Energy Trust of Oregon
2024 Management Review
Final Report
October 23, 2024

Submitted by
1961 Consulting, LLC

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Executive Summary

Energy Trust and the Oregon Public Utility Commission (OPUC) have entered into written agreements to document the OPUC's expectation of Energy Trust services and operations as the recipient of utility funding for energy efficiency and renewable energy support. This Management Review is mandated pursuant to the Grant Agreement between Energy Trust and the OPUC in effect until August 2024. That Grant Agreement requires Energy Trust to 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."[1] The OPUC, Finance and Audit Committee and Energy Trust Management identified three topic areas for this Review:

Topic Area A | Administrative Costs – a review of the administrative and operational cost efficiency and recommendations for continued improvement

Topic Area B | Cost Forecasting – a review of existing forecasting models and related practices for administrative and program delivery costs by Energy Trust and its program management contractors (PMCs) with recommendations for improvement

Topic Area C | Program Delivery Growth – in anticipation of continued significant growth, a review of Energy Trust and peer organization actions to address the opportunities and risks associated with growth, with particular focus on efficiency of operations

In addition to the general topics, the Management Review sponsors provided key questions for each Topic Area that further focused the review (see Appendix 1). This Management Review Report shares relevant quantitative and qualitative information gathered from a review of current Energy Trust practices in these three topic areas, as well as from peer energy efficiency/renewable generation program administrators—Focus on Energy, Hawai'i Energy, Mass Save, New Jersey Clean Energy Program, and New York State Energy Research and Development Authority—, 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."

In the areas where comparisons were intended to provide the basis for assessing Energy Trust's performance, even though exact comparisons were not possible, it is the 1961 Consulting team's assessment that Energy Trust compares highly against its peers in the areas of administrative cost efficiency, forecasting practices, and early strategies to address opportunities and risks around growth. It is in the spirit of continuous improvement that the Management Review Report offers certain Recommendations and Suggestions to assist Energy Trust in its pursuit of fulfilling its public administrator fiduciary role.

[1] Energy Trust and the OPUC currently operate under a new agreement, the Agreement to Direct Funds to Non-Governmental Entity (the "OPUC Agreement"). The OPUC Agreement also requires a management review at least every five years, but this management review was commissioned and completed in accordance with the prior grant agreement.

The Report is structured by Topic Area, with some having subsections to focus on aspects of the key questions. In each Topic Area or subsection, the information shared follows a similar format:

- Current State
- External Organizations or Research
- Assessment
- Recommendations and Suggestions

Emerging from the interviews and data reviews are the themes of growth, technology, and efficiency. For Energy Trust, these are presently very connected. Oregon's energy future is relying on Energy Trust to grow significantly, even when it's said, "the low hanging fruit has been picked." Energy Trust must not only grow, but reach those who most need the socio-economic benefits of energy efficiency and small-scale renewables, even when this creates unique cost effectiveness challenges. While working through growth challenges, Energy Trust must also continue to be an efficient fiduciary of Oregon ratepayer dollars. To achieve all these mandates, Energy Trust must look at program delivery and organizational execution in new ways. New technologies will be a key to meeting these challenges, both to achieve the customer reach goals and to do it efficiently. This will require a level of IT investment Energy Trust has not previously experienced, but when done well will deliver the scale and efficiency that is expected. These technologies, like digital field tools and customer apps, are not yet industry norms, but Energy Trust has a heritage of experimenting, and ultimately discovering new ways to achieve challenging goals.

We appreciate the staff's time, information and perspectives in answering our myriad questions. We're excited to see where Energy Trust will lead in the next five years. Thank you for this opportunity to contribute.

Respectfully submitted,
~ 1961 Consulting

Management Review Methodology

The 2024 Management Review was designed in consultation with the Management Review sponsors (Chris Dunning, Chief Financial Officer and Tracy Scott, Director of Energy Programs), who selected the peer energy efficiency-renewable generation program administrators, and the key questions meant to focus the discussions. A complete list of the Key Questions is found in Appendix 1.

The Management Review was conducted between June and September 2024. Data collection and interviews were completed with Energy Trust staff most familiar with each Topic Area. Public administrators (PAs) of energy efficiency and renewables programs were chosen (versus utilities who administer these programs) because it was assumed they would have similar, standalone-type organizational structures. This similarity would make the cost comparisons more relevant. From the interviews, it was learned that most of the PAs are not standalone organizations. The PA may be a collaborative of utilities in the state, a program within a government agency, or a fully or significantly contracted out role to a company who offers program management contractor (PMC) and program delivery contractor (PDC) services in addition to administrator services on a national or international scale.

This understanding of the PA structures required additional organizations to be included in the data collection and interviews. The list of these associated organizations is shown in the following section, External Comparator Organizations. Where the expression “contact” is cited in this Report, it usually corresponds to someone in the associated organization, who may or may not be the most familiar with the topic and related data, not the PA entity.

Because these PAs are generally not standalone entities, the data collection and comparisons are often obfuscated and inconclusive. Where possible, data was adjusted to make a reasonable comparison with Energy Trust, but this was not always possible. Further limiting analysis and comparisons was the access to non-public data. This has been partially remedied by not attributing to a particular organization or providing a veil of confidentiality by not referencing organizations by name (a random number was assigned to each organization interviewed).

For Topic Area B, related to cost forecasting, it was learned that the majority of peer organizations do not conduct cost forecasting to the degree of Energy Trust. Given this learning, the management review pivoted to work with Energy Trust’s primary PMCs to go deeper in understanding their inputs into the forecasting process and how they conduct their own type of forecasting. Therefore, this area of the Management Review relies heavily upon 1961 Consulting’s forecasting and data science expert (See Appendix 2 for his credentials).

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.

External Comparator Organizations

Five organizations are included in this Review's comparison:

- Focus on Energy
- Hawai'i Energy
- Mass Save
- New Jersey Clean Energy Program (NJCEP)
- New York State Energy Research and Development Authority (NYSERDA)

Some of these external organizations requested anonymity; therefore, the Management Review project team determined it best to follow that approach for all who were interviewed and shared information that may not be in publicly available sources.

Other energy efficiency/renewables organizations may be referenced in this report, but the information shared was only from publicly available sources, not personal interviews with the organizations' staff.

Following is a general description of the energy efficiency/renewables organizations from whom information and data are referenced in this report:

Organization	General Information
Energy Trust of Oregon	**2023 EE/RE Revenues:** $223M **2023 EE/RE Expenses:** $225M **Org Description:** Private non-profit entity, PA for Oregon investor-owned utilities. Oregon and SW Washington-focused, with minimal work outside of administering Public Purpose Charge funds.
Focus on Energy	**2023 EE/RE Revenues:** not available **2023 EE/RE Expenses:** $95M (actual) **Org Description:** FOCUS ON ENERGY® partners with Wisconsin's electric and natural gas utilities to provide resources, incentives, and rebates to benefit all Wisconsinites. Focus on Energy can be thought of as a brand under which all energy efficiency and renewable energy programs are administered in Wisconsin. **Associate Org(s) Interviewed:** • APTIM • Wisconsin Public Service Commission (PSC) **Associate Org(s) Description:** • APTIM is a global company serving sustainability and resilience needs. It is the sole administrator for all of Focus on Energy programs, responsible for overall contract management and coordination of program solutions, umbrella marketing and communication activities, utility coordination, and reporting to Statewide Energy Efficiency and Renewables Administration (SEERA) and the PSC. APTIM is not allowed to conduct any implementation work. SEERA creates and funds statewide energy efficiency and renewable energy programs. SEERA also contracts, on the basis of competitive bids, with one or more persons to administer the programs. SEERA has no

	obligations regarding the statewide programs other than creating and funding the programs and contracting for their administration. • Wisconsin PSC provides oversight of the statewide energy efficiency and renewable energy programs, including: review and approval of the Program Administrator selected by the utilities and of the contracts between the utilities and Program Administrator for the administration of statewide programs.
Hawai'i Energy	**2023 EE/RE Revenues:** not available **2023 EE/RE Expenses:** $37.4M (budget) **Org Description:** Hawai'i Energy is Hawaii's public energy conservation and efficiency program, focused on residential and commercial customers. It is not a standalone organization, but more of a brand under which all EE programs are administered. As a result of the Program's strategic direction and positive standing in the communities served, Hawaii has been recognized in the top third of energy efficiency programs in the country in ACEEE's 2020 State Energy Efficiency Scorecard report. Administered by Leidos, on behalf of the PUC, Hawai'i Energy stands on a strong foundation of more than twelve years of implementing energy efficiency programs as the Public Benefits Fee Administrator (PBFA) for the State. Leidos, Inc. is the sole administrator for all of Hawai'i Energy programs. **Associate Org(s) Interviewed:** Leidos, Inc. **Associate Org(s) Description:** Leidos is a publicly traded corporation, with revenues exceeding $15B. It serves many industries beyond EE and RE, with a presence in numerous national and international markets.
Mass Save	**2023 EE/RE Revenues:** not available **2023 EE/RE Expenses:** $1,037M (actual) **Org Description:** Mass Save® is a collaborative of Massachusetts' electric and natural gas utilities and energy efficiency service providers including Berkshire Gas, Cape Light Compact, Eversource, Liberty, National Grid, and Unitil. The collaborative empowers residents, businesses, and communities to make energy efficient upgrades by offering a wide range of services, rebates, incentives, trainings, and information. Mass Save can be thought of as a brand under which all energy efficiency programs are administered. **Associate Org(s) Interviewed:** National Grid **Associate Org(s) Description:** National Grid is a publicly traded corporation, with revenues exceeding $20B. National Grid operates internally and is one of the largest investor-owned energy companies in the US, serving New York and Massachusetts. It is one of the larger IOU's developing and running EE programs within the Mass Save collaborative.
NJCEP	**2023 EE/RE Revenues:** not available **2023 EE/RE Expenses:** $441M Total Expenses (actual) • $142M Actual Expenses • $299M Committed Expenses **Org Description:** In 2003, the New Jersey Board of Public Utilities established the Office of Clean Energy to administer New Jersey's Clean Energy Program (NJCEP). https://njcleanenergy.com/main/about-njcep/about-njcep. NJCEP represents all the state run/administered energy efficiency and renewable energy programs with the New Jersey utilities offering programs to support existing buildings in their respective territories.

	Associate Org(s) Interviewed: • TRC Companies • New Jersey Board of Public Utilities (NJBPU) **Associate Org(s) Description:** • TRC Energy Services (TRC) is the program administrator working for NJCEP. TRC designs, delivers, and supports many of the programs offered by NJCEP, including new construction, LEUP, LGEA, CHP/FC as well as outreach, IT, financial, QA/QC and some marketing support. (TRC), a division of TRC Environmental Corporation, is a national engineering, energy, consulting, and construction management firm providing integrated services to all major United States markets since the 1960's. TRC serves a broad range of clients in the utility, government, commercial, industrial, and transportation sectors, designing, developing and implementing complex programs and projects from initial concept through operations. • NJBPU is the regulatory agency responsible for overseeing all regulated utilities. The BPU's Division of Clean Energy is responsible for managing the NJ Clean Energy Programs.
NYSERDA	**2023 EE/RE Revenues:** $1,867M (actual FYE 3/31/2024) **2023 EE/RE Expenses:** $1,589M (actual FYE 3/31/2024) **Org Description:** The New York State Energy Research and Development Authority NYSERDA works to promote energy efficiency, renewable energy, and emissions reduction across New York's economy and energy system. Executive leadership and staff play a crucial role in implementing the Climate Leadership and Community Protection Act and Climate Action Council Scoping Plan, which are focused on accelerating climate action and efforts to secure a just and equitable transition to a clean energy economy. NYSERDA also supports other New York State regulations and statewide energy planning for clean energy future. NYSERDA is the primary program administrator for Low- and Moderate-Income programs. The six IOUs are the primary program administrators for resource acquisition (equipment replacement) in the Market Rate sectors. NYSERDA administers Market Transformation programs in the Market Rate sectors and is the sole program administrator for New Construction, Building Codes, and Product Standards.
VEIC	**2023 EE/RE Revenues:** $123M (actual) **2023 EE/RE Expenses:** $121M (actual) **Org Description:** A nonprofit organization based in Vermont. VEIC is the contracted entity that acts as the third-party program administrator for Vermont's public energy efficiency utility, Efficiency Vermont. It also delivers consultancy services in 18 states and 6 foreign countries.
NEEA	**2023 EE/RE Revenues:** $35M (actual) **2023 EE/RE Expenses:** $35M (actual) **Org Description:** NEEA is an alliance of utilities and partners that pools resources and shares risks to transform the market for electric and natural gas energy efficiency to the benefit of all consumers in the Northwest.

Recommendations Summary

The following is a summary of the Recommendations included in this Management Review.

Topic Area A | Administrative Costs: Review the administrative costs associated with Energy Trust's organization. Compare to peer organizations and provide opportunities to improve efficiency.

Topic Area	Recommendation	Page #
A	1. Strategically invest now to build a more efficient and scalable administrative organization.	15
A	2. Make strategic IT investments in the near-term to improve scalability and create future efficiencies at scale.	18
A	3. Implement digital field tools and adoption strategies, so they become the norm for customers, contractors, and others in program delivery.	20

Topic Area B | Cost Forecasting: Review current practices for cost forecasting with Energy Trust and the PMCs providing inputs. Offer recommendations to improve reliability and business value.

