**Date last modified/updated:** Click here to enter a date. **Internal audit:** Click here to enter a date.

**Who last modified/updated:** Click here to enter text. **Management review:** Click here to enter a date.

**This part of the Navigator Playbook is completed when you have:**

1. **Developed one or more energy performance indicators (EnPIs) for your organization. If relevant variables significantly affect energy consumption, normalized EnPIs.**
2. **Developed an energy baseline (EnB) for EnPIs in order to later determine energy performance improvement.**
3. **Communicated proposed EnPIs and EnBs to top management so they can ensure the EnPIs and EnBs are appropriate for the organization.**
4. **Recorded and regularly reviewed the method used to determine and update EnPIs and established the conditions under which adjustments to the baseline(s) will be made.**
5. **Compared EnPI values to their respective EnBs on a regular basis.**
6. **Implemented a process for ongoing monitoring, measurement and analysis of your EnPIs, EnBs, and energy performance improvement.**

* **If you are planning on seeking U.S. DOE 50001 Ready recognition for this project please refer to the, “Get Ready Recognized,” page of the 50001 Ready Navigator to ensure you select an EnPI, EnB, and method for demonstrating energy performance improvement allowed by the recognition program. To achieve Ready recognition energy performance improvement is demonstrated for the same scope and boundaries as your 50001 Ready EnMS.**

1. Develop energy performance indicators (EnPIs) for your organization including an EnPI for each SEU. If relevant variables significantly affect energy consumption, then normalize EnPIs.

We have developed our energy performance indicators (EnPIs) using information from the energy review in the Energy Data Collection and Analysis task.

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|  | We have assigned responsibilities of EnPI development at our organization. | Confirmed. |

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|  | Our **energy team** is responsible for developing our list of EnPIs. | Confirmed. |
|  | **Top management** is responsible for ensuring EnPIs appropriately represent energy performance, which can be accomplished through the management review process detailed in the Management Review task. | Confirmed. |

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|  | We have assigned an EnPI for each significant energy use (SEU). | Confirmed. |
|  | Each of the EnPI’s we have selected provide immediate value to key stakeholders. | Confirmed. |

*Note: For 50001 Ready recognition specific EnPIs and EnBs are required. See program requirements on the “Get Ready Recognized” page of the 50001 Ready Navigator for more information.*

We have established criteria for identifying EnPIs, detailed below:

Utilizing DOE’s EnPI Tool, we determined an EnPI for each energy source – ensuring that the specified EnPIs are accurate and provide a high R-squared value model.

We have established methods for determining EnPIs, detailed below:

As detailed above, the DOE’s EnPI tool is utilized to determine the EnPIs for each energy source.

We have established a process for recording and reviewing these methods on a regular basis.

Annually the energy team reviews this worksheet to identify any needed updates or changes to the process for developing and maintaining EnPIs and EnBs.

We have created a list of EnPI(s) for our facility, and have detailed below:

| **EnPI** | **Energy Input, units** | **Description of intended use of EnPI** |
| --- | --- | --- |
| Flow (MG), HDD  Elec = 2.19(Flow) – 0.13(HDD) + 1468.95 | Electricity (mmBtu) | Ensuring electricity usage is varying appropriately as flow and HDD fluctuate throughout the year |
| HDD  Nat Gas = 0.93(HDD) + 1029.18 | Natural Gas (mmBtu) | Ensuring natural gas usage is varying as expected as HDD varies throughout the year |
| Flow, BOD  Bio Gas = 1.46(Flow) + 3.20(BOD) – 194.79 | Biodigester Gas (mmBtu) | Ensuring biodigester gas is varying as expected with variations in flow and BOD |

1. Develop an energy baseline (EnB) for EnPIs in order to later determine energy performance improvement.

Providing responses to the questions below can help in identifying the relevant EnBs for the established EnPIs:

