comments or secondary research, this was not possible.

As mentioned, innovation covers a broad spectrum, and it was noteworthy that all interviewed were only able to offer their experience and lessons learned about the Management Review topic focus—resourcing and financing—after they spoke to a broader view of innovation in their organization. Interviewees thought there was a need to have that broader view, to understand the organization’s decisions about innovation or how those decisions were made, before one could understand how they addressed resourcing and/or financing of innovation. The main points of that broader context included:

- What was the focus or purpose of the innovation?
- How does leadership support innovation and inform balancing it with risk-taking?
- What was the organizational structure for innovation?
- What was the process for innovating?

How organizations inside and outside the industry dealt with these questions will be shared in the Benchmarking and Research section.

Innovation: Current State

Energy Trust has adapted to growth and change in scope since its inception, adding gas utility funding and customer services in Oregon and SW Washington, as well as additional electric funding to serve more customers and acquire more energy savings. With this additional scope and its program design innovations, Energy Trust performance increased from 15 average megawatts (aMW) of electricity saved in 2002, to 54.0 aMW of electricity, 7.5 million annual therms of natural gas saved, and 2.4 aMW of renewable energy generation in 2018.

Energy Trust has recognized the need to rethink aspects of innovation, so it can continue to contribute to utility, state and regional clean energy goals. That thinking is showing up at a strategic and day-to-day programmatic or process level.

Given the anticipated dynamic future and staff’s requests to clarify what innovation meant at Energy Trust going forward, an Organizational Review was conducted by an internal team to make recommendations about organizational changes needed to make Energy Trust more nimble, flexible and adaptable. From staff interviews, engagement surveys and secondary research, recommendations stated that various aspects of

innovation needed to be addressed because of advances in technology, changing customer expectations, and changes in markets and the utility system. An implementation plan draft was completed in 2018, and an internal Innovation Team was chartered to drive the various efforts. The key goals of the team, to be completed by October 2019, are shown below. The entire Innovation Team charter and team composition are provided in Appendix 6:

Foundation setting for supporting innovation at Energy Trust

The Innovation work packet recommends Energy Trust build a management system around innovation. The foundational objectives for 2019 include:

- Select a high-level framework for innovation
- Clarify pathways for different types of innovation activity
- Grounded in the Strategic Plan and through engagement with the Executive Team, formalize agreement on the parameters for pursuing innovation
- Develop business metrics for monitoring progress on innovation
- Prepare and submit a “new initiative” template to establish an innovation team in 2020, for consideration in the 2020 business planning process

Idea generation and prioritization

- Generate a list of potential innovation initiatives
- Select 3-5 ideas for further idea development and pilot testing in 2020

Research tools for innovation

- Research tools and processes to support innovation at Energy Trust and provide recommendations for the innovation team in 2020 to consider

Communications and training

- Facilitate common understanding of the term “innovation” and how it applies at Energy Trust
- Communicate internally the parameters for innovation, framework for innovation and any available tools and processes
- Explore options for further workshops and staff training to foster innovation in 2020 if time allows
- Document and transfer insights, tools, resources and recommendations to the Innovation team which is expected to continue this work in 2020

In 2017, the 2020-2024 strategic planning process began. Innovation, whether core, adjacent, or transformational, has been at the heart of many discussions with the Board, OPUC, stakeholder utilities and other interested parties. The present strategic plan draft offers multiple places where innovation is integral in the five areas of focus:

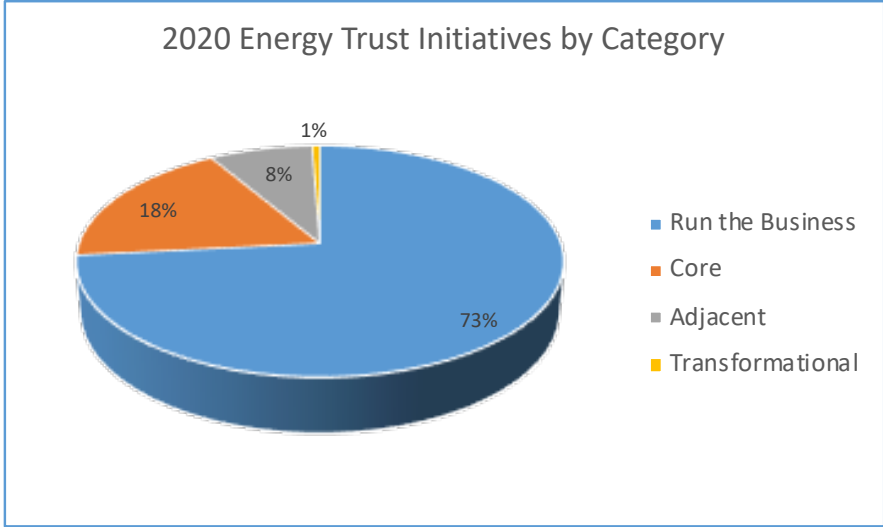
1. Engaging customers with relevant programs, information and services, with particularly attention to underserved customers
2. Linking energy efficiency and renewable energy to the approaches utilities are using to meet changing customer energy needs

3. Supporting development and implementation of energy policies by providing objective information and analyses
4. Maximizing public purpose charge funding by leveraging additional funding to advance clean energy investments that deliver multiple benefits
5. Enhancing our ability to quickly and effectively respond to changes, needs and new opportunities

For the day-to-day program design and delivery, and management of its EE/RE portfolios, there are multiple ways innovation has been structured in, including:

- The investment in Northwest Energy Efficiency Alliance (NEEA). As its second largest funder, Energy Trust invests approximately \$13M annually, or 7% of its 2018 expenditures. The resulting innovations could be in any of the three innovation categories, and ultimately are to the benefit of Energy Trust's annual delivery of energy efficiency savings.
- Within the measure development process, Energy Trust created pilot program and field test options to foster innovation. A pilot can be used to answer a critical question, for research to inform decision-making, or to conduct a limited scale offering. Field tests have less risk than pilots. They are for projects likely to be cost-effective, but where more data is needed for assurance, and a research plan to collect that additional data is not needed. Over the last three years, there have only been seven pilots and one field test, which has fallen short of the intent. In a November 2018 review of the measure development process, Planning and Programs acknowledged a need to better understand why this option is not fostering more innovation.

Resourcing. As Energy Trust begins stepping up innovation, it has baselined its present activities to understand where staff resources have been invested. Beginning in 2018, Energy Trust adopted a business planning process to be more intentional about prioritizing and resourcing the work that most aligns with its strategic plan. Through the information collected in this process, the Innovation Team categorized the 156 major organizational activities into four categories, to help make clear how Energy Trust's work correlates to innovation efforts, and the three types of innovation—core, adjacent, transformational. It shows that 27% of all staff time is spent on innovation:



Using the Innovation Ambition Matrix, the 27% overall innovation effort (summation of core, adjacent, and transformational) breaks out as follows:

Innovation Type	Percentage
Core	69%
Adjacent	29%
Transformational	2%

Although the staff time allocation implies a significant focus on innovation, not all staff see it as an intentional priority of Energy Trust. One staff suggested that the sentiment is “Resource only so much into innovation as to not have it impact the amount of ‘run the business’ work the team members can deliver.”

Funding. The fourth Focus Area in the 2020-2024 strategic plan draft directs Energy Trust to leverage additional funding to accomplish clean energy projects with multiple public benefits. Additional funding began in 2018 with LMI, followed by Community Solar in 2019. These non-PPC funded programs represent approximately .2% of the total 2019 budget.

These are highlights of Energy Trust’s current innovation efforts related to resourcing and financing. The question is what guidance is helpful to advance the current state.

Benchmarking and Secondary Research

To inform Energy Trust’s decisions about resourcing and financing innovation while ensuring it meets goals for day-to-day program delivery and design, 20 interviews were conducted along with secondary research (See Appendices 1 and 7 for details). Four of the 20 organizations were outside the energy and energy efficiency industries, but had similarities to Energy Trust, e.g., non-profits faced with a need to address changing market dynamics, and therefore, increase innovation.