Topic Area	Recommendation	Page #
B	4. Standardize use of sensitivity/scenario analysis to understand precision of forecasts.	30
B	5. Create standard report of historic forecast performance.	31
B	6. Align forecasting updates with business decision cadence	31
B	7. Revisit budgeting process for professional services.	31
B	8. Stagger incentive program timelines to moderate the "hockey stick".	32
B	9. Increase the use of field data collection tools.	32

Topic Area C | Program Delivery Growth: Review current practice and provide best practices in the industry for addressing growth opportunities and risks.

Topic Area	Recommendation	Page #
C	10. Adopt operational Key Performance Indicators (KPIs)	37
C	11. Drive the use of digital tools.	37
C	12. Assess the value chain's capacity to execute growth projections.	45

Topic Area A: Administrative Costs

The OPUC grant agreement requires the management review analyze Energy Trust's administrative costs and provide recommendations for efficiency and effectiveness improvements. For the purposes of this review, administrative expenses are costs that are required for an organization to operate but that are not directly tied to the services and programs that further its mission. Overhead functions such as board and executive, brand-level marketing, general legal and human resources (HR) are categorized as administrative.

The Energy Trust Management Review executive sponsors identified key questions related to Energy Trust's administrative costs to consider in the review. Based on these questions, this area has been subdivided into three sub-topics:

1. Administrative Cost Levels: How do administrative costs relative to total expenditures compare to other relevant organizations? What other metrics are worthwhile to measure to provide insight into efficiency?
2. Foundational IT Systems: What is the appropriate amount to be invested in foundational information systems?
3. Economies of Scale, Growth Opportunities and Risks: What are best practices to achieve administrative and operational economies of scale for an organization experiencing fast growth? What risks and opportunities are there for efficiency and effectiveness?

Administrative Cost Levels: Current State

Over the past three years, and as budgeted for 2024, Energy Trust's administrative costs have grown between 16.1% and 35.0%. Although this may seem high, the targets for energy efficiency savings and renewables generation have also grown substantially. When viewed in relation to total costs, the relationship has remained relatively steady, between 5% and 6%.

Administrative Costs by Function ($000)				
	2021 Actual	2022 Actual	2023 Actual	2024 Budget
Administrative				
Marketing & Communications	$ -	$ 3,109	$ 3,468	$ 4,179
Communications and Customer Servic	$ 3,788	$ 101	$ -	$ -
Outreach & Policy	$ -	$ 1,495	$ 1,841	$ 2,627
Executive & Board	$ 959	$ 1,013	$ 1,646	$ 1,282
Legal	$ 611	$ 701	$ 826	$ 1,578
HR, OD, & Office Management	$ 1,475	$ 1,966	$ 1,972	$ 2,789
Finance	$ 1,401	$ 1,610	$ 2,016	$ 2,656
Diversity Equity and Inclusion	$ 183	$ 286	$ 83	$ 550
Project Management Operations	$ 764	$ 681	$ 874	$ 1,518
Total Administrative Costs	**$ 9,181**	**$ 10,962**	**$ 12,727**	**$ 17,179**
Total Cost	**$183,712**	**$182,251**	**$225,377**	**$305,648**

Year-Over-Year Growth in Costs			
	2022 Actual	2023 Actual	2024 Budget
Administrative Costs	19%	16%	35%
Total Cost	-1%	24%	36%

Administrative Costs Relative to Total Costs ($M)				
	2021	2022	2023	2024 (Budget)
Administrative Costs	$9.2	$10.9	$12.7	$17.2
% of Total Cost	**5.0%**	**6.0%**	**5.6%**	**5.6%**

Source: Energy Trust internal data. Total Costs include costs related to administering non-PPC funded programs

Energy Trust plans and manages administrative costs to ensure administrative spend relative to its total cost structure remains below 6.5%, the OPUC performance measure for administrative costs. Maintaining this level of administrative spend begins with the budgeting process, and the OPUC performance measure acts as a topside guard rail. The organization builds detailed bottoms-up budgets and action plans, identifying and developing opportunities for efficiency and scalability. For example, to forecast additional staff requirements related to new funding for 2024 and beyond, Energy Trust detailed by funder, activity and function the expected incremental hours and costs that would be required.

During the year, the actual level of administrative spend relative to total costs is monitored and compared to budget. No other operational key performance indicators (KPIs) are used to plan or monitor administrative costs. While administrative cost as a percent of total cost is a suitable high-level KPI, it does not measure the performance of underlying drivers of spend. These types of operational metrics are more useful as management tools to adjust activity on a regular basis.

Energy Trust's current plans to drive future efficiency include:

- Transition from annual budgets to a 5-year financial plan with 6-quarter rolling forecasts to reduce significant amounts of labor associated with the planning/budgeting cycles.
- Replacement of the enterprise financial/accounting system to eliminate manual tasks and duplicating entries in multiple systems
- Development of a labor model within Prophix (budgeting/forecasting system) to automate forecasting tasks, as well as improve workflow efficiency and financial controls. Specific efficiencies would include:
    - Labor data and forecasts directly managed within Prophix versus manual intermediate steps in Excel and then merging into Prophix
    - Integrated employee allocation schedules versus manual computations and adjustments

Administrative Cost Levels: External Organization Comparison

The external organizations selected for this portion of the Management Review were intended to be standalone public administrators and not a business unit of a larger company. In this way, it was assumed they would all have similar organization administrative structures and make cost comparisons relevant. As the Executive Summary shared, during this process Energy Trust and 1961 Consulting learned these were not public administrators with similar standalone administrative structures. Costs associated with corporate functions such as executive leadership, legal, human resources, finance, etc. that drive a significant amount of Energy Trust's administrative costs were not able to be identified, and they were not a visible allocation applied to the energy efficiency and renewable program group. Given this critical difference, plus restrictions on sharing cost details not available in the public domain, the data reported below does not offer clear comparisons with Energy Trust.

The table below provides a comparison of administrative costs relative to total costs. Since this is not an "apples-to-apples" comparison, the notes provide the reasons for the differences.

	Admin % of Total Costs	Notes
Energy Trust	5.6%	
Org #1	9.4%	General footnotes: 1, 2 Admin costs include some grant administration costs that could be counted as direct program costs. A material portion of IT and program planning costs are co-mingled with reported direct program costs and not included in this computation.
Org #2	5.1%	General footnotes: 1
Org #3	3.0%	General footnotes: 1, 2 Administrative costs estimated by applying % of indirect program hours to Program Planning & Administration and Marketing and Advertising Costs.
Org #4	4.1%	General footnotes: 1 Excludes brand-level marketing from admin costs.
Org #5	6.8%	General footnotes: 2 Administrative % is based on non-EE/RE program lines in the audited financials. Program costs include an 8% administration fee made up of both direct and indirect expenses. None of the administration fee is included here in the admin percentage.
VEIC	13.6%	Although VEIC was unable to participate in the Management Review process; its audited financials were publicly accessible. The administrative % is based on the audited financials.
NEEA	18.7%	NEEA's administrative percentage is expected to be higher than Energy Trust because they are a much smaller organization and because they do not pass incentives through their cost structure. Removing incentives, Energy Trust's administrative rate for 2022 and 2023 is 12.4%.

General Footnotes

[1] Contact is a national or international company, or a utility contracted to administer energy programs for the external entity represented. The contact and its larger organization do not report an allocation of corporate administrative costs for energy efficiency and renewable programs, or potentially even allocate those types of costs to its "business units." If an allocation of the organization's administrative costs (executives, finance, legal, etc.) did occur, they were not detailed in the data provided.

[2] Contact administers only a portion of statewide energy efficiency and renewable energy programs.

Source Notes
Energy Trust, Org #1, Org #3, Org #4 data from 2023 actuals provided by organization
Org #2 data from 2024 budget reporting provided by organization
Org #5 data from FY 2024 audited financial statements
VEIC and NEEA data from 2023 audited financial statements

Participating comparator organizations generally preferred to only share publicly available information, as reported to regulators. Public reporting formats focused on administration costs and program costs. "Administration costs" of the comparator organizations are not analogous to Energy Trust's "administrative costs," which include corporate resources (executive, finance, legal, HR, etc.). While there was certainly overlap between administrative and administration costs, comparator administration costs tended to include indirect components of administering programs (IT, evaluation, marketing, etc.) but did not explicitly capture an allocation of corporate resources (executives, finance, legal, HR, etc.). Except for VEIC and NEEA, the comparator organizations are units within a larger organization (not standalone like Energy Trust), and allocations of those corporate resources were not quantifiable within the costs provided by comparators.

Management review participant organization contacts were program leaders with minimal visibility to their larger organization's administrative expenses and were not responsible for the management of those expenses. Consequently, our contacts were also unable to provide qualitative insight into how administrative expenses are planned or managed within their respective organizations.

The administrator most similar to Energy Trust because of its standalone organization structure is VEIC. Although not able to participate in the interviews and qualitative portions of the management review, information was gleaned from its 2023 audited financials. It is likely that part of the reason VEIC's administrative percentage is 8 percentage points higher than Energy Trust's is two main factors:

1. It operates a more diverse business, serving multiple geographies and with multiple lines of service but at a smaller scale than Energy Trust.
2. It utilizes more internal staff as a proportion of total costs and as a proportion of staff to program staff and program subcontractors:

	Employee Salary & Benefits % of Total Costs	Program Subcontractors % of Combined Employee & Program Subcontractor Cost
Energy Trust	10%	76%
VEIC[1]	35%	38%

[1]*Source: VEIC 2023 audited financial statements*

Administrative Cost Levels: Assessment

Given the external entities' significant structural differences compared to Energy Trust's standalone organization, the analysis was constrained in generating a set of similarly defined cost profiles. An "apples-to-apples" comparison with Energy Trust's administrative costs was not possible.

Even though an absolute numeric comparison was not possible, from the quantitative data reviewed, plus the interviews that provided additional understanding, it is reasonable to conclude that Energy Trust is on the lower end of the range in administrative costs relative to its total costs. While some of the comparators had lower administrative percentages, their percentages were missing a significant amount of overhead cost necessary to run a standalone energy program administrator organization.

For example, adjusting Energy Trust's administrative costs to match Org #4 (by removing marketing and communications spend), Energy Trust's administrative costs relative to total costs compares well with Org #4—they are both 4.1%.

Turning to secondary research in the nonprofit space, whether that was Charity Navigator, Charity Watch, National Center for Charitable Statistics, or others offering administrative cost insights, they all cautioned that comparisons are fraught with irregularities that make them inconclusive. One organization succinctly stated, "When evaluating ratios, it's best to compare your own organization to itself year over year to determine metrics in evaluating your organization. Nonprofit industry standards can be helpful, but each nonprofit organization is different – different revenue sources, different programming, different length of time in existence – all which may lead to variances in the ratio results." (Minnich, Carrie; "Nonprofit Ratio Analysis")

Energy Trust has a Programs Operations Team that looks for efficiencies and pursues those as part of their role. Standard operating procedures or processes is not yet a norm, and this can make the work of process improvement more challenging. There is an opportunity to strengthen the team's role through adopting best practices. Best practice organizations utilize a proven methodology and cadence for intentional key process (or value stream) evaluations. The two most recognized methodologies are Lean and Six Sigma, or the combined Lean Six Sigma. Lean and Six Sigma provide tools and principles for identifying and pursuing process improvement opportunities that will simultaneously improve efficiency, service levels, and quality. In addition to driving near-term cost savings, Lean is focused on building a culture of continuous improvement, which is a core tenet of Energy Trust and its adaptive management approach to work.

Recommendations

1. **Strategically invest now to build a more efficient and scalable administrative organization.**
   Given Energy Trust's relatively low administrative costs and its expected growth, this may increase its administrative rate temporarily, but it will lead to a more efficient cost structure at scale. This recommendation applies to all sub-topics of this area of the Management Review.

Suggestions

- Utilize Lean process improvement methodology to pursue administrative cost efficiencies, along with program support and direct program delivery costs, where it has a role. This would include adopting and documenting standard operating procedures, and aligning on common process across programs, where possible.

Foundational IT Systems: Current State

Energy Trust's foundational IT systems and their costs include:

- **Great Plains**. This is an on-premises server accounting system. – Fully depreciated, and requires ongoing maintenance and support by IT.
- **Project Tracker.** This internally built program is used to track each individual project that receives an incentive payment – Fully depreciated, and requires ongoing maintenance and support by IT.
- **Prophix**. A budgeting and forecasting software - $123K in 2023 direct OpEx + maintenance and support by IT (ongoing).
- **Microsoft software** (Office suite, CRM, Sharepoint, PowerBI) - $55K in 2023 OpEx (ongoing).

Overall IT spend has been steady as a percent of total costs and is forecast to remain so for 2024:

Energy Trust IT Costs Relative to Total Costs ($M)				
	2021	**2022**	**2023**	**2024 (Budget)**
IT Labor	$1.95	$1.92	$2.26	$2.88
% of Total Cost	**1.1%**	**1.1%**	**1.0%**	**0.9%**
Total IT Department Without Systems	$2.01	$2.09	$2.43	$3.26
% of Total Cost	**1.1%**	**1.1%**	**1.1%**	**1.1%**
Total Company Systems[1]	$0.98	$0.96	$1.35	$2.04
% of Total Cost	**0.5%**	**0.5%**	**0.6%**	**0.7%**
Total Company IT & Systems	$2.99	$3.04	$3.78	$5.29
% of Total Cost	**1.6%**	**1.7%**	**1.7%**	**1.7%**

[1]Systems include software, hardware and depreciation. Depreciation includes non-systems spend for leasehold improvement and office equipment, and is a relatively small component of percentage. In 2023 it accounted for .03% of total costs.