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|  | How will each EnPI be used for evaluating energy performance? Is there a logical EnB for each? | Each EnPI has a logical baseline against which successive years will be compared to calculate and evaluate energy performance gains. |
|  | What are the historical changes to facilities, equipment, systems, processes, or organization that would change how energy performance is evaluated? | No major changes have been performed during the extent of the collected data. A single outlier being Dec 2019 due to shutdown of plant. |
|  | What stakeholder interests should be considered when establishing EnB for the EnPI? | Municipal citizens are heavily considered in the EnB since flow is an important variable for both electricity and biodigester gas. |
|  | Are there strategic initiatives that would be measured or influenced by one or more of the established EnPIs? Is there an EnB associated with these strategic initiatives? | Yes, the municipal’s drive to reduce carbon footprint by 20% by 2050 plays a major role in EnPI evaluation and this is how our carbon footprint will be measured – using common GHG conversions for Elec, Nat Gas, and Bio Gas. |
|  | What are the historical periods that have reliable, consistent data for the established EnPIs? | Oct 2018 – May 2020 (Dec 2019 being outlier due to shutdown) |

1. Communicate proposed EnPIs and EnBs to top management so they can ensure the EnPIs and EnBs are appropriate for the organization.

Identified EnPIs and EnBs have been approved by top management.

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| --- | --- |
| Who approved? | John Doe |
| When approved? | 8/15/20 |

1. Record and regularly review the method used to determine and update EnPIs and establish the conditions under which adjustments to the baseline(s) will be made.

We maintain documented information on the methods we use to determine and update our organization’s EnPIs.

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| --- | --- |
| Who maintains the documented information? | Jim Doe |
| Where are these records maintained (e.g. energy manual or energy planning procedure)? | Company Google Drive Folder |

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|  | We evaluate any changes in facilities, equipment, systems, processes, operating procedures, materials, relevant variables, and many other factors. We adjust the EnPI as necessary. | Confirmed. |

1. Compare EnPI values to their respective EnBs on a regular basis.

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|  | EnPI values are reviewed and compared to their respective EnBs, as appropriate. | The DOE EnPI tool provides the analysis of EnBs with their respective EnPI. |
|  | Calculated EnPI values and their associated EnBs are retained as documented information and periodically reviewed to determine if adjustments are required. | The record or snapshot for each monthly update of the EnPI tool is saved in the Energy Team folder in Google Drive. |
|  | We have a process in place where we make adjustments to an EnB in the following instances:   * When the EnPIs no longer accurately reflect the organization’s energy performance * When there are major changes to static factors, the process, operational patterns, or energy systems * According to a predetermined method | Annually the energy team reviews this worksheet to identify any needed updates or changes to the process for developing and maintaining EnPIs and EnBs. |
|  | We maintain records of modifications and updates to EnBs to ensure energy performance measures remain relevant and meaningful. | This worksheet provides the record of our process for EnPIs and EnBs. |

1. Implement a process for ongoing monitoring, measurement and analysis of your EnPIs, EnBs, and energy performance improvement

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|  | Calculated EnPI values and EnBs are recorded and reviewed on a regular basis. | Every month, new energy source data (from utility bills) and relevant variables (varying sources – obtained by James Doe) are inputted into the EnPI tool. |
|  | The components of EnPIs that are measured or calculated are managed for accuracy and repeatability in the energy data collection plan (as addressed in the Energy Data Collection and Analysis task). | The data utilized in the EnPI tool comes from utility meters, gov’t weather data, and process instruments. The flow and BOD measurements are addressed on the measurement plan. |
|  | Top management’s review of energy performance includes a review of performance as determined by the EnPIs and the related EnBs. | Confirmed. |
|  | Top management ensures changes are made when the above-mentioned metrics are no longer appropriate. | Confirmed. |

Top Management Approval

|  |  |  |
| --- | --- | --- |
|  | Date approved: | 8/20/20 |
|  | Who approved: | John Doe |

Comments

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