From these interviews and research there were common themes and insights, not only



about resourcing and financing, but more broadly, innovation lessons learned. Resourcing and financing practices will be shared first, followed by other general innovation guidance. Across organizations interviewed or the secondary research, there were not common ratios or investment levels for resourcing or financing, but there was a set of guidelines these organizations found successful:

1. Tie resourcing decisions and allocations to strategy. Because of this tenet, there is not one right answer about resourcing ratios, headcount or budget; it is organization dependent on strategy or priorities. To see just how varied resourcing is at the organizations interviewed, following is a snapshot (each bullet represents one or more organization):

Utilities

- People are added as opportunities are justified. There is a process to obtain approval for adding FTE
- .001% of budget for transformational innovation. Core and adjacent are not specifically identified; the expectation is that healthy pipelines will be maintained
- Regulators allow a maximum of 5% of total budget for pilot-type projects (approximately \$6M)

Energy Efficiency Organizations

- Started with 1 FTE and \$450K to spend on innovation project costs (primarily core and adjacent). Over years, innovation training was integrated throughout the organization. Additionally, a small “lab” was staffed with innovation experts to help on more complex ideas. This didn’t occur until years after innovation efforts began. Note: This organization is significantly larger than Energy Trust
- One FTE (16% of total staff—smaller organization)
- 2-2.5% of budget for emerging technology (transformational innovation)
- 3-5% of FTE spend 40% of their time on innovation (all three categories)
- Through the budget process, there is an innovation carve out, separated from energy efficiency program design and delivery
- 4 FTE (approximately 5% of FTE) in emerging technology (adjacent and transformational). Over 80% of all staff are working on something that falls into one of the three categories of innovation

Other Organizations

- 2.3 FTE of 6 total (38%)
- Day-to-day program needs are first budgeted, and the remainder is available for innovation (this can set the goal for additional funding needs)
- Everyone is expected to devote a portion of their work to innovation and commit to this during their annual planning process. The manager interviewed commits 10%
- “Have the work [innovation] match the money”

Secondary research on resourcing innovation did not offer many ratios because of the tie to a company’s strategy. The following is a standout, and comes from Banshi Nagji and Geoff Tuff, the authors of the Innovation Ambition Matrix (differentiating core, adjacent and transformational):

In a study of companies in the industrial, technology and consumer goods sectors, we looked at whether any particular allocation of resources across core, adjacent, and transformational initiatives correlated with significantly better performance as reflected in share price. Indeed, the data revealed a pattern: Companies that allocated about 70% of their innovation activity to core initiatives, 20% to adjacent ones, and 10% to transformational ones outperformed their peers, typically realizing a P/E [price/earnings] premium of 10% to 20%.

From secondary research an interesting study by Klingebiel and Rammer studied factors that play into resourcing decisions, including breadth and intensity (depth) of the innovation investment. The finding was that breadth in resource allocation increases innovation performance, more so than resource allocation intensity (depth). Given that the authors note that the effect was particularly strong for sales of more novel products, there is a reasonable inference that this relates more to transformational and potentially adjacent innovation, versus core.

2. **“Innovation resources” best deliver innovations when connected to the day-to-day;** do not isolate in a skunkworks-type environment. For organizations of Energy Trust’s size, the leading practice amongst those interviewed is to not create a separate unit. Those interviewed found that keeping innovators in the daily flow of business helped innovative ideas develop to be more relevant and readily implementable.

“ This is the answer to how to innovate and not hurt day-to-day design and delivery of programs”

“Some of the best innovations came from comingling people who usually didn’t.”

“Don't send them off by themselves, or they will become irrelevant.”

One organization had the experience of both structures and moved from separation to integration. This organization started with two teams, one focused on innovation and pilots, and the other on program execution. These groups were merged when it was determined that program implementation was lacking in ownership and collaboration, and outcomes were falling short of potential. Once “innovators” and “implementers” combined onto the same team, better results were realized, along with a secondary benefit of a more efficient organization.

Another organization went the other way. They found when innovation and implementation roles were organized together, employees could not find time for future innovation—they were “sucked into the annual cycle of goals and metrics.” As the organization faced existing portfolio challenges, they faced riskier measures, and this required they start thinking differently. Separating into an emerging technology and programs group has been successful. This is more typically found in large, multi-billion dollar companies, like Nike, Adidas, Cisco, etc.

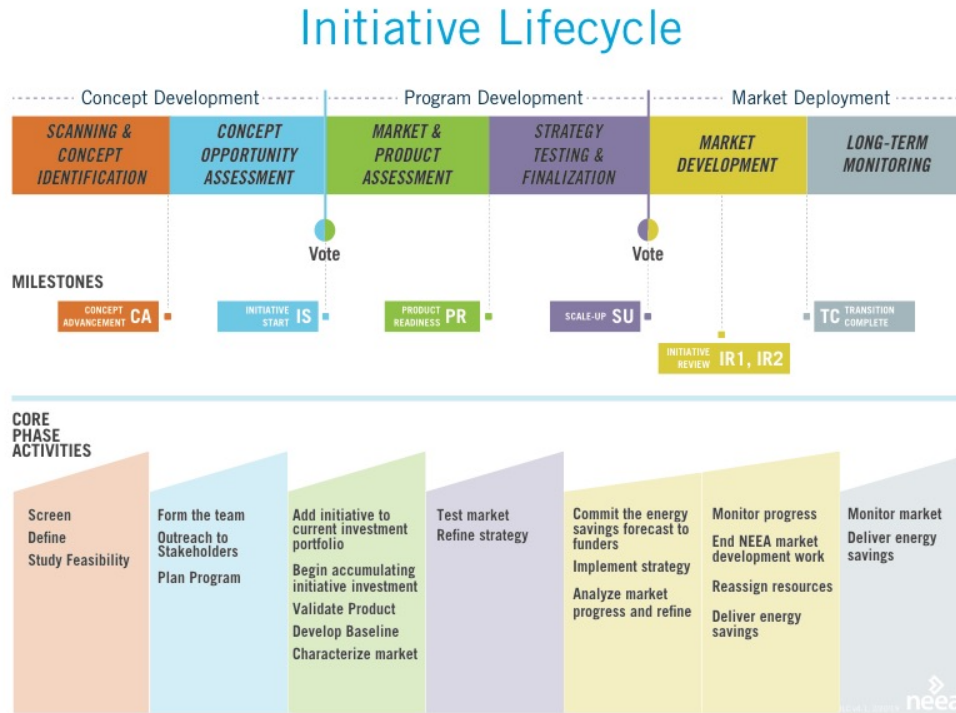


Organizations that use or tried separating “innovators” from “implementers” also noted an organizational risk: There can become two sets of employees, an A Team and a B Team. When separate teams existed, “innovators” were considered special or smarter than those who were “implementers.” Even calling some work “innovation” and other “continuous improvement” was found to be disheartening to those not in the “innovation” bucket. This distinction can cause unity problems in the organization and must be actively managed by leadership.

3. **Leverage and collaborate with other organizations—create “resource multipliers.”** This theme applies to both the resourcing and financing areas. Especially in this market, collaborating and leveraging the expertise, experience and budgets of other organizations is an efficient means of resourcing and financing innovation and spreading risk. In doing so, it keeps from diluting investments in day-to-day programs. Interviewed organizations offered the following guidance:
 - Partner with commercial or industrial customers. If the energy efficiency is helping improve their business, they may be willing to help develop and fund the idea to the point of being commercially viable.
 - Utilize funding utilities, other utilities in Oregon or in other states, like California. Utilities may want to partner because an organization’s innovation pipeline benefits their goals, or it provides economies of scale. It was advised that it is especially important during ideation to partner with funding utilities to prevent overlap and duplication of efforts.
 - Hire Independent Contractors (ICs) that have experience across a broad swath of the energy efficiency industry and a track record of innovating. One utility has found this to be an effective method of resourcing innovation and innovators, while simultaneously bringing ideas to the market faster and more efficiently. Presently, this is 20% of their innovation budget. The key is to ensure the qualifications of the IC; not all IC’s they tried demonstrated clear strengths in this area and failed to bring new ideas to fruition. This utility learned, “It’s ok not to do it yourself. Rely on experts and use those resources.”
4. **Decision-making needs to be agile.** The organization will not get resourcing (and other innovation decisions) perfect in the annual business planning process, but successful organizations create frequent feedback loops and decision points to shift resources as new information comes to light. The interviewed organizations that were striving for greater innovation demonstrated not just a willingness to change, but at times sought disruption. As one leader shared, “be disciplined about outcomes, but flexible about tactics.”