Source: Energy Trust internal data

Foundational IT Systems: External Organizations Comparison

There were similar challenges to comparing foundational IT systems as comparing administrative costs. The financial data for systems costs provided by participating organizations was either incomplete or lacked the detail necessary to create clear comparisons. The below table provides reflects information that was made available.

	IT % of Total Costs	Core Systems Only % of Total Costs	Core Systems Identified	Notes
Energy Trust	1.7%	.6%	Great Plains – Accounting system Project Tracker Prophix – Budgeting and forecasting software Microsoft - Office, CRM, Sharepoint, PowerBI	Core systems cost reflects direct costs only. Does not include labor for maintenance of systems.
Org #1	NA	1.3%	IMS Database – Invoice management, QA processes, application details, program budgets Microsoft Dynamics CRM & AEG DSM – tracks projects from application to incentive payment Fulcrum + Other field tools – Multiple systems used in field by contractors and staff	Costs only reflect IMS database system. All other IT costs grouped into administration fee.
Org #2	2.0%	NA	Salesforce Project Management System – tracks projects from application to incentive payment	No detail beyond budgeted IT & Data Management line item in budget.
Org #3	NA	.6%	SAP Financial System – All work orders, payments, etc. Customer Billing System – source of customer information Salesforce CRM – marketing campaign engagement, Commercial & Industrial sales. Proprietary Project Tracker - tracks projects from application to incentive payment	Costs only reflect Proprietary Project Tracker. This is the only IT system administrator charges to program.
Org #4	NA	1.6%	SPECTRUM – Database, CRM, Project data Great Plains - Financial Software Zendesk – Customer Service system QuickSight – Data visualization	Core Systems % of total costs does not include Zendesk or QuickSight. Their costs included with other administrative costs.
Org #5	NA	NA	Salesforce – CRM & Project Tracking system Peoplesoft – Financial system Data Warehouse – Connects Salesforce & Peoplesoft data with Tableau. Tableau – reporting and dashboards.	IT costs grouped with other administration costs.
VEIC	1.3% - 1.8%			Only Equipment/Software (1.3%) & Depreciation (.5%) in audited financials. No IT staff or contractors.

As in the administrative costs space, an absolute best practice percentage for IT spend is difficult to derive and contingent on many factors. In consulting with CIOs and others that consult in the IT space, 5% is a common figure for service organizations (not financial services and not manufacturing). When referencing an organization heading into dramatic growth, this percentage seemed even more reasonable.

The concerns about an “efficient” percentage for IT spend heading into a period of dramatic growth are less about being efficient and more about:

- Are the investments happening soon enough ahead of the growth to ease the growing pains?

- Is there sufficient IT expertise on staff to direct and decide on the investments that will yield the intended value? As one advisor stated, “It’s easy to drop big dollars without commensurate positive impact.”

Foundational IT Systems: Assessment

The information provided by comparison organizations does not yield a clear indication of an appropriate amount to invest in core IT systems. This is further reinforced because these administrators have not experienced the level of growth Energy Trust has or continues to expect. Based on comparators’ IT spend available, and input from other subject matter experts in this space, it appears that Energy Trust’s level of spend, relative to the rest of its costs is on the low end of the spectrum.

The opportunity in this area is more about increasing technology spend to facilitate efficient growth in the years ahead. Energy Trust’s plans to upgrade its aging financial system will drive additional costs, but it is expected to be the foundation for scaling efficiently. This management review did not go deep into the functionality of Energy Trust’s current customer relationship management (CRM) software, but this is an area that could have similar scalability opportunities to deliver greater value. Given that the 2025-2030 Strategic Plan is targeting more unique customer segments, technology tools like a CRM help to do that in efficient ways.

Recommendations

2. **Make strategic IT investments in the near-term to improve scalability and create future efficiencies at scale.**
   There is room in the administrative and other cost areas of Energy Trust relative to peers to step-up IT investments, especially going into a multi-year growth period. To get the most from IT investments, it is critical that Energy Trust have the right expertise to invest wisely.

Suggestions

- **In preparation to replace Great Plains financial system, conduct deep analysis of peers’ core systems stacks to understand strategic IT decisions other organizations made, strengths and weaknesses of their systems, and interoperability opportunities with Energy Trust’s existing systems.**
  The replacement of Great Plains is a significant long-term investment. The management review project scope did not go into comparators systems strategy, lessons learned, etc. A deep dive into other administrators’ systems stack will provide valuable insights ahead of a long-term systems commitment.

Economies of Scale, Growth Opportunities and Risks: Current State

In the coming years, Energy Trust has been directed to achieve even greater levels of energy efficiency and small-scale renewable generation. Internally, this is called Acceleration II. To support this level of savings and generation, Energy Trust is evaluating multiple parts of its infrastructure to prepare for growth.

Headcount is expected to roughly double, from 114 employees at year-end 2021 to approximately 200 at year-end 2024. Energy Trust recognizes that this level of growth will pose challenges, but it could also yield economies of scale in administrative costs.

As mentioned previously, the movement of Energy Trust's labor model from a series of Excel spreadsheets into Prophix will make the hiring workflow more efficient and trackable. Additionally, Energy Trust is in the final stages of operationalizing a new level of leadership, called the Operations Management Team. This group of leaders will provide more of the tactical guidance for staff, while the executive team faces new and more strategic issues. These organizational structure changes are designed to support existing and new staff during this growth period and allow for additional scalability, as the organization continues to expand its offerings and reach.

Economies of Scale, Growth Opportunities and Risks: External Organizations Comparison

None of the comparison organizations experienced significant growth in the analyzed timeframe (2021–2023). Some organizations experienced growth in parts of their program portfolio; however, their overall budgets remained unchanged, as responsibility for components of the statewide energy program portfolio shifted to utilities. Where growth was experienced, respondents offered the following lessons learned on achieving economies of scale, and addressing opportunities and risks:

- As much as possible, deliver through established and proven channels. New program structures and processes require IT investment and additional staffing. One respondent put a concerted effort into shrinking the number of their programs as their primary strategy for improving cost effectiveness in their next funding cycle.
- A number of respondents are large national organizations, and they cited the ability to leverage corporate resources to improve efficiency or reduce risks during times of growth and change. Their large national structures gave them access to corporate staff, who could be shifted from one contract to another based on gaps that needed to be filled. While staff may not be knowledgeable about the specific program or state to which they shifted, they quickly acclimated based on given their experience with other similar program experience.
- Some comparator organizations take advantage of turnkey corporate consulting services to assess programs and processes for efficiency and efficacy improvements. These resources are not free, but do not require lengthy procurement processes to acquire services, since those contracts are in place through the larger organization.

Economies of Scale, Growth Opportunities and Risks: Assessment

Participating comparison organizations have not experienced growth on the scale Energy Trust is expecting in the coming years; therefore, the lessons learned were not as fruitful as anticipated. Additionally, the external organization contacts were not responsible for managing administrative costs and were not able to offer input on how to create administrative cost economies of scale during growth.

Energy Trust has begun a number of efforts to support and scale for growth. It will be imperative that sufficient resources are applied and able to focus, so the initiatives do not falter, and the

benefits can be realized. In 2023 Energy Trust issued 16,183 incentive payments. That's the number of projects that were completed; it's likely that hundreds, even thousands, more utilized Energy Trust resources to explore an energy efficiency or renewable project opportunity. Adding a 40% growth factor (for example) to this demonstrates how both incremental and systemic improvements are valuable. An example might be: Of the 16,183 incentive payments, only 2,588 were electronic funds transfers (EFT); the others were paper checks. Energy Trust recently outsourced the printing of checks as an efficiency improvement, but there is additional opportunity. Although not everyone will be able to accept an EFT payment, the value for a significant conversion away from paper checks can justify a significant investment to inform, educate, and motivate.

Recommendations

3. **Implement digital field tools and adoption strategies, so they become the norm for customers, contractors, and others in program delivery.**
   Comparators have been successful with requiring use by field contractors, but Energy Trust could consider other adoption strategies, including incentives. Although incentives create a short-term cost, the long-term benefits are significant efficiencies, especially given the expected growth.

Suggestions

- **Limit growth in the customization of programs and drive growth through existing proven channels, where possible.**
  This will limit systems and process customization investment and allow existing processes to scale and be made more efficient. This will need to be balanced with the need to customize in order to reach populations that are specifically required in the 2025-2030 Strategic Plan focus areas 3 and 4.

- **Leverage Energy Trust's network for needed growth resources.**
  Energy Trust isn't a large national organization like some interviewed, but it has a strong network. As Energy Trust's growth places demands for resources (people, process, technology), how might it leverage its network in ways not considered—its PMCs, funding utilities, government agencies?

Topic Area B: Cost Forecasting

Cost forecasting is a critical intra-year tool to monitor whether expenses are on track to meet budget targets. The accuracy of Energy Trust's forecasts dictates the organization's ability to anticipate operational adjustments needed to maintain budget discipline and meet commitments to stakeholders. The goal of this area of the Management Review is to provide recommendations and suggestions to improve the creation and use of cost forecasts in the budget management process.

Current forecasting practices were examined, both within Energy Trust and the project management contractors (PMCs), who provide key inputs. The review encompassed methodologies, data collection, technology, and processes for creating forecasts. The executive sponsors posed three key questions related to forecasting:

- What are best practices to partner with PMCs to develop timely, realistic forecasts for incentives and delivery cost?
    - Are there +/- thresholds of accuracy PMCs are held to, and what is the resulting consequence when forecasting falls outside of these thresholds?
- Energy Trust's actual financial results for internal costs routinely under-run forecast in certain areas. What are best practices for addressing this pattern with budget managers?
- Energy Trust will be implementing a six-quarter rolling forecast model beginning in calendar year 2026. What are best practices for adopting a rolling forecast methodology?

Energy Trust spends considerable effort forecasting energy efficiency savings and renewable energy generation. These mission-related goals are directly impacted by the allowed budget and spending patterns for incentives and other direct program delivery costs. While closely tied to energy savings and renewable generation, methods for forecasting these were outside the scope of this Management Review.

Current State

This assessment is based on the major forecast updates that Energy Trust assembles at the end of the second (Q2) and third (Q3) quarters of the fiscal year.[2] These forecasts provide insight into the current trajectory of costs and the expected end-of-year actuals, enabling adjustments to strategy and tactics when actual costs are predicted to deviate significantly from budget targets for the year. As a key management tool, the accuracy of these forecasts is crucial to delivering on commitments to the partner utilities and the OPUC.

The three largest categories of costs are:

> **Incentive costs:** payments to customers (businesses and individuals) to incent the adoption of technologies and practices that conserve electricity and natural gas, or the creation of renewable energy generation capacity.

[2] Energy Trust updates cost forecasts monthly for monitoring and reviews for required changes to programming. This data was not available for the Management Review.

Program delivery contractor costs: costs incurred by program management consultants (PMCs) to execute the energy efficiency and renewable generation programs.

Internal costs: costs incurred by Energy Trust in support of programs and administrative functions, constituted primarily of Energy Trust staff salaries and benefits.

Current practices, key challenges and the recent performance of each cost category are described below.

Forecasting: Incentive costs

Incentive costs forecasts depend on the individual program forecasts assembled by the PMCs and rely on a combination of two approaches, pipeline forecasting and short-cycle forecasting.

Pipeline forecasting: Forecasts are built based on known projects in the pipeline and the expected completion dates of those projects. The energy savings and associated incentive costs of projects that are scheduled to be completed before the end of the fiscal year are counted in the forecast. Typically, the PMC building the forecast will also apply confidence factors to individual projects to discount the value of the project based on the probability of its completion by year-end. For example, if a project with a $100,000 incentive budget is estimated to have an 80% chance of being completed by year-end of the fiscal year, then $80,000 would be included in the forecast total. This confidence factor can depend on the formal stage of the project, the historic experience with that type of project or facility or be developed in consultation with Energy Trust program managers for large individual projects.

Short-cycle forecasting: Forecasts to capture the volume of energy savings and incentive costs for projects that are not yet specifically known but are expected to be completed by the end of the fiscal year. Short-cycle estimates depend on applying time series methods, such as exponential smoothing models and historical run-rate curves derived from historical data.

Table 1 provides a comparison of the two approaches:

	Pipeline forecasting	**Short-cycle forecasting**
Data dependency	Accurate and timely assessment and tracking of project schedule and progress	Accurate, timely and sufficient current and historical data on project volumes and trends
Human dependency	PMC field staff maintaining relationships with customers for visibility into progress of projects	Timely reporting of incentives by downstream trade allies and distributors
Risks	Large projects unexpectedly delayed, especially those scheduled to complete in Q4	Changes in exogenous environmental factors (e.g., legislative, economic, behavioral) Lack of historical experience for the incentive/project type being forecast

Most sectors/programs employ a combination of the two approaches to create their forecasts. The short-cycle forecast typically makes up a larger proportion of the Q2 versus Q3 forecast because only projects initiated in the first half of the year are known at that point. Programs, such as downstream lighting, however, rely exclusively on short-cycle forecasting due to incentive costs only being reported after the work has been completed by partners and the incentives paid. On the other end of the spectrum, only pipeline forecasting is used for strategic energy management (SEM) projects because project schedules are fixed.

Frequently, the forecast layers on expert judgment to adjust for expected variances that cannot be accounted for in the standard methodologies. These adjustments can be recommended by the PMCs and negotiated with Energy Trust, or Energy Trust program managers may choose to adjust forecasts based on their understanding of in-progress projects and plans for the remainder of the year.

The figures below show the forecasted and actual variances from incentives budgets for the four major sectors from 2021-2023. Of note is that with only one exception (Commercial, 2023), Q2 and Q3 forecasts have always been directionally correct. That is, even if actual variance was significantly different than the forecasted variance, the forecasts still provided the correct signal as to the direction that costs were headed.

This pattern also poses a question about how Energy Trust is using the forecasts to adjust course. Modifications to strategy or operations in response to a significant forecasted variance should be reflected in the year-end actual costs being closer to the budget amount than the forecast predicted. However, that is not what the data shows. Unknown is whether Energy Trust chose not to make changes in response to the forecasted variances, or whether interventions were implemented but did not have the expected impact on year-end actuals.

Figure 1. Commercial Incentives Forecast & Actual Variance, 2021-2023

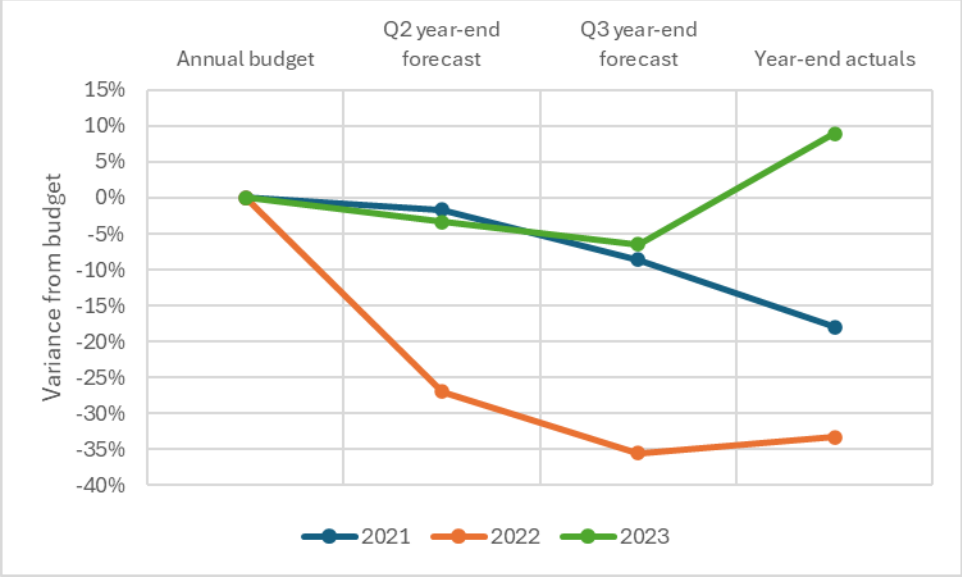


Figure 2. Industry & Agriculture Incentives Forecast & Actual Variance, 2021-2023

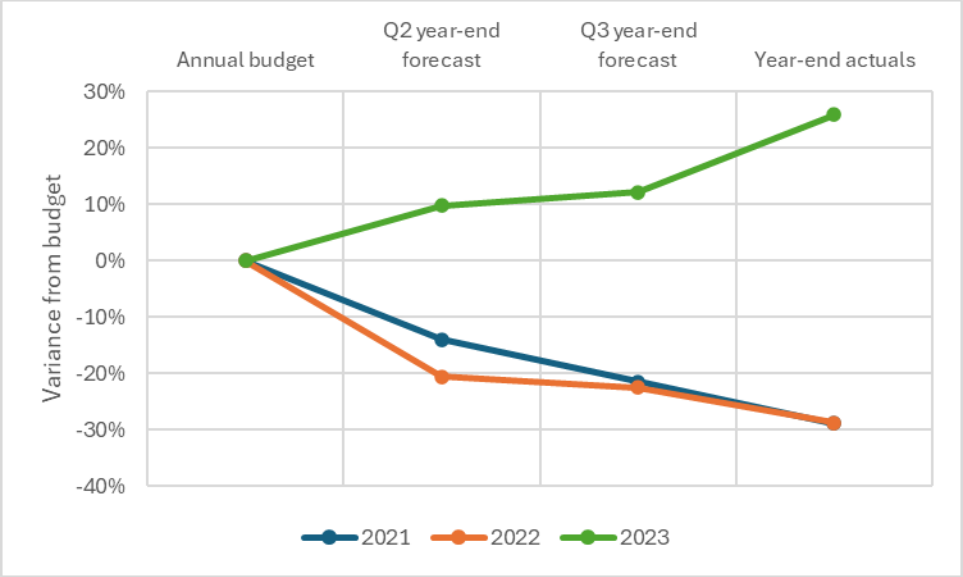


Figure 3. Residential Incentives Forecast & Actual Variance, 2021-2023

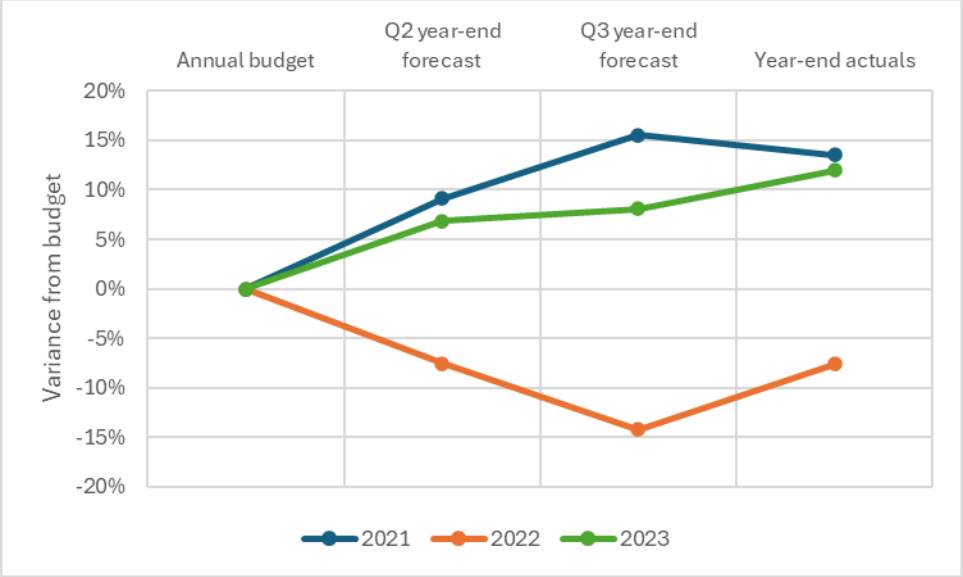
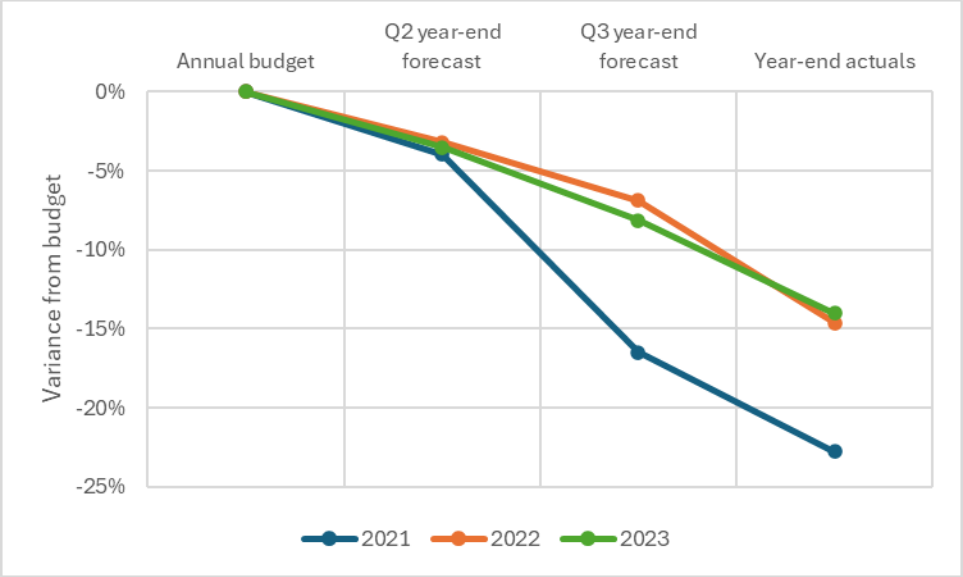


Figure 4. Renewables Incentives Forecast & Actual Variance, 2021-2023



Forecasting: Program Delivery Contractor Costs

Forecasts of program delivery costs also depend on estimates from the PMCs, using one of two methodologies. One is driven by estimating program delivery contractor (PDC) costs as a proportion of incentive costs based on historical averages. The second bases PDC cost estimates on historic run-rate curves determined by averaging expenditure patterns over past fiscal years, with recent years weighted more heavily. As an illustration, assume the weighted average PDC expenditures in the first two quarters of the fiscal year account for 30% of the annual total. If the actual PDC expenses as of Q2 are $3 million, the Q2 forecast for total annual PDC costs would be $10 million.

The figures below show forecasted and actual variances from PDC budgets. In nearly all cases the absolute forecast and actual variances have been under 10%. As with the incentives cost forecasts, PDC cost forecasts have predominantly been directionally correct compared to actuals.

In 2021 and 2022, finding sufficient labor was particularly challenging, which contributed significantly to the underspending of the PDC budgets. With the labor market easing in 2023, this has generally been less of an issue. The PMCs also noted that Energy Trust's diversity requirement in PDC spending can lead to unused budget, either because qualifying firms are difficult to find, or because these firms tend to be small and specialized, and the unexpected loss of one or two employees can render them unable to deliver on the contract.