That is not to say that these organizations did not have structure—they certainly did. There was clear evidence from interviews and secondary research that formal and regular portfolio processes improve agility and decision-making quality. As mentioned above, the caveat is that in turbulent environments, fostering an innovation culture or climate also needs focus. Following is an overview of Northwest Energy Efficiency Alliance’s (NEEA) Initiative Lifecycle and stage gating portfolio

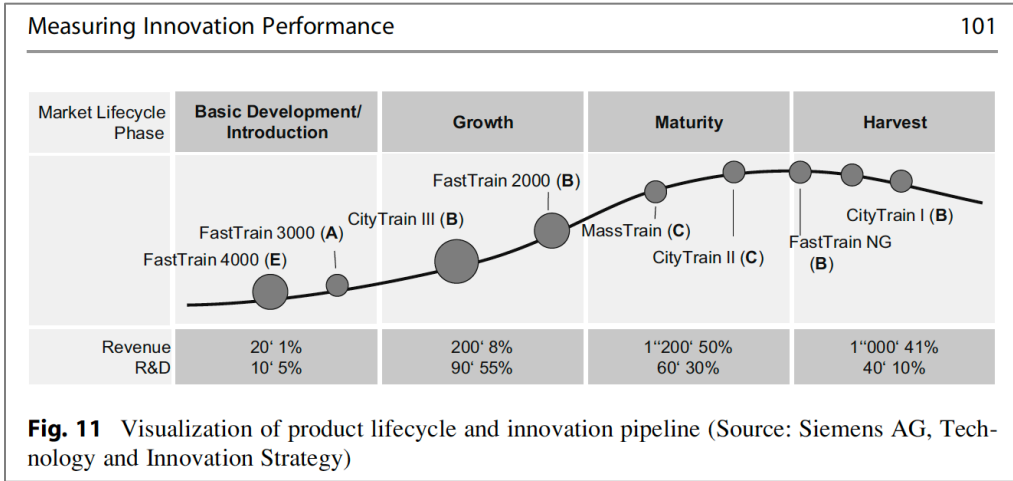
management process:



In addition to having a ‘go to market’ or lifecycle management process as shown above, there is also a need to understand the innovation pipeline, to ensure it stays robust. One energy efficiency organization interviewed shared that when they did not see this full view and allowed the balance to drift away from innovation and too heavily towards deployment, the pipeline suffered. They experienced the consequences of that in future years when they struggled to find savings. The obvious benefit for Energy Trust is that it can see when certain programs are reaching “end of life,” and can confirm that the pipeline coming behind can replace those savings.

Following is an example from Siemens, as a way to show all aspects of the pipeline in one visual:

- This is for Siemens’ rail system portfolio
- The bubble sizes indicate expected R&D investment, accumulated over 5 years
- The corresponding letter represents the expected accumulated revenue over that period, with A being the highest and E being the lowest



The innovation guidelines above were provided because the points were thematic across multiple organizations interviewed. In addition, other financing approaches were utilized that are worth noting:

- One non-profit created a for-profit entity when it wanted to pursue a more innovative offering. They funded the start-up primarily through grants and pro bono support. The Board was supportive and viewed this structure as a means to insulate the non-profit from increased risk.
- Risk-sharing agreements through public-private partnerships can bound risk, making the pursuit of some innovations more palatable because it diminishes previously unbounded risk.
- Innovation was limited to the extent additional funding, beyond that designated for program design and delivery, could be raised. The most often cited source was grants.

In addition to the resourcing and financing insights, the interviewed organizations and secondary research consistently provided guidance in areas of innovation, not directly associated with the Management Review topics of resourcing and financing. Energy Trust is already taking similar actions in designing a more innovative organization, so these are provided as confirmation and additional refinement thought-starters:

- **Align innovation with organizational priorities.** It was clear that interviewed organizations thought it was more important to decide what an organization is working on—the focus of the innovation—versus how much time and budget to spend on innovation. The more specific an organization can be about the focus for innovation, the better. Some stated this as mission fit or strategic plan alignment. Others were more specific, advising that the organization try to solve a specific problem: One organization who has been realizing 20% year-over-year growth continues to challenge all aspects of their organization, both program offerings and how they run the organization. Relative to their industry, they ask themselves, “If we landed on earth today, what would we try and solve?”

In addition, that focus should align with the organization’s unique role of value. As one interviewee stated, “if there are only 16 ways to address a problem and 1,000 organizations are working on it, step aside and find something else to focus your efforts on.”

Organizations do not have enough resource to blanket a market. When too many “and’s” exist in a mission statement, the organization can find itself not doing any aspects successfully. One organization outside of energy who acted on this in a dramatic way, reduced its staff by 50% and shifted that part of the business to another organization whose mission aligned. It then

resourced different talent to pursue innovation where they thought there was a significant market opportunity, and realized significant success.

“Look for gaps in the market.”

“It’s not about dollars; it’s about coverage: are we looking in the right places?”

“We think about how the organization is prioritizing innovation, not necessarily about FTE and budget dollars.”

“There are things that were very productive and valuable in the past, but they may not be right to continue. Look at the portfolio and determine what will be removed.”

- **Focus on the customer.** Given the maturing market, customer focus may look more like a Proctor & Gamble, which is renowned for its market research prowess and ability to segment the market and innovate effectively within niches. The Northwest Power Council and ACEEE both observed that energy efficiency is seeing a similar movement, expanding beyond technical solutions and working within discrete customer sets. Market adoption is addressing barriers in commercialization of product innovations, not just the R&D to develop the ideas. Additionally, by working more closely with customers or associations that represent customer groups, their participation and feedback hones the innovation to create faster adoption, and can also supplement resources at times.
- **Leadership needs to demonstrate and communicate its support for innovation.** As with any priority that touches the culture of an organization, leadership is key to a successful transition. Many interviewed spoke to this aspect when reflecting on lessons learned. Specific aspects of leadership that support strong innovation outcomes were:
 - Risk tolerance or risk profile must be discussed and decided. This has some tie to resourcing innovation because not all innovation efforts will succeed; therefore, leadership has to clearly communicate that failure to a certain extent is anticipated. This should not be misunderstood as leadership not doing due diligence around budget allocations or project pursuits.
 - Leadership must continue to protect the innovation agenda, including the resourcing budgeted for it. There will be competing priorities throughout a year or years, and innovation takes time to mature, especially adjacent and transformational. That longer time frame for expected results is different than



the day-to-day program delivery or even core innovation, which can often deliver in the budget year its allocated.

- **Structure and process are needed to support innovation.** This is a fundamental in organizational effectiveness (reference Jay Galbraith’s Five-Star model). Structure and process are support mechanisms to help the organization efficiently deliver innovation. In 2015, the Consortium for Energy Efficiency and its Emerging Technologies Collaborative produced a comprehensive handbook on the components for an effective innovation process. This model, similar to the approach of NEEA, VEIC and others interviewed, provides a standard method for moving ideas through development into a commercially viable product or service.

One organization came to realize that they were supporting old ways of doing business (not innovative) without even knowing it. When they realized this, they started proactively scrutinizing their processes, looking for what was holding them back from being innovative.

Organizations interviewed also counseled that this can be taken too far, to the detriment of innovation. “Getting people to follow the new process is difficult, but also having too much bureaucracy is a challenge. There is a tricky balance.” Speed and ease of use were noted as balancing factors.

Recommendations

In some ways all Topic Area C content is a set of recommendations or suggestions. Energy Trust has multiple efforts underway to increase innovation, so most of these recommendations confirm existing activities or provide refinements.

- 10. Be specific about what problems to solve and where to focus innovation resources.**
For example, one non-profit interviewed has a focus on Diversity, Equity and Inclusion. Allow the organization to find successful structures, processes, risk tolerance, etc. with one or a few problems before expanding.
- 11. Allocate a budget carve out for adjacent and transformational innovation.**
Energy Trust has started tallying its overall innovation investment and dividing it into the three categories. The business planning shows staff spend time with a 69-29-2 split. The investments with NEEA and any other PMCs or PDCs need to be similarly categorized. Once completed, designate a budget carve out, at least for adjacent and transformational, since this is where the greater risk exists.
- 12. Adopt an innovation resourcing strategy and structure that utilizes internal and external resources and sets Innovation Ambition levels amongst core, adjacent and transformational innovation.**
Core and adjacent favor integration of resources with day-to-day activities. As these levels are established, assess what is, or makes sense to be, pursued by

partners. Allow internal resources sufficient time—at least 40% of total time—to have the mind space to innovate, while not isolating them from the day-to-day, which keeps them grounded in the challenges of implementation. Find Independent Contractors and other organizations who can be partners in innovation, offering expertise and/or financial support. Collaboration is an Energy Trust organizational value, and this strength to collaborate can be leveraged with its many relationships to advance innovation.

Transformational Innovation Ambition most often sees separation of funding and organizational structure to ensure success. In the early period of this step-up in innovation, consider outside partners or vendors sourcing this. Learn from them, and then determine what, if any, to internalize.

Given NEEA's mission and strengths, and the significant investment Energy Trust already makes, work with them to determine how to best focus resources related to adjacent and transformational innovation.

13. Focus innovation efforts using existing PPC funding and collaboration with resource multipliers.

PPC funds exist to support energy efficiency and renewables innovations. Start small with defining how much time to spend on alternative funding, where Energy Trust does not have the experience or infrastructure to support.

Suggestions

- **To expand transformational innovation, consider non-PPC funding sources.** Should the recommendation above to create a budget carve out for adjacent and transformational innovation not be adopted, consider allowing a small portion of staff time to pursue additional, non-PPC funding sources, e.g., grants. Many organizations interviewed found alternative funding to be the means to advance innovation.

APPENDIX

- 1 | Interviewees**
- 2 | Cost Allocation Methodology Elaboration**
- 3 | GL Chart of Accounts**
- 4 | Business Planning and Output**
- 5 | Time Tracking Analytic and Reporting Examples**
- 6 | Energy Trust Innovation Team Charter**
- 7 | Secondary Research Works Cited**

Appendix 1: Interviewees

Energy Trust Staff

- Melanie Bissonette
- Quinn Cherf
- Scott Clark
- Amber Cole
- Michael Colgrove
- Jack Cullen
- Alison Ebbott
- Sue Fletcher
- Cheryl Gibson
- Debbie Goldberg Menashe
- Fred Gordon
- Betsy Kauffman
- Steve Lacey
- Amanda Potter
- Pati Presnail
- Lizzie Rubado
- Sloan Schang
- Art Sousa
- Michelle Spampinato
- Greg Stokes
- Peter West
- Mark Wyman

Funding Utilities

- NW Natural
- Portland General Electric

Energy Trust Board Members

- Susan Brodahl
- Roland Risser
- Anne Root
- Oregon Public Utility Commission

Benchmarking and Research Organizations (Topic Areas A/B – Cost Allocations and Time Tracking)

- Ernst & Young
- Fred Hutch Cancer Research Center
- HighQ
- ICF
- Kaiser Permanente
- PricewaterhouseCoopers
- SpearMC Consulting
- The Allegis Group

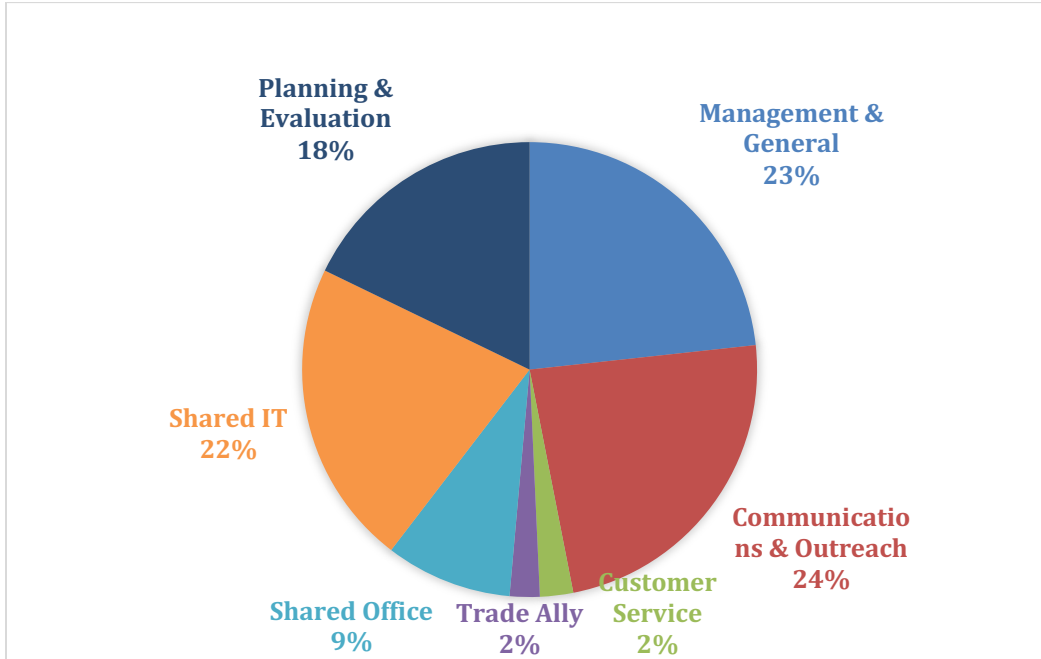
- Veolia
- Volt Workforce Solutions
- Williams Companies

Benchmarking and Research Organizations (Topic Area C – Innovation)

- American Council for an Energy-Efficient Economy
- Bonneville Power Administration
- Climate Trust
- Columbia Land Trust
- Consortium for Energy Efficiency
- DTE Energy
- ICF
- Michigan Saves
- Northwest Energy Coalition
- Northwest Energy Efficiency Alliance
- Northwest Power and Conservation Council
- PECI
- The Freshwater Trust
- VEIC and Efficiency Vermont

Appendix 2: Cost Allocation Methodology Elaboration

Proportion of Shared Cost by Expense Category to Total Shared Costs 2018



Administration Allocations (Communications & Outreach + Management & General) – 47%

The allocation for all administrative costs is based on proportion of YTD actual costs, including incentive costs. Energy Trust believes the business model of delivering incentives affects all administration, even for areas with no direct tie to incentives (e.g. Human Resources). In the past, Energy Trust explored whether it would be meaningful to allocate each administrative cost center differently and determined it would not add value.

Community Solar's contract includes direct services provided by legal, communications, and finance. People performing that work charge time on their timesheet to Community Solar, and the rest of their time is included in administration and allocated.

Energy Trust, like many organizations, lacks visibility into administrative staff time spent by program to validate if the allocation is proportionate to efforts.

IT Allocation and Planning & Evaluation Allocation – 40%

Both allocations are based on budgeted use. The staff involved in the budgeting process are aware that the budget drives these allocations. The intent is to be fair and accurate; however, budgeting by nature is an estimating process.

For 2019, the estimated breakout as per the IT budget/IT director judgement are as follows:

- 53% Infrastructure: allocated across all programs and support centers
- 36% Development: of which 90% is allocated to PPC Programs and NWN WA and 10% to Community Solar and Administrative Cost Centers
- 12% Reporting: of which 75% is allocated to PPC Programs and NWN WA, 20% for Communications & Outreach, and 5% for Community Solar and Management & General

Shared Facility Allocation – 9%

Shared Office/Facility costs are allocated based on monthly payroll hours per cost center based on timesheets, which does not include contractor hours. The assumption with this allocation basis is that these costs support internal functions. Programs that outsource more of their work bear a lower proportion of these costs because they are using a lower proportion of facilities.

Customer Service Allocation – 2%

Calls are tracked to categories, which are mapped to programs. Based on the proportion of calls for that month, the program is charged that proportion of the cost center's cost. Due to technology advancements, most support is not via calls. If this were a larger portion of costs, tracking other types of support requests could be suggested for the allocation. However, the value of tracking and categorizing services outside of calls for the allocation would not justify the additional effort from the customer service team. Customer Service costs are not allocated to Community Solar because the program does not use these services yet. There is a plan to add a category when Community Solar contracts to use the call center in the future.

Appendix 3: GL Chart of Accounts

The Chart of Account segments are currently managed in Energy Trust's Enterprise Accounting System and consists of the following segments. For the purpose of Project time tracking, it should be noted that Segments 5 would be a natural choice to expand for the purpose of detailed project tracking given Energy Trust's historical and current use.

Segment #1 – GL Natural Accounts. This included the various expense, revenue and other accounts that would typically show up in a Profit and Loss or Balance Sheet financials report.

Segment #2 – Departments. Consists of 5 values and includes General, Planning & Evaluation, Legal, Marketing, Information Technology

Segment #3 – Sector. Most costs are assigned to this level and examples values include 'Business Energy Solutions Commercial', 'Business Energy Solutions Industrial', 'Residential Energy Solutions'.