Figure 5. Commercial PDC Forecast & Actual Variance, 2021-2023

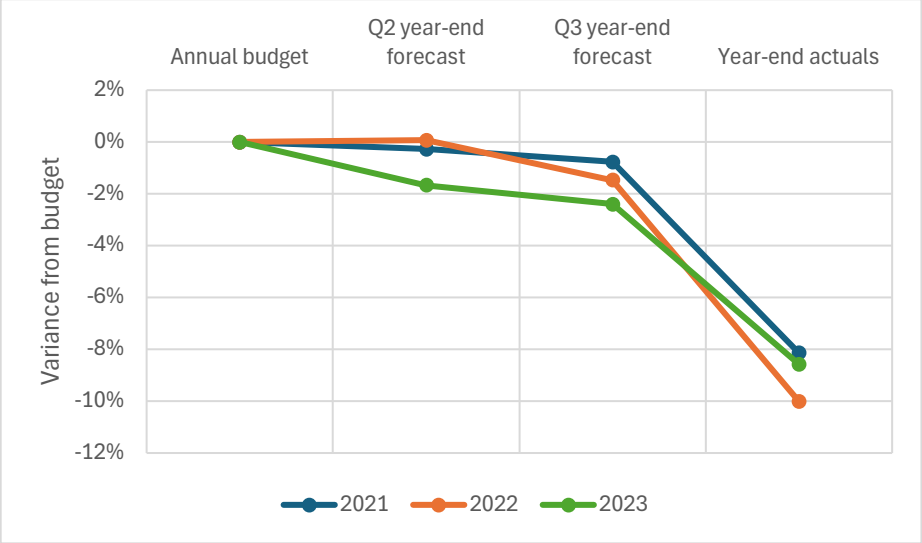


Figure 6. Industry & Agriculture PDC Forecast & Actual Variance, 2021-2023

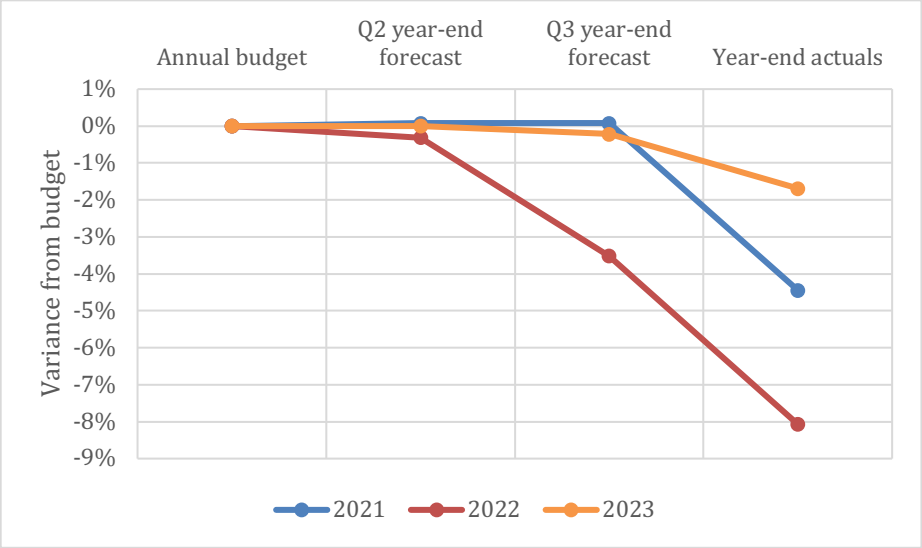


Figure 7. Residential PDC Forecast & Actual Variance, 2021-2023

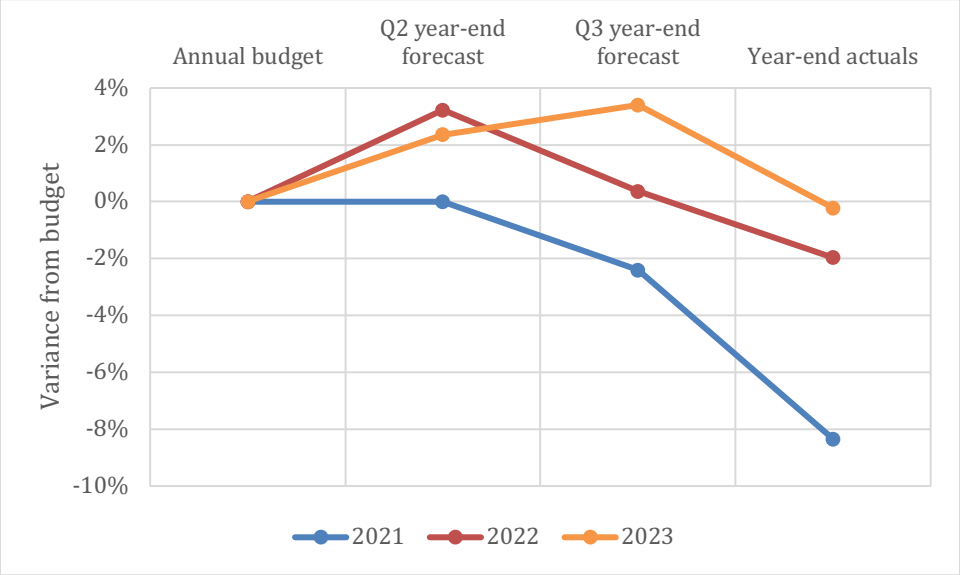
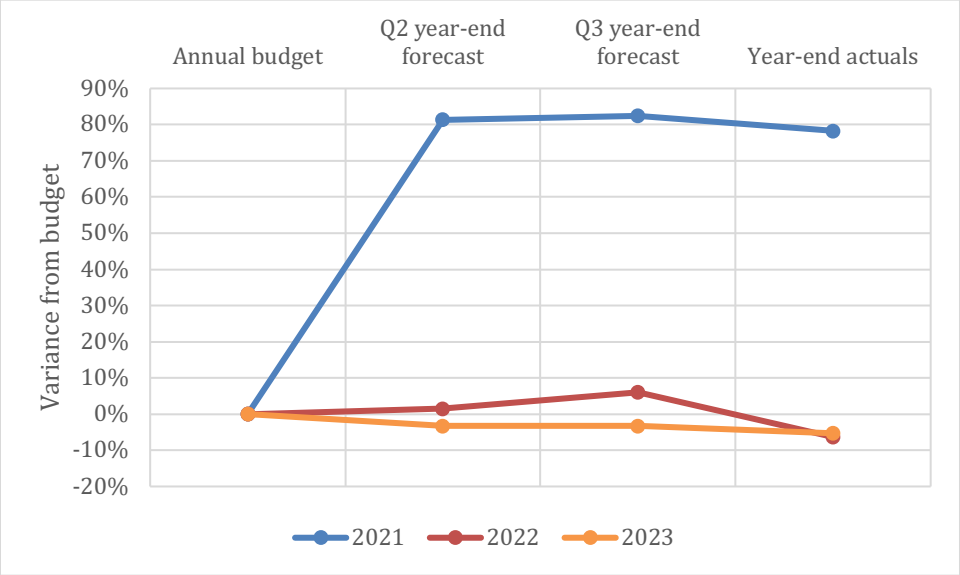


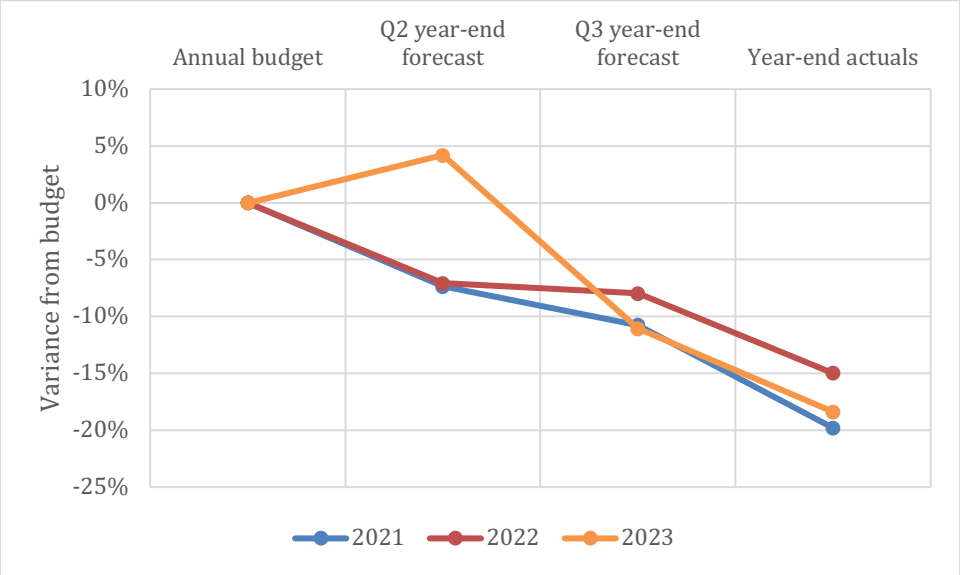
Figure 8. Renewables PDC Forecast & Actual Variance, 2021-2023



Forecasting: Energy Trust Internal Costs

Energy Trust's internal cost forecast is based on estimates provided by programs and administrative units. The figure below shows forecasted and actual variances of internal costs compared to budget.

Figure 9. Energy Trust Internal Costs Forecast & Actual Variance, 2021-2023



From 2021 to 2023, internal cost budgets have consistently been underspent by 15% to 20%. The Q2 and Q3 forecasts have shown expected underspending, but not to the degree that is realized in the actuals. The underspend across all three years can be principally accounted for by the combination of four budget lines, all related to external contracted services:

- Agency Contractor Services
- Planning and Evaluation Services
- Advertising and Marketing Services
- Other Professional Services

The actual variance among these combined categories has ranged from -29% to -39%, accounting for $4.8 to $6.7 million in unspent budget.

If only the administrative (not program support) budget is considered, the variance has ranged from -5% to -10%, with most of the underspend still found in the same contracted services categories.

Point Estimate Forecasts

One important aspect of Energy Trust's forecasting practices across all cost categories is the exclusive use of point estimates. Templates used by PMCs to submit forecasted values and internal budgets, and reporting systems accommodate only a single value. Currently there is no means to incorporate different levels of uncertainty or precision in the forecast.

External Research

External research was intended to include interviewing five peer organizations to learn their forecasting methods and processes to inform a comparison with Energy Trust's practices. After three interviews, it was learned that either the organizations did not utilize a formal forecasting practice, or because of significantly different budgeting circumstances, forecasts were not required. Once learned, 1961 Consulting and Energy Trust pivoted and decided to go deeper in understanding the PMCs' methodologies used to create the forecasts on which Energy Trust depends and allow the 1961 Consulting subject matter expert (SME) to assess current forecasting practices back into the PMC inputs.

PMC meetings with Energy350 (Industry & Agriculture sector), TRC Companies (Commercial sector) and CLEAResult (Residential sector) were extremely fruitful in understanding not only methodological details, but forecasting challenges specific to certain programs, historical context for past forecast performance, and feedback on Energy Trust's forecasting requirements and processes.

The PMCs shared generally positive feedback about Energy Trust's requirements and processes for forecasting, including:

- Tools and technology in place that streamline submitting forecasts and accessing historical data
- Opportunity to meet weekly to discuss changes to the portfolio forecasts

Some areas of concern were also shared, including:

- Increasing frequency of required forecast updates, which imposes additional burden without producing better accuracy
- Expectation of PMCs to accurately budget and forecast for new types of incentives and higher levels of incentives than there is historical experience
- Lack of visibility into how transitioning to 6-quarter forecasting will affect requirements from PMCs

Assessment

The following assessment incorporates information from conversations with Energy Trust and the PMCs, but primarily draws upon Vince O'Neill's extensive experience in forecasting and business analytics across diverse domains and use cases, as well as graduate training in statistics and econometrics. For a more complete bio, please reference Appendix 2.

Accurate forecasting is very difficult, even in the steadiest economic times. Across many domains, the pandemic and subsequent socio-economic upheaval from factors such as inflation, housing availability, and consumer and worker behavioral change, have rendered the best models and smartest forecasters wrong. Correlations between economic factors that have been cornerstones of forecasting for many years have become unreliable and quite simply, the future no longer looks enough like the past to be able to accurately predict it in many cases.

Some specific forecasting challenges that Energy Trust faces include the seasonal pattern where the large majority of incentive costs are incurred in Q4, the proverbial "hockey stick." While the general pattern may be consistent from year to year, the scale of the upsurge may not be. Additionally, occurring at the very end of the year, there is no opportunity to adapt to

unexpected patterns. Energy Trust's business is also subject to the changing regulatory environment, where timing and impact on customer behavior are both uncertain. Most recently, Oregon's move to ban fluorescent bulbs had a dramatic effect on demand for Energy Trust's lighting programs.

After reviewing the forecasting approaches used by the PMCs, along with Energy Trust's internal processes, there are no discernable methodological or process shortcomings that materially affect the reliability of the forecasts.

The reader may be expecting an evaluation of forecast accuracy as part of the Management Review; however, in the context of budget forecasting, a valid measure of accuracy is not possible. At the point in time that the forecast is created, it is based on the implicit assumption that everything about programming and operations will be held constant through the end of the year. Given that the very purpose of the forecast is to inform decisions about adjustments Energy Trust needs to make to reach budget targets, the year-end actual costs reflect a combination of results up to the point in time that the forecast was created, and results over the remainder of the year that are influenced by changes made in response to the forecast.

The quality of pipeline forecasts depends on maintaining visibility into the progress of projects, and PMCs are clearly investing in field resources to maintain relationships and information flow. Additionally, the PMCs have robust systems in place to track and report on this data and provide weekly updates to Energy Trust. There may be an opportunity to improve pipeline forecasts with a more sophisticated approach to estimating confidence ratings, but this would require a significant investment in experimentation and development by the PMCs and Energy Trust.

The methodologies used by the PMCs for short-cycle forecasting are reasonable approaches given the class of problem and the nature of the data. Whether different methods would provide better results is strictly an empirical question which can only be answered through experimentation and testing. Regardless of changes to the methodology or algorithms, these forecasts will be hampered by the challenge of limited data, the recent history of socio-economic disruption, and the increasing volume and variety of incentives offered by Energy Trust.

More significant opportunities for improvement exist in how Energy Trust uses forecasts. As noted previously, current processes and systems use a single point estimate, which can lead to sub-optimal decision-making. In statistics, a point estimate or other measure of central tendency (i.e. mean, median) is a representation of a distribution of values. By itself, it is not particularly useful because it communicates nothing about the range of values that it is summarizing. This is why in statistics, standard practice is to report both the measure of central tendency *and* a measure of variation (e.g., variance, standard deviation, range). In forecasting, the point estimate should be accompanied by a measure like standard error, confidence intervals or error range to convey the level of uncertainty associated with the point estimate. Specific to Energy Trust's cost forecasting, a point estimate may indicate expenditures will exceed the budgeted amount for the year, but if the error range is sufficiently wide that it straddles the budget amount, the certainty of actual expenses exceeding budget is low. Therefore, decisions about how to

respond to a particular forecasted value could and should change depending on the level of precision associated with the estimate.

Recommendations

4. **Standardize use of sensitivity/scenario analysis to understand precision of forecasts.** Energy Trust must systematically capture and consider the level of uncertainty in the forecast as a crucial input to how they choose to respond to it, and how accuracy is assessed after the fact.

   While a high-precision forecast that shows significant variance from the budget would warrant immediate action to course-correct, a lower precision forecast with the same point estimate could have a forecast range that shows possible outcomes over or under budget. In this case, management may choose to monitor costs closely for a period of time before acting.

   Conducting the sensitivity analysis begins with identifying the highest risk inputs and assumptions of the forecasts. For pipeline forecasts, these could be the large projects that are at risk of not actually completing during the fiscal year. While there are a variety of ways to estimate the level of uncertainty, a common approach is to apply Monte Carlo simulation to understand the distribution of possible final outcomes given the levels of uncertainty associated with the projects. Implementing Monte Carlo for this type of analysis is accessible to anyone with intermediate Excel skills and a basic understanding of the method.

   For short-cycle forecasts, special attention should be paid to new types of program incentive offers and new segments of customers. Again, various scenarios should be simulated over the full range of plausible market responses to understand what the effect on the forecast would be. This same approach could be used to understand the range of effects from new regulations or changes to other exogenous factors. In addition, model-based time series methods, such as exponential smoothing, produce standard error estimates based on historic performance, which provide insight into the historic precision of the estimates.