Segment #4 – Program / Cost Center. This is a required detail to code against transactions and rolls up to the Sector values contained in Segment #3. This segment also contains values for specially funded (non-PPC) Projects. Time and Labor cost is recorded against the specially funded projects (Solar LMI Grant and Community Solar) for billing and project costing purposes.

Segment #5 – Initiative. This segment is not being utilized in a meaningful way currently and was previously setup to track specific Energy Trust initiatives that have since been closed out.

Segment #6 – Funding Source. This segment is utilized to code against Revenue and Expenses to track the related funder. Values are setup for each utility (e.g., PGE, PacifiCorp, NW Natural) and shared values for groups of utilities (e.g., Shared by All Electric, Shared by All Gas, Shared by All Utilities).

Appendix 4: Business Planning and Output

Business Planning was in 2018. The scope does not include planning for core program work, as that is a separate process (work plans). Business planning scope includes cross program business as usual initiatives and what are commonly referred to as projects. Initiatives can be recurring from year to year, such as the annual budgeting, but many are run like typical projects and have start and end dates. See figure below for a sample of initiatives that are planned and prioritized as a result of Energy Trust's business planning process.

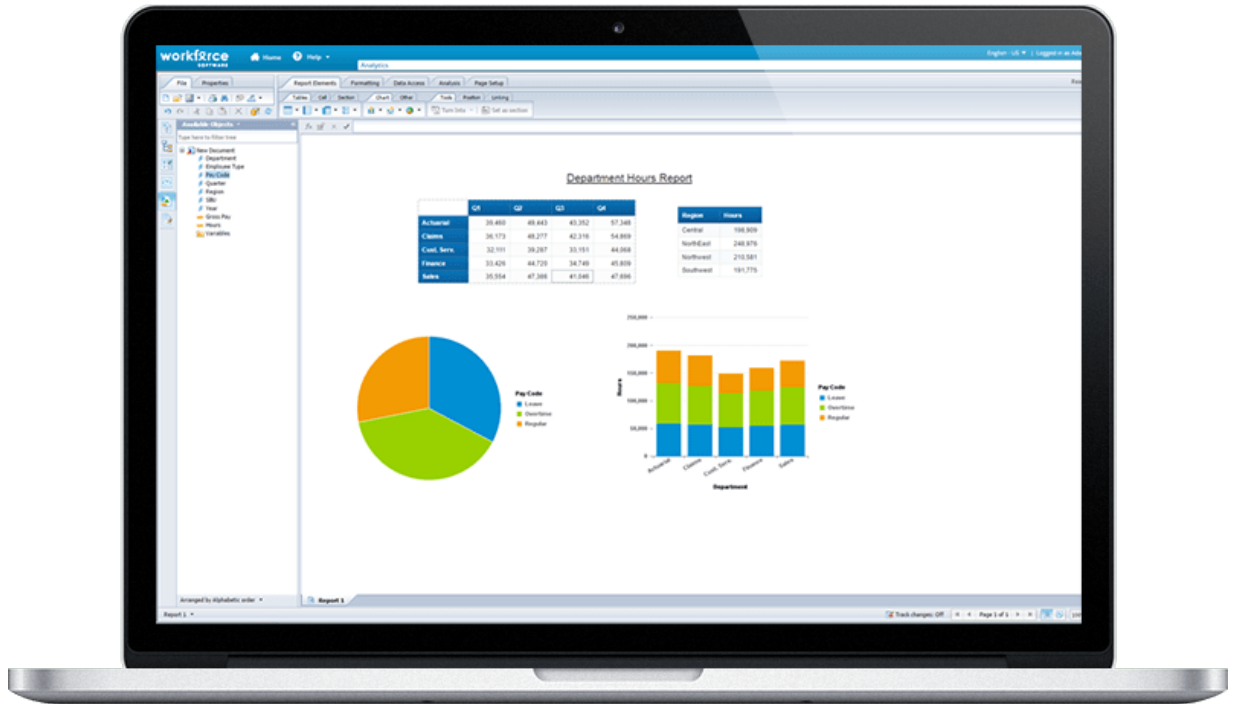
Figure: Annual Business Planning Sample Output

UNIQUE IDENT	FUNCTION	INITIATIVE	New or Business-as-Usual	RESOURCES																TOTAL
				Staffing (total hours; assume 1 FFor PTO, prof dev (conferend All-Staff meetings																
				500-5010	500-5035	IT 900-	500-5030	500-5025	500-5020	900-9010	350-3550	300-3010	650-6500	150-1500	110-xxxx	140-1400	various	Agency Contract Staff/Interns		
Executive	Facilities	Project Management Office	Finance	HR	Legal/Contracts/Regulatory	IT Infrastructure	Communications	Outreach/General Marketing	Planning	Residential	Commercial	Industrial/Agriculture	Agency Contract Staff/Interns							
2020BAU-095	IT Infrastructure and Software	SharePoint Support & Maintenance	BAU	0	0	0	0	0	0	850	0	0	0	0	0	0	0	850		
2020BAU-096	Organizational Communications	Social Media Channel Management	BAU	10	0	0	0	0	0	145	265	0	0	0	0	0	20	540		
2020BAU-097	Program Design and Management	Solar program operations and management	BAU	0	0	0	0	0	0	135	325	24	60	0	0	0	2,930	2,899		
2020BAU-098	Organizational Marketing and Ad	Sponsorships/memberships	BAU	10	0	0	0	10	0	140	200	0	0	0	0	0	0	500		
2020BAU-099	Develop and Maintain Relations	Stakeholder Relationship Management and Communicatio	BAU	312	0	15	0	0	0	185	1,410	80	240	250	200	0	0	3,182		
2020BAU-100	Reporting	Standard Org Reporting and Analysis (Includes Q/AR, leg PP	BAU	40	0	0	415	0	10	0	1,125	54	1,786	40	40	40	0	4,639		
2020BAU-101	Human Resource Management ar	Supervision and Performance Management (all groups)	BAU	635	200	240	447	120	262	210	534	500	557	325	350	350	71	8,205		
2020BAU-102	IT Infrastructure and Software	Systems Administrations & technical support	BAU	0	0	0	0	0	0	4,280	0	0	0	0	0	0	800	7,850		
2020BAU-103	Program Design and Management	Targeted Load Management (Includes PGE + Test Bed, PAC,	BAU	48	0	1,200	0	0	0	0	15	245	692	340	120	102	0	4,177		
2020BAU-104	IT Infrastructure and Software	Technical debt	BAU	0	0	0	0	0	0	3,200	0	0	0	0	0	0	1,700	6,770		
2020BAU-105	Customer Service and Trade Ally	Trade ally forums	BAU	20	0	0	0	0	0	0	40	0	40	20	0	10	702			
2020BAU-106	Customer Service and Trade Ally	Trade ally insider newsletter/communications	BAU	0	0	0	0	0	0	15	0	0	0	0	0	0	360			
2020BAU-107	Customer Service and Trade Ally	Trade ally network admin (Includes enrollment, business d	BAU	0	0	0	0	0	0	15	0	0	0	0	0	0	985			
2020BAU-108	Customer Service and Trade Ally	Trade ally tool development and maintenance	BAU	0	0	0	0	0	0	0	0	0	0	0	0	0	480			
2020BAU-109	Organizational Communications	Website design, development and maintenance	BAU	0	0	0	0	0	0	15	0	0	0	0	0	0	2,215			
2020New-001	Human Resource Management ar	near worksp technology to support reent conoporatorr,	New	20	0	0	0	35	20	60	35	20	0	0	0	0	210			
2020New-002	Support and Engage the OPUC	Cap and Invest support and integration	New	50	0	0	0	0	35	0	95	60	250	15	15	15	590			
2020New-003	IT Infrastructure and Software	Phase 2 - CRM Account/GP Vendor Clean-up Project	New	0	0	0	500	0	0	0	0	0	0	0	0	0	1,690			
2020New-004	Board and Executive Activities	Develop two new board learning topic papers	New	2	0	0	0	0	0	0	0	0	0	0	0	0	62			
2020New-005	Emerging Technology and Pilot M	Develop carbon revenue project	New	30	0	0	60	0	60	0	60	0	142	531	0	0	883			
2020New-062	Organizational Development and	Change Management Committee	New	68	0	68	0	0	0	0	68	0	0	0	0	0	204			
2020New-063	Organizational Marketing and Ad	Brand Audit and Refresh	New	10	0	0	0	0	5	0	30	125	5	5	5	240	235			
2020New-064	Customer Service and Trade Ally	Assessment of Call Center Structure and Needs	New	0	0	0	0	0	0	20	0	0	0	20	40	0	420			
2020New-065	Customer Service and Trade Ally	Organizational Workforce Development Strategy	New	0	0	0	20	0	0	0	20	40	0	20	40	20	310			
2020New-066	Customer Service and Trade Ally	Pilot Customer Review Platform for Find a Contractor Tool	New	0	0	0	0	0	0	0	0	0	0	20	0	0	440			
2020New-067	Customer Service and Trade Ally	Find a contractor improvements - separator contractors by	New	0	0	0	0	0	0	0	0	0	10	10	0	40	290			
2020New-068	IT Infrastructure and Software	Explore Implementing Retention of Information on Servers	New	0	0	0	80	0	0	250	0	0	0	0	0	0	330			
TOTALS (BAU only)				6,499	1,906	4,500	11,706	5,031	6,114	9,665	8,150	10,608	9,478	11,807	12,032	11,739	24,149	182,354		
TOTALS (new only)				2,831	150	4,499	3,711	663	2,838	3,312	2,029	1,662	2,699	4,008	5,853	2,249	3,537	60,075		
TOTALS				9,330	2,056	8,999	15,417	5,694	8,952	12,977	10,179	12,270	12,177	15,815	17,885	13,988	27,686	242,429		

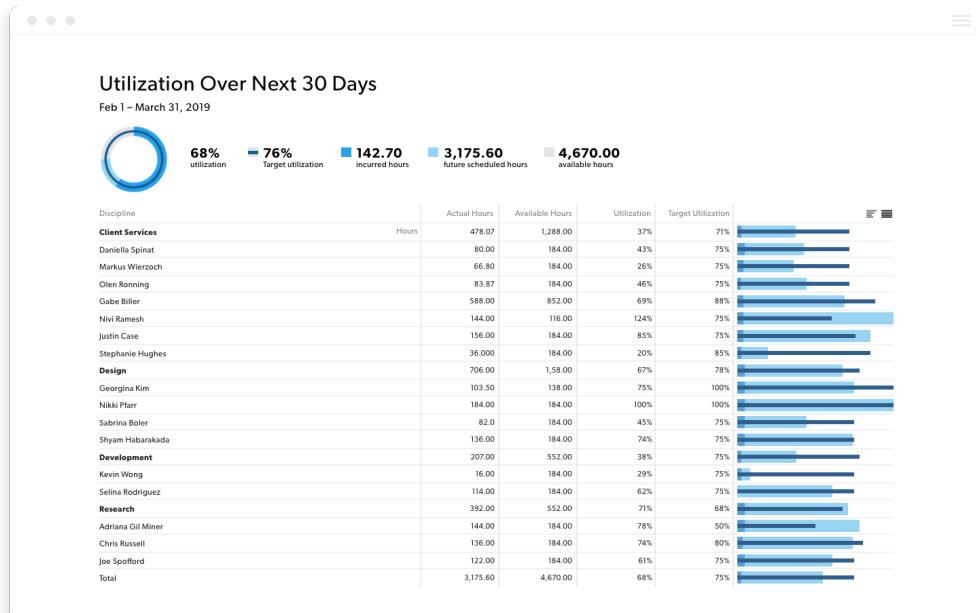
Appendix 5: Time Tracking Analytic and Reporting Examples

Reporting/analytic examples from real systems

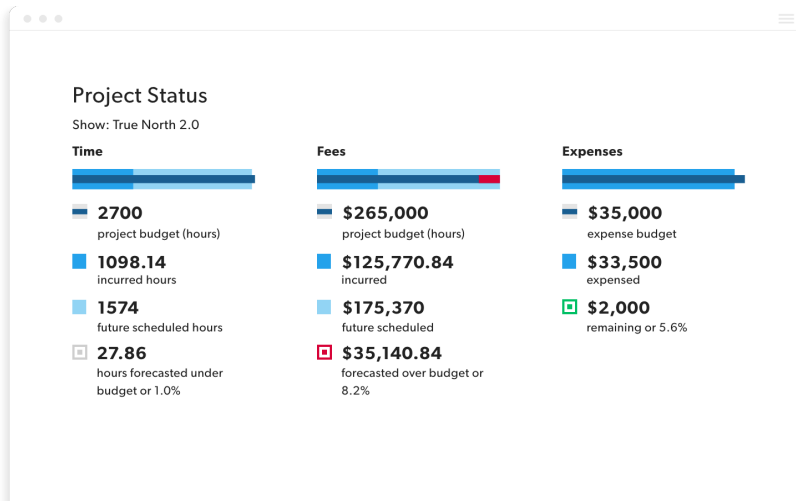
1. Workforce
Hours by department



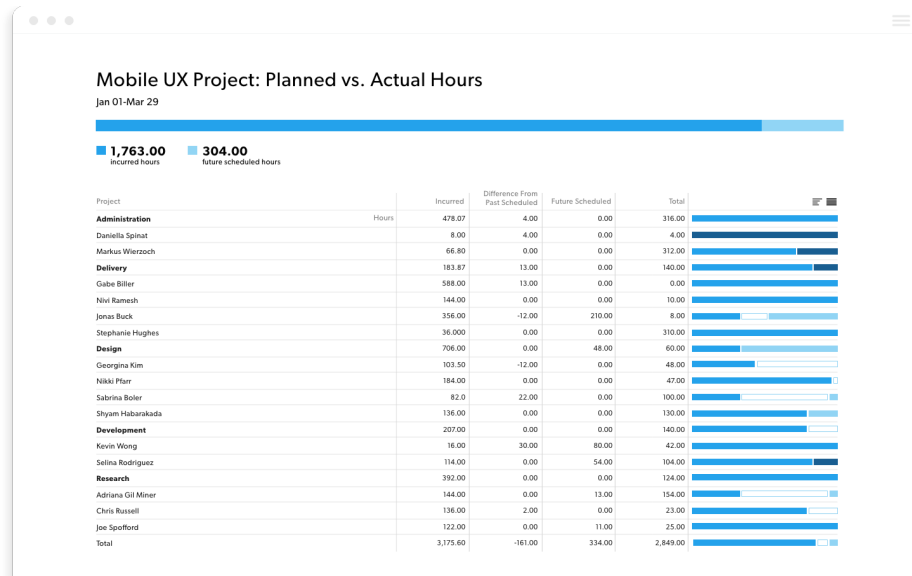
2. 1000ft
Utilization report



Project Status dashboard



Planned v. Actual



3. Harvest:
Resource utilization/capacity

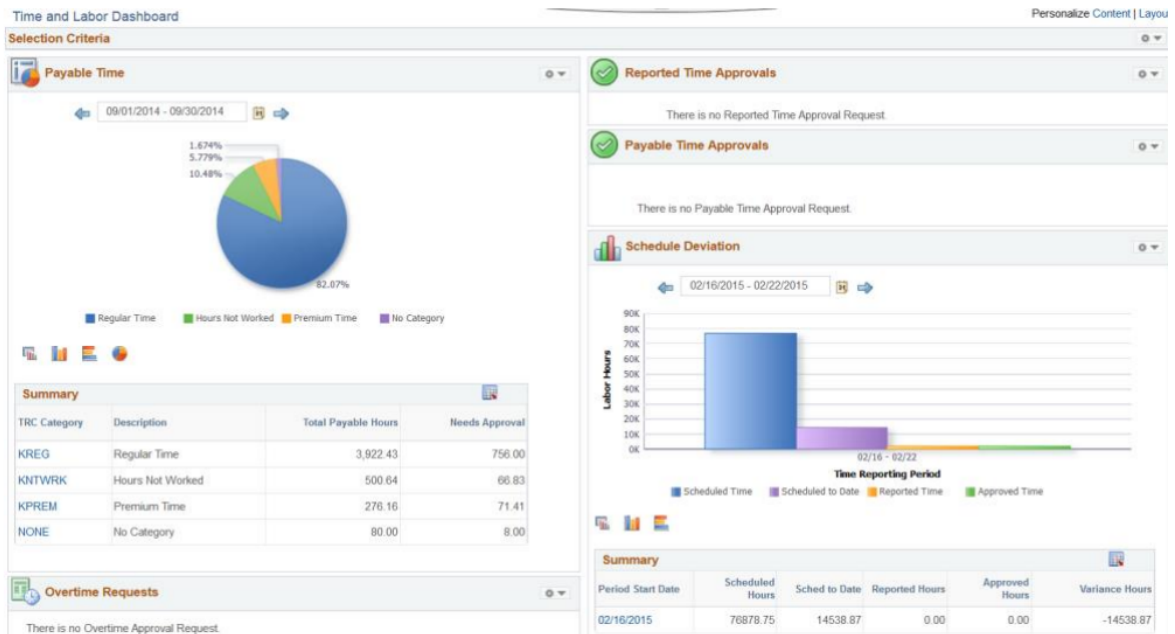
< > This Week: 30 Oct – 05 Nov All Roles