   Some of the PMCs are already conducting sensitivity and scenario analysis, but there is currently no means to include those in the data they submit to Energy Trust.

   In cases of high uncertainty and the potential to overrun budgeted incentive expenses, Energy Trust could then decide either to adjust current tactics, or perhaps assure that adequate reserves are available to cover potential overruns.

5. **Create standard report of historic forecast performance.** Improving forecasting requires consistent, systematic review of past experiences. Standard financial reporting should include historic cost forecasts compared to budgeted and actual expenses, at the lowest level of organizational granularity that forecasting is performed. This type of reporting will be even more important with the transition to rolling 6-quarter forecasting, where the target date of the forecast changes with each iteration. Creating such

a report in Power BI should be straightforward assuming the required data infrastructure is in place.

6. **Align forecasting updates with business decision cadence.**
   A common inefficiency in the use of business analytics is investing effort in creating and updating analytical output when there is no opportunity to make business decisions based on the results. While there is a temptation for management to want to know "where things stand," that actual business value can be less than the investment to complete the work. Energy Trust should formalize the process and timing for reviewing forecasts and taking action on them, and then require forecast updates from PMCs based on that schedule.

7. **Revisit budgeting process for professional services.**
   The internal costs budget has been consistently underspent, primarily because the actual use of professional services fell far short of budgeted amounts. For the portion of internal costs not directly influenced by program vagaries, this is not a forecasting issue. It is more likely a dynamic in the budgeting process that incents planning for services that may not be necessary, or for which there is not time and/or people to use.

   It is recommended that Energy Trust creates an incentive for directors and/or senior managers (managers responsible for budgeting) to meet budgets within an acceptable range. This could be incorporated into their work plan goals and follow "flow downs" deeper into the organizations. Accomplishment of the work plan goals influences future compensation, and in this way would communicate the desired accountability to stated budget variance levels.

   For-profit corporations usually have a personal performance metric for leaders tied to meeting financial thresholds. This can be a range or a target with an acceptable variance percentage. This type of metric is part of an annual performance review and may be tied to an annual bonus. Some non-profit organizations also utilize personal performance metrics, though it is not as customary as with for-profit corporations.

8. **Stagger incentive program timelines to moderate the "hockey stick".**
   From a budget and forecasting perspective, the "hockey stick" dynamic at the end of the fiscal year is one of the biggest challenges for Energy Trust, its PMCs, its funders, its Trade Allies, and likely other stakeholders. As Energy Trust transitions to multi-year planning and rolling 6- quarter forecasting, there is an opportunity to dampen the "hockey stick" by not tying all program incentive offers to the calendar year. Instead, they could be anchored to any 4-quarter window.

   Not only will this likely improve forecasting accuracy, but by doing this, the crush of work that now happens at the end of the year because of a single common deadline would be spread out by staggered deadlines across the four quarters.

9. **Increase the use of field data collection tools.**
   One of the biggest potential improvements to short-cycle forecasts would be to increase the freshness and completeness of data from trade allies and distributors. Deploying more field

data collection tools (and perhaps incentives to use them) would increase the amount of information about incentive spend available to be used by the forecasting models. This improved data infrastructure would also provide earlier signals of unexpected market response.

Suggestions

- **Implement automated forecasting function in Prophix.**
  The Prophix FP&A software includes an automated forecasting module that Energy Trust has not yet implemented. This module would provide value as a reference point for evaluating the forecasts from the PMCs. The Prophix module applies standard time-series forecasting methods to historic data to produce future estimates. Cases where the PMC-submitted forecast deviates substantially from the automated forecast would provide an opportunity to discuss underlying causes of that deviation and to potentially improve the forecast.

- **Convene a conference on methods used for short-cycle forecasting.**
  The PMCs currently apply different methods to create short-cycle forecasts. None of these methods are demonstrably wrong, but they may not be optimal. Energy Trust could use its convening power to bring together PMC representatives for an open discussion about different methods for producing short-cycle forecasts, which likely would benefit the PMCs, in addition to Energy Trust. Better still would be to draw participants from across the energy conservation industry to broaden the expertise and methods represented. Lastly, Energy Trust could consider inviting academic or other experts to join the conversation, especially those who are familiar with recent developments in machine learning-based methods for forecasting.

- **Develop model-based confidence factors.**
  As currently used, project confidence factors are set according to experience and professional judgement. An alternative would be to develop a modeled confidence factor, likely using logistic regression. These models could be based on attributes of individual projects, along with scheduled timeline relative to the end of the fiscal year (or a new time horizon under multi-year planning). There is no guarantee that this approach would better forecasting results, but as Energy Trust looks to improve its forecasting, it will require experimentation, some of which will fail.

- **Decrease granularity to simplify forecast creation**
  PMCs are currently building up short-cycle forecasts from the measure level, defined by the combination of the equipment/technology being adopted and what is being replaced. This is an extremely granular level to start from, creating complexity in the forecast maintenance and update process. It is also unlikely to produce better forecasting accuracy. Data volume is a key factor in forecasting, and creating separate forecasts at the measure level undoubtedly limits the amount of data available. A better approach may be to identify groupings of measures that tend to behave similarly over time and build forecasts on those groupings.

- **Reduce the need for high forecast accuracy.**
  Improving forecast accuracy beyond a certain point is not possible, but that may not change the fact that the level of inaccuracy Energy Trust is currently experiencing is problematic. Part of the solution may lie outside the tools and process of forecasting. When the forecast variation is outside of Energy Trust and the PMCs' control, consider what can offset or mitigate the impact of the randomness. Other strategies may include:
  - Provide a higher reserve in consultation with the OPUC and funding utilities. This reserve could be held by Energy Trust or the utilities, but it would keep the utilities from needing to fund Energy Trust "over performance" outside of their annual budget cycle.
  - Provide the OPUC and utilities with a range of funding needs and allow them to decide how much to fund through rates. Similar to estimating the level of uncertainty in forecasts, the budgeting process could include an assessment of what programs and program incentive offers have a higher level of uncertainty associated with their expected performance in the market. A method like Monte Carlo simulation would be appropriate, as well as more ad-hoc approaches.

Topic Area C: Program Delivery Growth

In addition to the required examination of Energy Trust administrative costs, the OPUC grant agreement requires this review to compare similar and related programs operated by peer organizations and offer suggestions for improvement. The Management Review executive sponsors identified three key subjects related to program delivery to examine. Based on these questions, this area is subdivided into three sub-topics:

1. Program Efficiency and Scalability Tools – What tools or resources are other organizations using to ensure program cost efficiency and scalability?
2. Program Equity and Inclusion – What have other organizations done to be more inclusive and equitable in programs? Have efforts to increase their proportion of historically underserved customers impacted their ability to meet savings goals?
3. Program Growth – what challenges did peer programs face during periods of growth; how did organizations address those challenges, and what lessons were learned? How much scope do organizations self-perform versus contract out?

Program Efficiency and Scalability Tools: Current State

Many of Energy Trust's IT systems automate processes, organize information, and create self-service information exchange with PMCs, PDCs, trade allies and other vendors to make program activities more efficient and scalable. Notable examples include:

- Project Tracker – Central location for bulk processing, concurrent auditing and incentive payment creation.
- PowerBI – Library of QA/QC reports that flag potential issues throughout the forecast and payment processes, replacing queries and manual checking by staff.
- Power Clerk – Management of trade ally facing forms across solar programs by program staff without the need of IT resources.
- Application Programming Interface (APIs) – Allows for data transfer from PMC, PDCs and vendors directly to Energy Trust systems and database, eliminating double entry of data.

Energy Trust also invests in non-technological resources for developing efficiency and scalability. Examples include:

- Cross-Program Policies and Procedures (under development) – A single source for documenting standardization across all programs.
- Energy Trust Programs Operations Team – A team of approximately 12 employees responsible for developing program efficiency, focused on project tracking and incentives processing. The Programs Operations Team also takes in and addresses feedback on programs from stakeholders, along with other responsibilities. Currently, this team spends approximately 10-15% of their time on process improvement and operational efficiency.
- DEI is an organizational value, and its contractor network is a key to reaching new customers, but also to bring diversity to the contractor network. A significant move in scaling this was a recent change Energy Trust made relative to small and diverse contractor certification qualifications. Energy Trust has expanded beyond Oregon's COBID programs to include the federal socio-economic programs that the Small Business Administration manages. Now PMCs can contract with small and diverse contractors with state and/or federal certifications. This has allowed for an exponential

growth in available qualified firms and also expands the pathways available to contractors, including those in underserved and underrepresented communities.

Energy Trust does not measure and track program efficiency through operational metrics (KPIs), outside of high-level spend efficiency via cost tests:

- Total Resource Cost Test
- Levelized Cost
- Utility Cost Test
- Savings Realization Adjustment Factors (SRAF)

Customer satisfaction via surveys and short phone calls is also tracked; however, this effort is focused on overall satisfaction, not on operational metrics (e.g., complaint resolution time).

Energy Trust captures a myriad of metrics related to program delivery. Historically, the use of this data has been focused on improving customer experience and are often carried into PMC contract service level agreements.

Additionally, there are specific areas that Program Operations staff recognized as opportunities for efficiency and scalability:

- There is unnecessary overlap in program investments in brand marketing, internally led program marketing, and PMC led program marketing.
- Measure development by PMCs can lead to a suboptimal design because it is sector focused. In addition, with an internal Energy Trust planning and evaluation team, there can be overlap in measure development with PMCs.
- Existing manual or paper-based processes, most notably the use of paper applications despite the availability of more efficient digital tools.
- Small and diverse contractor certifications Energy Trust recognizes has been expanded beyond Oregon's COBID programs to include the federal socio-economic programs that the Small Business Administration manages. Now PMCs can contract with small and diverse contractors with state and/or federal certifications. This has allowed for an exponential growth in available qualified firms and also expands the pathways available to contractors, including those in underserved and underrepresented communities.

Program Efficiency and Scalability: External Organizations Comparison

Peer organizations shared strategies and tools that had been effective in maintaining efficient and scalable program delivery. Some aligned with similar Energy Trust practices:

- Annual budget process with stakeholder feedback and process assessment.
- Regular evaluation processes and customer satisfaction surveys.
- Standardization of policies and procedures, including a brand guide for marketing.
- Tasking an internal team with improving program processes.
- Interconnected systems and/or data integration feeds to reduce manual entry and streamline access to information within the organization and outside partners.

Comparators also cited practices that may be new ideas for Energy Trust:

- Field audit tool that captures notes and pictures and pre-populates audit reports.

- Required use of digital field tools to eliminate transcription of applications provided on paper or in PDF format. One comparator that does not require use of digital field tools indicated low usage, similar to Energy Trust.
- Workforce automation tool for scheduling and reporting on assessments.
- Self-service residential audit tool (under development).
- Regular meetings with other Program Administrators to discuss challenges and solutions.
- Mid-year implementer reviews.
- Use of operational metrics for monitoring efficiency of program processes and setting operational improvement goals.

Three of the five external organizations interviewed utilize operational goals and metrics (KPIs) and track them as part of their standard management practices. It should be noted, Energy Trust tracks similar metrics, but for purposes of customer experience, not program delivery efficiency. Following is a consolidation of the various metrics:

- Sales pipeline: (tracked via CRM system)
    - # of opportunities created
    - # of applications created and associated savings
    - # of projects sold and associated savings
    - Process turnaround times
    - Conversion rates
- Program/project application review cycle time:
    - Average application cycle time
    - Average application approval time
- Program/project operations and delivery cycle time:
    - Average time from draft report to reported savings
    - Average time from application receipt to PO
    - Average time from customer's acceptance into program until delivery of customer energy audit report
    - Average time from project committed to project completed (incentive paid and savings claimed)
    - Average time from “ready for inspection” to result
    - Average time from “ready for file review” to result
    - “Ready for payment” to invoiced
    - Average time from completed application to incentive paid
    - Application processing errors
    - Rejections rate of file imports
- Customer success and complaints:
    - Contractor timeline complaints
    - Customers reporting complaints
    - First contact resolution rate
    - Average time to resolution
    - Average wait time in call center queue
    - # of abandoned calls

Comparator organizations also cited challenges to efficiency and scalability they have faced. Where a successful solution was developed, those are also shared:

- Multi-family and mixed-use customers did not have a clear place to go within the program structure and needed to access multiple programs. This organization created a one-stop shop for those customers.
- Customers interested in engaging with energy efficiency programs had to choose a measure specific pathway. For customers not clear on which measure they should pursue, there was no clear entry point. This organization is moving toward a holistic service structure that can speak to all programs in the service territory and is adding a navigator-type service, where customers are assigned a program representative to guide them through program processes.
- Sourcing program delivery contractors in particular parts of the state is difficult for one comparator because advertising is extremely expensive in certain places. Contractors rely on word of mouth within an existing network of customers and can't afford to widely advertise additional services or access to program incentives to new customers. This inhibits expansion into some areas and with some customer segments that energy efficiency and renewable energy program administrators most want to reach. No effective solution has yet been found.
- Database of record for all program information requires manual entry of application data (approximately, 40k applications per year) and doesn't integrate with any external applications. This organization has not yet found an effective solution.