Total Hours 259.20 Team Capacity 385.00

Billable 188.17 Non-Billable 71.03

Employees (10)	Total Hours	Capacity	Billable Hours
Albert Llop	24.33	35.00	21.00
Arun Srinivasan ADMIN	27.33	35.00	15.58
Cade Truitt	19.35	35.00	12.00
Calina Madden	36.87	35.00	24.00
Courtney Kennedy ADMIN	14.97	35.00	12.32
Jennifer Nystrom	22.67	35.00	18.35
Joschka Kintscher	31.65	35.00	29.65
Karla Pozzi PM	16.20	35.00	11.70
Trey Jackson	21.90	35.00	18.75

4. PeopleSoft Time & Labor Manager Dashboard



Manager Workcenter

Time and Labor WorkCenter

Main Reports/Processes Others

My Work

- Approvals
 - Pending Reported Time
 - Pending Payable Time
 - Pending Overtime Approval
 - Pending Absence
- Alerts
 - Balances
 - Data Verification
 - Exceptions
 - Limit
 - Pattern
 - Static
- Announcements
- Links
- Time and Labor Processing
 - Rapid Time
 - Time Reporter Status
 - Request Time Administration
 - Request Batch Approval Process
 - Timesheet Lockdown
 - Adjust Paid Time
 - HR Notification
- Absence Management Processing
- Payroll for North America Processing

Welcome Manage Report Time Manage Payable Time Manage Schedules

Approve Reported Time Approve Payable Time Approve Overtime Requests Alerts Announcements

Employee Selection

Change View

View By Week Include Absence Show Schedule Information

Date 02/17/2015 Previous Week Next Week

Employees For Betty Locherty, Time Needing Approval From 02/16/2015 - 02/22/2015

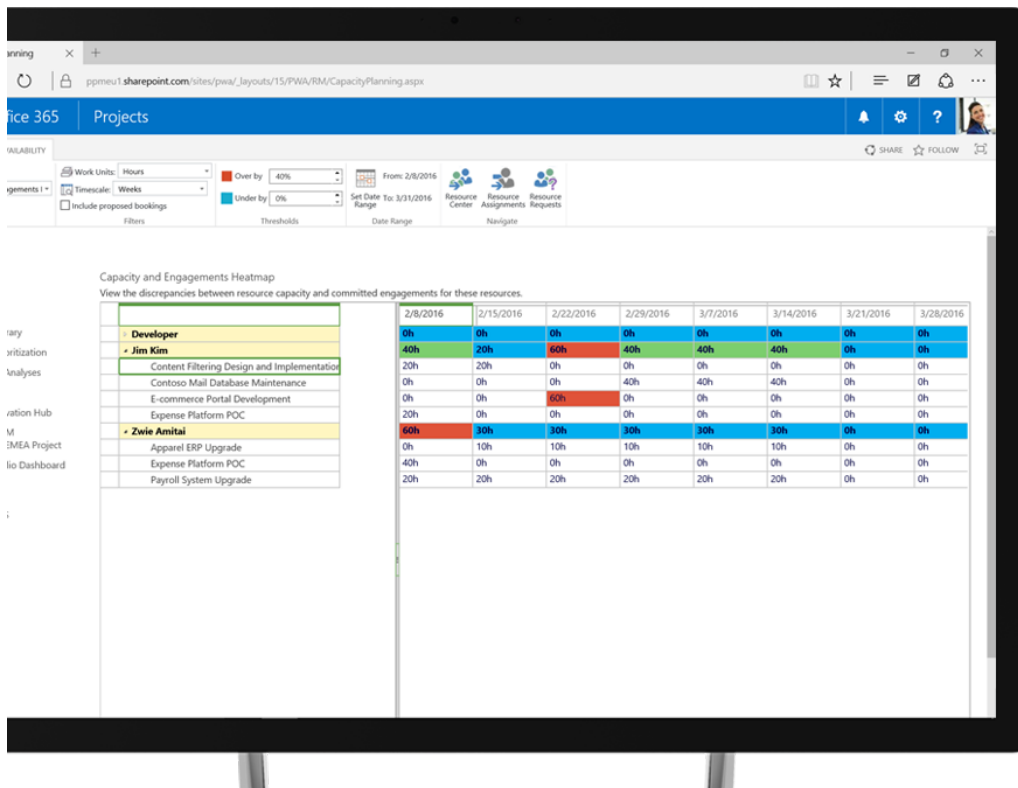
Time Summary Demographics

Select	Last Name	First Name	Employee ID	Empl Record	Job Title	Hours to be Approved	Reported Hours	Scheduled Hours
<input type="checkbox"/>	Last Name					0.000000	0.000000	0.000000

Approval

Select All Deselect All Approve Deny Push Back

5. Microsoft Project:



6. PeopleSoft Grants:
Grant Award Summary and Financial Performance



Grants Management **Grants LifeCycle**

Manage My Awards Award Summary

Hello, Kenneth Schumacher You have 0 new items in your worklist. Last Process DateTime: 10/01/2015 5:48:31AM

To change your search criteria, click Set Search Criteria. Set Search Criteria Refresh Maximum Rows to Retrieve: 50

Financial Calculating Option Burn Rate Indicator

Balances: Include FA

Budget Period From: Through: Bud Ref:

Date Selection:

Burn Rate Indicator

- Potential Under Spending
- Average Rate Spending
- Potential Over Spending

Search Results

Personalize | Find | View All | Summary 1-3 of 4 Last

	Award ID	Funded	Budgeted	Expended	Encumbered	Pre Encumbered	Remaining Balance	Invoiced	Received	Unpaid
<input checked="" type="checkbox"/>	CON000000000028	680,050.00	210,500.00	0.00	0.00	0.00	210,500.00	0.00	0.00	0.00
<input checked="" type="checkbox"/>	PI-PRP001	51,400.00	51,400.00	1,500.00	1,800.00	2,450.00	45,650.00	40,400.00	40,400.00	0.00
<input checked="" type="checkbox"/>	PI-PRP005	5,016,000,000.00	5,016,000,000.00	201,000,000.00	400,000,000.00	7,624,402.15	4,407,375,597.85	600,000,000.00	200,000,000.00	400,000,000.00

< >

Total Amount of Selected Items

Selected	4	Expended	201,879,500.00	Invoiced	600,040,400.00
Funded	5,018,433,450.00	Encumbered	400,001,800.00	Received	200,040,400.00
Budgeted	5,017,963,900.00	Pre-Encumbered	7,626,852.15	Unpaid	400,000,000.00
		Remaining Balance	4,408,655,747.85	<input type="button" value="Update Total Amount"/>	

Institution & Sponsor Links



Appendix 6: Energy Trust Innovation Team Charter

Charter	
Team Name:	Innovation
Mission Statement:	Energy Trust systematically supports and fosters the generation and implementation of new valuable activities and approaches across the organization.
Success Measures/Key Performance Indicators:	<ul style="list-style-type: none"> • Proposed changes are fully adopted by organization • Business metrics associated with innovation are improved <ul style="list-style-type: none"> ○ The Innovation project team will develop quantitative, outcome-based metrics that reflect innovation (remembering not all will be successful) • Positive initial feedback from pulse check survey responses. Future success will be measured by a positive trend from the Organizational Development Initiative Survey questions related to innovation
Goals and Objectives:	<p>Foundation setting for supporting innovation at Energy Trust The Innovation work packet recommends Energy Trust build a management system around innovation. The foundational objectives for 2019 include:</p> <ul style="list-style-type: none"> • Select a high-level framework for innovation • Clarify pathways for different types of innovation activity • Grounded in the Strategic Plan and through engagement with the Executive Team, formalize agreement on the parameters for pursuing innovation • Develop business metrics for monitoring progress on innovation • Prepare and submit a “new initiative” template to establish an innovation team in 2020, for consideration in the 2020 business planning process <p>Idea generation and prioritization</p> <ul style="list-style-type: none"> • Generate a list of potential innovation initiatives • Select 3-5 ideas for further idea development and pilot testing in 2020. <p>Research tools for innovation</p> <ul style="list-style-type: none"> • Research tools and processes to support innovation at Energy Trust and provide recommendations for the innovation team in 2020 to consider. <p>Communications and training</p> <ul style="list-style-type: none"> • Facilitate common understanding of the term “innovation” and how it applies at Energy Trust • Communicate internally the parameters for innovation, framework for innovation and any available tools and processes • Explore options for further workshops and staff training to foster innovation in 2020 if time allows • Document and transfer insights, tools, resources and recommendations to the Innovation team which is expected to continue this work in 2020
Timeframe (Duration):	6 months (May – October)
Team Sponsor:	Executive Director
Organization Review Final Report Recommendations Reference:	I1a, I2a-f, I3a, I3b, I6c, I7

	<p>The following are not part of this Charter, and will either be completed through the work of the strategic planning process, or are contingent on the results of the strategic planning process that will be completed by 5/31/19:</p> <p>I1b, I1c, I3c, I4, I5a-c, I6a, I6b</p>
Team Membership and Roles:	<ul style="list-style-type: none"> • Executive Sponsor: Michael Colgrove • Team members: Amanda Potter, Mark Wyman, Jack Cullen, Sloan Schang • Advisor: Greg Stokes (organizational development) • Advisor: Art Sousa (change management and project management) • Sounding board: Karen Chase, Alex Novie, Lizzie Rubado, Kate Wellington, Kenji Spielman, Adam Bartini
Individuals Impacted:	<ul style="list-style-type: none"> • Entire organization
Team Resources:	<p>Innovation project page on Staffnet</p>
Team Duties:	<ul style="list-style-type: none"> • Complete all required reading on Innovation • Commit to meeting project goals in a timely and responsible manner • Attend meetings as scheduled and provide proactive communication if unable to attend a meeting • Complete work outside of meetings while meeting deadlines • Communicate project goals and progress to appropriate parties within their own teams/departments/organization, i.e., be a project champion • Identify and communicate project risks as they are encountered in real time, either by email or at team meeting meetings • Be an advocate and change leader for innovation • Represent the team when presenting at Executive Team and all-staff meetings • Demonstrate flexible, nimble and adaptable approaches to achieving the objectives of this project team
Boundaries:	<ul style="list-style-type: none"> • Finalizing and implementing a prioritization tool is out of scope. However, this team is expected to pilot test approaches to prioritizing innovative ideas and pass on insights to the project team in 2020. • Developing and implementing a complete set of tools and processes for allocating resources to nurture innovation is out of scope for 2019.
Risks:	<ul style="list-style-type: none"> • Existing practices, processes and other organizational norms do not support innovation, and thereby, innovation does not take hold • Energy Trust employees selected to be on this project team are pulled back into their prior job responsibilities and are unable to dedicate their full efforts to educating themselves, and ultimately embedding innovation at Energy Trust • Once approved, innovation initiatives do not receive sufficient resources (time, money and leadership support) to meet objectives • External stakeholders object to Energy Trust investing in new innovation initiatives, which negatively impacts stakeholder relations
Key Stakeholders:	<ul style="list-style-type: none"> • Energy Trust Board, OPUC, funding utilities, other organizations interested in the success of Energy Trust’s mission (e.g., CUB)
Optional Reading Materials:	<p>Recommended Reading</p>



Appendix 7: Secondary Research Works Cited

Cost Allocation

CompassPoint Nonprofit Services (2007). *Demystifying Allocations*. Retrieved August 28, 2019 from https://sfcontroller.org/sites/default/files/FileCenter/Documents/612-Feb07_wks.pdf

Spend Matters (2011, January 5). *Six Strategies for IT Cost Allocation*. Retrieved August 28, 2019 from <http://spendmatters.com/2011/01/05/six-strategies-for-it-cost-allocation/>

Innovative Resource Allocation

Bibliography

Barsh, Joanna, Capozzi, Maria M., and Davidson, Jonathan. (January 2008). Leadership and innovation. *McKinsey Quarterly*

Christensen, C. M. (2017, January 12). Using Aggregate Project Planning to Link Strategy, Innovation, and the Resource Allocation Process. *HBR*, 301(041).

Consortium for Energy Efficiency. (2016). *Emerging Technologies Collaborative Program Handbook*.

Friedl, G., & Kayser, Horst J. (2018). *Valuing Corporate Innovation Strategies, Tools, and Best Practice From the Energy and Technology Sector* (Management for Professionals). Cham: Springer International Publishing : Imprint: Springer.

Isaacson, Walter. (2015). *The Innovators: How a Group of Hackers, Geniuses, and Geeks Created the Digital Revolution*. Simon & Schuster.

Klingebiel, R., & Rammer, C. (2014). Resource allocation strategy for innovation portfolio management. *Strategic Management Journal*, 35(2), 246-268.

Kock, A., & Georg Gemünden, H. (2016). Antecedents to Decision-Making Quality and Agility in Innovation Portfolio Management. *Journal of Product Innovation Management*, 33(6), 670-686.

Nagji, Bansi, & Tuff, Geoff. (2012). Managing your innovation portfolio: People throughout your organization are energetically pursuing the new. But does all that activity add up to a strategy? (Spotlight: Innovation for the 21st Century)(Cover story). *Harvard Business Review*, 90(5), 67-74.

Pisano, Gary. (Jan-Feb 2019). The Hard Truth about Innovative Cultures. *Harvard Business Review*, 62-71.

Rego, Galvin, Dobson, Nadkarni. (2018). What's Next? The Process of Innovation – A review of Strategies and Methods to Innovate New Energy Efficiency Programs. *ACEEE Summer Study on energy Efficiency in Buildings*, 7.1-7.12.

Additional sources considered

Anastasia O. Ljovkina, David L. Dusseault, Olga V. Zaharova, & Yury Klochkov. (2019). Managing Innovation Resources in Accordance with Sustainable Development Ethics: Typological Analysis. *Resources*, 8(2), 82.

Boardman, C., Gray, Denis O, & Rivers, Drew. (2013). *Cooperative research centers and technical innovation government policies, industry strategies, and organizational dynamics*. New York: Springer.

Dundon, E., & Pattakos, A. (2001). Leading the innovation revolution: Will the real Spartacus stand up? *The Journal for Quality and Participation*, 24(4), 48-52.

Enz, C., Kimes, Sheryl E., Siguaw, Judy A., Verma, Rohit., Walsh, Kate., & Withiam, Glenn. (2016). *Achieving success through innovation : Cases and insights from the hospitality, travel, and tourism industry* (First ed., Service systems and innovations in business and society collection). New York, New York (222 East 46th Street, New York, NY 10017): Business Expert Press.

- Gailly, B. (2018). *Navigating Innovation How to Identify, Prioritize and Capture Opportunities for Strategic Success*. Cham: Springer International Publishing : Imprint: Palgrave Macmillan.
- Grand, Von Krogh, Leonard, & Swap. (2004). Resource allocation beyond firm boundaries: A multi-level model for Open Source innovation: A multi-level model for Open Source innovation. *Long Range Planning*, 37(6), 591-610.
- Mcgrath, R. (2001). EXPLORATORY LEARNING, INNOVATIVE CAPACITY, AND MANAGERIAL OVERSIGHT. *Academy of Management Journal*, 44(1), 118-131.
- Noble, C., Griffin, Abbie, & Durmusoglu, Serdar. (2014). *Open innovation : New product development essentials from the PDMA*. Hoboken, NJ: Wiley.
- Salo, A., Keisler, Jeffrey, & Morton, Alec. (2011). Portfolio Decision Analysis Improved Methods for Resource Allocation (*International Series in Operations Research & Management Science*, 162). New York, NY: Springer New York.
- Sungmoon Jung, & Gihyun Kwak. (2018). Firm Characteristics, Uncertainty and Research and Development (R&D) Investment: The Role of Size and Innovation Capacity. *Sustainability*, 10(5), 1668.