Program Efficiency and Scalability: Assessment

Energy Trust employs or is pursuing many of the strategies shared by peer organizations to make programs more efficient and scalable. As previously mentioned in Area A on administrative cost efficiency, there are multiple opportunities to improve. The key is to identify those that are most impactful, dedicate resources and allow them to focus to realize the benefits. Pursuing too many good ideas, runs the risk of diluting and delaying the benefits.

To assist in that prioritization, it will be important for Energy Trust to have operational goals and metrics (KPIs). KPIs serve multiple purposes, such as personal and program-level goals, as ways to measure progress and compare across time, programs, and peers, and to help with decision-making and prioritization. As Peter Drucker eloquently said, "You can't manage what you don't measure."

The topic of advancing the use of digital tools has surfaced in each of this management review's topic areas. In the case of programs, not only is it an opportunity to realize efficiencies, but the use of digital tools is growing as a way to extend reach. Having apps and portals that customers and contractors can easily use is critical to capturing their interest. With such platforms established, successful organizations utilize a myriad of tools or applications to establish stronger bonds with customers, resulting in greater customer penetration. An example is omnichannel customer journeys. These tools utilize digital platforms to create an individual customer's end-to-end series of key interactions with an organization, spanning from the start of the customer lifecycle to the point of purchase and beyond across all available channels.

Additionally, Energy Trust should analyze the costs associated with manual duplicate entry of applications submitted in PDF or paper format to understand the value of implementing strategies to increase the rate of digital field tool use. At future scale, these costs are likely significant. Comparator organizations that required use of digital field tools reported significant resistance at the outset, but it ultimately created benefits for the programs.

Other efficiency opportunities suggested by Energy Trust Programs Operations staff, e.g., unnecessary overlap between brand marketing, internally led program marketing, and PMC led program marketing, were not further analyzed during the management review.

Recommendations

10. **Utilize operational KPIs to drive program efficiency.**
    Comparator organizations use a wide array of metrics or KPIs to measure performance of program sales and delivery. These metrics provide not only a quantitative measure of performance but also metrics for setting program delivery improvement goals. For example, these would be helpful to inform whether it is worthwhile to further analyze the overlap between brand marketing, internally led program marketing, and PMC led program marketing.

    Energy Trust should examine key program delivery processes and establish metrics that measure efficiency. These may then be utilized to set goals for improvement. This can also tie back to adoption of a Lean methodology. A worthwhile KPI to adopt can be percent or number of “non-value add” activities in a particular value stream.

11. **Drive the use of digital tools.**
    Whether use of digital tools becomes a requirement of program participation or Energy Trust uses education, influence, and/or incentives, adoption of digital tools holds a myriad of benefits that make it worth the investment.

Suggestions

No Suggestions.

Program Equity and Inclusion: Current State

Energy Trust programs track both Oregon Public Utility Commission (OPUC) equity metrics and internal Diversity, Equity and Inclusion (DEI) goals. Goals vary across programs and are increased annually. The result is a diverse set of goals related to rural engagement, integrated and tailored multicultural marketing, small to medium business, low-cost/no-cost residential offerings, energy resilience, low-to-moderate income (LMI) solar, community solar, workforce and supplier diversity, and delivery to specific census tracts with a high proportion of priority populations.

The table below summarizes OPUC required equity metrics used to drive and evaluate Energy Trust’s equity efforts relative to those it serves:

OPUC Equity Metrics for Energy Trust			
Theme	**Metric**	**Equity Dimension**	**Barrier Addressed**
1. Access to support for communities	Increased support to nonprofit organizations with a purpose to serve environmental justice communities or to support nonprofit-led initiatives serving environmental justice communities. Increased support can be incentives, training and funding for energy efficiency upgrades, solar, or solar-with-storage projects.	Structural, Distributive	Lack of capital to participate in traditional programs
2. Access to information	Increased funding to support targeted outreach to environmental justice communities, including funding for community ambassadors, education and workshops.	Procedural, Distributive	Connecting to trusted and relatable energy information
3. Energy burden reduction	New and expanded low-cost and no-cost offers to reduce energy burden created and launched.	Structural, Distributive	Lack of capital to participate in traditional programs
4. Community reliability and resilience	Solar and solar-with-storage system projects supported for low- and moderate-income residents in areas with limited infrastructure or high energy burden.	Distributive	Limited resources and increased costs for projects in some areas

Source: Public Utility Commission of Oregon Staff Report, Public Meeting date: December 13, 2022

Additionally, Energy Trust established DEI goals that guide its actions internally and externally:

Energy Trust Diversity, Equity and Inclusion Goals	
Goal	**Metric**
1. Increase Representation and Readiness	Number of cultural awareness trainings and events attended by Energy Trust staff.
2. Shift and Share Leadership and Power	Number of community members who participated in Energy Trust projects, initiatives or advisory groups to provide input and influence program design.
3. Increase Community Capacity and Increase Investment in BIPOC,	Percentage of expenditures to subcontractors on contracts over $100,000 paid to businesses certified by the Certification Office for Business Inclusion and Diversity (COBID) as a Minority Business Enterprise, Women

Low-income and Rural Communities	Business Enterprise, Service-Disabled Veteran Business Enterprise or Emerging Small Business.
4. Increase Transparency and Accountability	Energy Trust exceeds its 2023 Oregon Public Utility Commission performance measure on equity.
5. Deepen Engagement in BIPOC, Low-Income and Rural Communities	Number of community engagement activities planned for 2023 and results from those completed engagements.

Energy Trust is currently developing its DEI Strategy, which will be completed in 2024. Its existing efforts to meet DEI goals that specifically relate to programs include:

Workforce Development:

- Supporting 17 contractors in the Existing Building cohort for the Contract Development Pathway, which offers diverse trade allies technical and business support and mentorship. Will launch a cohort for Residential and Existing Buildings contractors in 2025.
- Developing Trades Workforce Development Strategy, a multiyear, regional plan that will be developed in partnership with community members, workforce groups and trade allies to identify needs and associated tactics to best meet those needs and long-term funding opportunities.

Cultural Awareness Development:

- Staff members attended cultural awareness trainings and events

Working Groups and Advisory Council:

- Diversity Advisory Council – provides input into draft 2025-2030 strategic plan, efforts to support diverse businesses in the Trade Ally Network, and use of the Tribal Working Group.
- Energy Trust Tribal Working Group – regularly provides input on strategies to provide greater benefits to tribal customers and increase program participation.

Supplier Diversity Program:

- By mid-2024, 19% of payments to prime contractors on large contracts went to certified MWESB subcontractors.
- In 2024, added a prime contracting program for all contracts over $10K to track dollars awarded to MWESB contractors.

Community Engagement:

- A dedicated outreach staff exists
- By mid-2024 conducted 20 engagement activities for the year.
- Outreach staff regularly attend other events to connect with diverse groups

Community-based organizations (CBOs):

- To effectively and efficiently reach traditionally underserved communities, Energy Trust partners with CBOs, while creating a feedback loop for stakeholders and supporting community capacity building efforts.
- Staff meets with CBO partners on a monthly basis to understand their needs and where Energy Trust can better support them.
- Working Together Grants to CBOs fund trainings and presentations to help share energy saving resources.
- Community Partner Funding program – a set of higher incentives that participating CBOs can access for clients experiencing low to moderate incomes; communities of color; rural communities; indigenous communities; veterans; people with disabilities; and renters.

The primary barrier to increasing historically underserved populations participation is funding for no/low-cost offers and programs. The Programs Operations Team believes that without designated funding that doesn't require trading off against traditional programs, their ability to grow historically underserved population participation is constrained.

Program Equity and Inclusion: External Organizations Comparison

The key questions in this area of the Management Review were both quantitative and qualitative in nature, wanting to understand if and how peers were exceeding at reaching the historically underserved, while continuing to deliver on their overall savings and generation goals.

To quantitatively understand whether pursuit of savings focused on LMI customers was impacting peers' ability to meet overall savings goals, we attempted to compare the incentive payment split between LMI and non-LMI customers, and overall energy savings performance against goals. However, a number of structural and data challenges with the peer organizations made a comprehensive comparison ineffective. In the course of the analysis, the following was learned:

- Multiple external organizations do not have goals or reporting requirements for reaching traditionally underserved customer groups, such as the LMI customer segment.

- Multiple comparators are responsible for only a portion of the portfolio which would skew their proportions of LMI savings or incentives. Examples include:
    - A comparator whose residential sector is made up almost exclusively of LMI-focused programs because utilities administer market rate programs in their state. This organization's overall portfolio cost effectiveness must balance savings and spend in their residential programs (almost all LMI savings) with highly cost effective large commercial and industrial programs.
    - A comparator with only new construction programs because existing buildings programs are administered by utilities in their state.

- One comparator plans and tracks incentive spend for "hard to reach" customers in residential and business programs, not LMI. Hard to reach small businesses include all restaurants and nonprofits, as well as businesses with the lowest utility account classification. Residential hard to reach includes all customers within certain zip codes, or that qualify for certain community services. This definitional difference from LMI

makes a comparison difficult. This organization's budget shows 33% of residential incentives and 28% of business incentives are planned for "hard to reach" customers in 2024.

- The remaining comparator organization reports "Income Eligible" (<60% State or Area Median Income) incentive spend within the residential sector. Residential Income Eligible incentives accounted for 30% of total residential incentive spend in 2023. This compares closely with Energy Trust's 28% of 2024 incentives planned for residential LMI customers [Note: 2023 actual figures for Energy Trust are unavailable]. The comparator has separate savings goals for "Income Eligible" residential customers and exceeded its 2023 Income Eligible annual savings goal across all fuel types by 18%. However, it fell short against its traditional savings goals by 24% in 2023. The organization does not attribute this shortfall in overall savings to be related to driving savings in the "Income Eligible" programs.

For those comparison organizations that have programs and strategies specifically focused on serving traditionally underserved customers, contacts cited multiple strategies for improving engagement and driving savings in this category:

- Partner with CBOs to inform and drive marketing and outreach efforts within target communities.
- Working groups made up of underserved community representatives and other stakeholders provide feedback on new and existing programs, policies and procedures, etc. and help develop solutions to identified issues. The structure may include multiple community-specific working groups across the service territory, or a single working group with representation from different communities across the territory.
- Emphasizing in-person outreach in target communities with a focus on existing community events.
- One participant has employees who fill an "equity steward" role within each program team to ensure that programs are incorporating equity aspects into programs, collaborating with underserved community stakeholder working groups, and considering the historically underserved community needs in all aspects of programs.
- Cost effectiveness calculation adjustments authorized by the organizations' regulators, such as:
    - Inclusion of non-energy benefits (e.g., social cost of carbon)
    - Cost effectiveness multiplier for programs targeting low-income customers. This is an alternative to reducing the cost effectiveness minimum requirement at the program or portfolio level.

They also cited a number of related strategies that may be of interest to Energy Trust:

- Building out tier of incentives for moderate income group to serve customers who are above current income thresholds but are generally not able to afford measures in traditional programs.
- Holistic language access program to provide materials and services in a more comprehensive set of languages to better serve diverse populations whose primary language is not English.

- Renter strategic plan, outlining landlord engagement activities and enhanced pathways to serve renter occupants.

Finally, some peer organizations see the growth in utility rates as a significant challenge to meeting both greenhouse gas reduction and equity goals. One participant believes these efforts are driving surcharges up to unsustainable levels. Unfortunately, none of the organizations interviewed had found a path to improvement, much less resolution.

Program Equity and Inclusion: Assessment

Energy Trust's current efforts and results in this area are more comprehensive than its peers. A number of those interviewed acknowledged Energy Trust for its work.

Recommendations

No Recommendations.

Suggestions

- **Consider peers' practices and build where there is opportunity to improve.** Energy Trust's current practices include much of what was shared by peers during the Management Review process, and if any are new or suggest opportunities for Energy Trust to enhance what it already does, pursue those. These might include adding additional community-focused working groups or developing equity steward roles.

Program Growth Challenges and Opportunities: Current State

As noted in Topic Area A, Energy Trust's headcount is expected to grow from approximately 114 employees at year-end 2021 to approximately 200 at year-end 2024. Energy Trust recognizes that this presents challenges, as well as opportunities. One of the primary challenges and opportunities will be to maintain and improve program cost efficiency. Key to the efficiency and effectiveness issue is the question of where to grow internally versus externally with PMCs, PDCs or others. Historically, Energy Trust has relied heavily on partners' capabilities and expertise. As the organization moves into a period of growth with additional funding sources, clients, geographies and requirements, strategically shifting certain resources internally could create efficiency and efficacy improvements, and strengthen Energy Trust's ability to cost effectively deliver energy savings and renewable energy.

Over the past three years the internal portion of Energy Trust's program delivery costs, excluding incentives, has remained relatively flat:

Internal Costs[1] Percentage of Energy Trust Total Program Delivery Spend (excluding Incentives)			
Sector	**2021**	**2022**	**2023**
Residential	12.7%	11.5%	13.2%
Commercial	11.2%	10.7%	9.5%
Industrial & Agricultural	17.0%	17.5%	17.6%
Renewables	49.6%	49.4%	52.8%
Total Programs	**15.7%**	**15.6%**	**15.8%**

Source: Energy Trust Statement of Functional Expenses

[1]Internal program delivery costs include salaries and benefits, and other costs necessary to support internal staff (e.g., rent and equipment, travel and meetings, software and hardware, etc.)

The executive team is presently pursuing a staffing sourcing strategy that will direct decisions around internal staffing plans versus external contracting needs. It was shared that the most notable planned insourcing is in marketing. The internal marketing team is expected to grow from 5 to 11 FTE with the insourcing of several creative and brand-related services. The timing for this action aligns with the demand for services that naturally comes with growth and a rebid on multiple PMC contracts. Being able to adjust PMC contracted services will simultaneously address the overlap and inefficiencies occurring with internal program marketing, PMC program marketing, and organizational-level marketing.

Program Growth Challenges and Opportunities: External Organizations Comparison

In the analyzed timeframe (2021–2023), none of the peer organizations experienced significant growth in total revenues or expenses. Some organizations experienced growth in parts of their program portfolio; however, their overall budgets remained unchanged, as utilities took responsibility for components of the statewide energy program portfolio. In addition, where there was growth, none had experienced it to the magnitude Energy Trust has between 2023 and 2024, and as it expects in the coming years.

Where growth was experienced, participants cited the following challenges and their strategies for counteracting:

- Demand outstripping the labor/contractor pool. Multiple participants mentioned this as an issue related to growth or a factor restricting growth in energy efficiency savings levels. In response to this constraint, participants have instituted a number of workforce development programs and strategies:
    - Direct recruiting from colleges and professional organizations
    - Professional certification trainings for tradespeople
    - Funding to expand apprenticeship and pre-apprenticeship programs
    - On-the-job training wage reimbursement program for companies that hire energy efficiency and cleantech roles.
    - Funding student internships at clean energy businesses
- One organization uses Community Action Agencies (CAA) to partner in delivering energy efficiency and renewable programs. [Note: These would be a similar type of organization as the CBOs with which Energy Trust partners.] When the pace of growth and desired adoption outstripped the CAAs' capacity, the administrator tapped its PMC

for expertise. The industry and process expertise of the PMC contractors coupled with the CAA connections in the community proved to be a force multiplier for demand.

- The pool of experienced and knowledgeable contractors is limited. When hiring contractors without extensive experience, adding new delivery partners, or using existing partners following new delivery processes, control mechanisms need to be in place to give greater visibility into the pipeline, especially the early stages. Without these control mechanisms in place, there can be unintended consequences.
- Building on the last point, when initiating growth strategies, the administrator needs to gauge the value stream's preparedness to handle the growth, and that goes beyond just ensuring there is sufficient funding. One organization was ill-prepared for the extent of success of one of their growth strategies, and the dramatic influx of applications overwhelmed the system, which caused them to need to shut off the program in the market—a highly undesirable action.

To understand the level of outsourcing within peers' program delivery operations a comparative estimate was attempted. Unfortunately, there is limited value to the quantitative comparison for multiple reasons:

- One administrator is contractually limited in their ability to outsource.
- One administrator is not allowed to perform any implementation activities, so program delivery is 100% outsourced.
- One administrator contracts its program administration to a PMC with a national footprint. Given the PMC size and diversity of the team, it is able to perform 90% of the program delivery work.
- Comparators are often challenged to separate program direct and indirect costs, as they can be blended in "administration" expenses.

Where external organizations have discretion to insource or outsource, the decision is based on the following rationale:

- Insourcing activities or functions is based on existing competencies or an identified need for tailored offerings within their service territory. Examples include:
    - Program planning and development – largely an in-house activity across comparators.
    - Customer call center and field contractors – in-house where local cultural sensitivity is of paramount importance.
    - Commercial & Industrial sales – where the larger organization has sales/relationship teams that are leveraged by the energy efficiency sales team.
    - Marketing – internal team that manages spend and standards with outsourced vendors.

- Outsourced operations tended to include functions outside of traditional administration roles where the comparator does not have a core competency, does not have a consistent need for the resource as an administrator, or is required to by their governing body:
    - Field services for residential programs
    - Evaluation, measurement & verification work
    - Engineering services

Program Growth Challenges and Opportunities: Assessment

Energy Trust is in a fortunate and somewhat unique position relative to its place on this industry's growth curve. As at other points in its history, Energy Trust may be the energy efficiency/renewable generation organization that paves the way for others in the industry to learn from its experiences.

Energy Trust has begun to plan for some execution risk as it enters a multi-year period of significant growth, but there has not been an organizational initiative to assess end-to-end execution risk. Only one of the peer organizations lightly touched on capacity constraints realized with delivery partners, but that may be because they have not yet experienced such heightened growth for a sustained period. Energy Trust has built a value chain with a network of strategic partners to serve the market with energy efficiency, small scale renewable generation, and new products and services in grid-connected technologies. These are relatively new networks, new organizations, and new skills related to delivering to end customers. This all implies risk when considering scaling fast. Knowing where the greatest points of failure risk exist is imperative for Energy Trust to focus attention and investment.

Interestingly, just as Energy Trust invests in CBOs and other organizations to provide capacity building and address this execution risk, Energy Trust finds its own organization in a similar position, as it begins this period of dramatic growth. The two major areas Energy Trust is already focused on, are considered paramount for an organization to navigate dramatic periods of growth. Those are:

- Building and retaining the right team
- Creating processes with the right technology

A first step in building the right team is deciding which roles and capabilities are strategic to the organization. Typically, an organization wants strategic capabilities to reside on its internal team. The Energy Trust executive team is presently developing its staffing strategy, so it is intentional about what capabilities will be outsourced versus insourced. Another part of the people strategy relates to building and retaining staff. Depending on what is underway, additional focus may be worthwhile in this area, particularly because this is still an industry whose expertise is not widespread.

Developing and then retaining staff is important to establish momentum during periods of growth. Complicating this can be the organization's culture. Whether that is maintaining a strong, existing culture as staff headcount doubles with new employees, or shifting an established culture because the future requires it. All of this, as part of a larger people strategy, is a key foundational element of successful growth.

Other parts of this management review speak to the role of technology as Energy Trust seeks to establish a strong growth strategy.

Recommendations

12. **Assess the value chain's capacity to execute growth projections.**
    Understanding weaknesses in key areas of the value chain (or end-to-end processes) of the business relative to the demands growth is expected to impose, is imperative to know where there is execution risk. It is not realistic to assume qualified resources will be readily available, and untested or inexperienced partners may cause processes to falter, or as was experienced by one comparator, drive growth beyond the program's planned capacity.

Suggestions

- **Optimize program and measure design and development.**
  Through some mechanism, not necessarily insourcing though it could be an option, limit the overlap in efforts across PMCs, eliminate sector-specific focus where a more global perspective is needed, and prevent PMCs from embedding proprietary systems and workflows.

APPENDIX

Appendix 1: Management Review Key Questions

Topic Category	Key Questions
Admin and Support Costs	1. How do administrative and staffing costs relative to total expenditures compare to other relevant organizations? 2. What other metrics are worthwhile to measure to provide insight to efficiency? 3. What is the appropriate amount to be invested in foundational information systems? Could be presented as a percent of total expenditures. 4. What are best practices to achieve administrative and operational economies of scale for an organization experiencing fast growth? 5. Energy Trust is in the midst of a transition from ~110 employees to in excess of 200. What risks and opportunities are there for efficiency and effectiveness during this transition?
Forecasting	6. What are best practices to partner with program management contractors to develop timely, realistic forecasts for incentives and delivery cost? a. Are there +/- thresholds of accuracy program management contractors are held to and what is the resulting consequence when forecasting falls outside of these thresholds. 7. Energy Trust actual financial results for internal costs routinely under-run forecast in certain areas. What are best practices for addressing this pattern with budget managers? 8. Energy Trust will be implementing a six-quarter rolling forecast model beginning in calendar year 2026. What are best practices for adopting a rolling forecast methodology?
Program Delivery	9. How much scope do organizations self-perform versus contract out? 10. What tools or resources are other organizations using to ensure their program specific processes and systems are efficient and scalable? 11. What have you adapted to be more inclusive and equitable in Programs? a. How do other organizations incorporate feedback and learnings (priority communities) into their operations? 12. What is your split of program cost/effort between traditional base of customer and those that have been historically underserved in the LMI category? In the last 2-3 years, have you met your savings and generations goals? 13. During your period of growth, what challenges did Programs face? These could include: cultural competency of staff or contractors, other skills of staff or contractors, structure? a. For each of these challenges, what did your organization do? What did you learn (i.e., based on what you did, what went well; what would you do differently)?

Appendix 2: Forecasting & Data Science Consultant Experience

Vince O'Neill brings to the 1961 Consulting Management Review team 30+ years of experience in business analytics and data science across diverse industries, domains and use cases:

- Applied advanced forecasting methods to provide solutions in university enrollment, customer retention, grant disbursements and real estate markets
- Graduate training in statistics and econometrics

WORK EXPERIENCE

Plunk • Bellevue, WA • 09/2019 - Present
Chief Economist & Data Scientist

- Lead early-stage startup data science and analytics team from initial formation through development and production deployment of machine learning based analytical products, resulting in closing a $7M seed round of funding
- Established ways of working, best practices and norms in collaboration with team members, and adapted them to the remote work environment, to assure engagement and continuity.
- Defined and implemented framework for development and testing of prompts to support Generative AI-powered product feature
- Published opinion pieces on the real estate market in industry media outlets and was a featured panelist in partner webinars. This work increased exposure for Plunk and established it as a credible voice in the real estate industry.

HERE Technologies • Seattle, WA • 03/2018 - 08/2019
Research Manager II

- Aligned Research strategy and roadmap with product organization priorities to demonstrate business impact of projects and initiative to C-level stakeholders.
- Implemented new engagement model for Research to work with engineering and product teams. Assured proper prioritization of projects and increased predictability of solution delivery.
- Instituted regular project with business and executive stakeholders to increase visibility of Research work and solicit input on the direction and priority of work.

Technical Program Manager, Research

Bill & Melinda Gates Foundation • Seattle • 04/2013 - 02/2018
Data Scientist - Workforce Analytics

- Developed analytical framework to identify root causes of program officer success and failure through detail mapping of career paths and application of network graph based on internal and external data sources.
- Worked with Human Resources executives to define the business objective of a culture dashboard. Proposed a set of actionable measures, and iteratively refined them based on stakeholder feedback. Designed and implemented final dashboard and data model to support it.

Manager - Digital Platforms & Ecosystems

- Lead team of data scientists, engineers, and program managers through engagements with internal stakeholders. Delivered data platform and interactive analytical solutions guide program team strategic and tactical planning.

- Managed implementation of analytics platform including vendor management, oversight of technical implementation, roadmap creation and evangelization among potential user community.

Data Scientist - Digital Platforms & Ecosystems

• Executed strategy to evolve team's work from operational reporting to strategic support of foundation program teams through relationship building, needs discovery and proof of concepts.

Kaiser Permanente (formerly Group Health Cooperative) • Seattle, WA • 02/2010 - 03/2013

Sr Data Scientist - BI Competency Center

- Created and implemented strategy for analytical framework that encompasses the full course of care for a disease/condition. Managed implementation of vendor algorithm and integration into enterprise data warehouse infrastructure.
- Developed algorithm to predict probability that the cost of an in-patient stay would exceed $500,000 at the time of admittance, to inform actuarial reserving practice. Use of this algorithm reduced unanticipated high-cost stays by 100% and false positives by 60%.
- Designed and implemented the organization's first algorithmic claims fraud detection system. Over $1.5M in fraudulent claims payments recovered from providers in the first year.
- Developed and delivered curriculum to improve data and analytical literacy among finance staff. Became standard training requirement for department.

JP Morgan Chase & Co. (formerly Washington Mutual) • Seattle, WA • 04/2005 - 11/2009

Sr Lead Business Strategy Analyst - Retail Bank Finance

• Drove development and deployment of first enterprise-wide customer segmentation scheme. Evangelized across product teams and piloted its use in demonstration projects.

Lead Business Strategy Analyst - Retail Bank Finance • Full-time

• Collaborated on development and deployment of customer lifetime value estimation algorithm for multiple use cases, including up-sell and customer retention strategies.

Statistician II - Corporate Compliance

- Developed novel methods for validating that output from loan decision and pricing algorithms conformed to Fair Lending regulations, including adapting econometrics methods to quantify the scale of disparate treatment.
- Defined sampling strategy and validation procedures to optimize the alerting thresholds used by Anti-Money Laundering (AML) monitoring software to improve efficiency in utilizing investigation resources.

EDUCATION

M.A. in Applied Economics

Seattle University • Seattle, WA

Recipient of the Albers Graduate Scholar Award given to the top graduating student from the Albers Graduate School of Business & Economics.

B.A. in Economics & Political Science

Boston College • Chestnut Hill, MA

SKILLS

Agile methods & tools: Agile Software Development, Asana, Clickup, JIRA, Kanban, Scrum, Six Sigma, Smartsheet

Analytical tools & languages: Alteryx, Python, SAS, Sigma, SQL, Tableau **Databases:** Oracle, Postgres, Snowflake, SQL Server

Appendix 3: Secondary Research Cited

Minnich, Carrie. “Nonprofit Ratio Analysis”. *DWD CPAs & Advisors*, https://dwdcpa.com/nonprofit-ratio-analysis/. Accessed 16 September 2024.