# **Enerit ISO 50001 Energy Manager Pro**

**User Guide** 

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## 1 Introduction

This is a user guide for using and administering all parts of the Enerit ISO 50001 Energy Manager Pro Software. The aim of this document is to provide help and instructions for all current and potential users of the online software giving them a useful guide to explain the routine of the most used commands.

*Note:* Authors intention is to match pictures of each chapter with the ones relative to the platform which the guide is referred. Sometimes pictures may be extracted from other versions of the Enerit tool platform and may vary slightly. We endeavor to keep the contents as up to date as possible.

## 2 Getting Started

#### 2.1 Login

To access the portal, follow these steps:

- 1) Open your web browser
- 2) Go to the online platform using your unique URLlink similar to the following: https://XYZCompany.en16001.com/0010/UEB\_Documents.nsf/SankeyDashboard
- 3) Sign in with your access data by filling in the requested fields:
  - User name
  - Password (during the typing this field won't be displayed, appearing as a string of asterisks)

Sign in
User name:
Name Surname
Password:
Sign In
Can't access your account?
Sign-in mask

After the log in, you will be redirected to Enerit Dashboard: hence you can act as allowed to your account profile (see next page for example view of the Dashboard.)

## 2.2 Logout

If you want to exit portal, click at any time on the logout sign placed on the top right corner of the window.



Logout button





## 2.3 New password request

If you your password gets lost, or if you just want to change it, please follow these steps:

1) On login mask, click on the link "Can't access your account?" (see figure below)

Sign in				
User name:			>	
Password:				
		CASC	ADE	
Sign In		ICT for Energy Effic	ient Airports	
	 Ple	ease enter your userr	ame and password	

2) After inserting your username, click on the link "Click here to reset" that be displayed on screen

Welcome to CASCADE	
Sign in	
User name:	
User Name	
Password:	
	CASCADE
	ICT for Energy Efficient Airports
Sign In	Please enter your username and password
Can't access your accou	
<ul> <li>Please ensure your</li> <li>Passwords are cas</li> </ul>	word Click here to reset username is contect. If you are not authorized, please contact your administrator e sensitive, so please ensure you don't have caps lock enabled. e temporarily disabled from too many failed login attempts, please contact the
Twitte	Contact Us Privacy Policy About Enerit

- 3) A new auto-generated temporary password will be sent to the mail address you provided
- 4) After the first login the system will force a manual password reset

## 3.1 Overview



## 3.2 Access Level

There are three different access level, with different permissions and privileges. The table below reports the differences among the users typologies.

Reader Access	Responder Access	Full Access
<ul> <li>Overview</li> <li>View of all documents</li> <li>Create a suggestion</li> </ul>	All Reader Access features plus:	All Responder Access features plus:
Visualization options: Dashboard	<ul> <li>Interaction with "Your tasks" widget</li> <li>Carry out energy savings actions</li> <li>Validate energy savings for Actions</li> </ul>	<ul> <li>Close Energy Savings Actions</li> <li>Create Improvement Opportunity</li> <li>Priorities and Assign Energy Savings</li> </ul>

<ul> <li>Objectives &amp; Targets</li> </ul>		Actions
EFA / SEUs	Carry out:	Build / Edit the EFA
Improvement opportunities	<ul> <li>Actions for Nonconformities</li> </ul>	
<ul> <li>Action plan</li> </ul>	Actions related to Audits	Create:
<ul> <li>Standard</li> </ul>	<ul> <li>Actions related to Meetings</li> </ul>	<ul> <li>Documents</li> </ul>
<ul> <li>Audits</li> </ul>	Action related to Energy Uses / SEUs	Consumption Data
<ul> <li>Nonconformities</li> </ul>		
<ul> <li>Meetings</li> </ul>		Create and notify user about an Audit
Consumption data		<ul> <li>Create a Nonconformity</li> </ul>
		Prioritise and Assign Actions for NC
		Close an Action for NC
		Create and invite users to Meetings
		<ul> <li>Admin Access</li> </ul>
		Export Data to CSV spreadsheet

#### **3.3** Selecting Locations

The drop-down menu highlighted in red shows the current Location assigned to the user and other locations that the user has access to view information.



By clicking on it, the list of the visualizations/locations that can be chosen by the user is shown.

#### 3.4 Create New Button



This option is only available to FULL LICENSE users. It opens a drop-down menu which commands are:

- 1) Document Management
  - a. Document creates a new document
- 2) Planning
  - a. Improvement Opportunity
  - b. Energy Usage
- 3) Checking
  - a. Audit
  - b. Benchmark Data

- c. Meeting
- d. Nonconformity
- 4) Consumption Data
  - a. Diesel
  - b. Electricity
  - c. LPG
  - d. Natural Gas
  - e. Oil
  - f. Petrol
  - g. Thermal
  - h. Water
- 5) Admin
  - a. Keyword
  - b. Location
  - c. Sub-Location
  - d. Unit

## 3.5 Energy Saving Suggestions

Suggestion
1

The Energy Management dashboard has a button that is available to all staff in your organizations to submit suggestions to the energy management team. All new suggestions are automatically created as new Improvement Opportunities and the \energy Manager is automatically notified of the new suggestion.

By clicking this button, the suggestion form will open: it allows you to send "Suggestion of Improvement Opportunity" to the Energy Manager.

Suggestion of Improvement Opportunity	
Please enter the following information to create your improvement suggestion. The information with " must be filled in order to submit or save the form.	
1 Title:*	A short <u>summary of</u> your <u>improvement suggestion</u>
2 Details:	
3 <sup>Name:*</sup>	Please type in your name
4 Email Address:*	Please leave your e-mail address for further information
Related Location:*	Please select your related location
<b>Submit</b> Submit and close this <u>suggestion</u> form	
Twitter Contact Us Privacy Policy About Enerit	Powered by Enert Ltd. 2011 All right reserved.

Fields:

- 1. Title title of the suggestion
- 2. Details detailed proposal with detailed description of:
  - Location of the improvement (main location, plant, circuit)
  - Required actions
  - Foreseen improvements and savings
- 3. Name name of the author of the suggestion
- 4. Email Address of the author
- 5. Related Location select the location from the drop-down menu
- 6. After filling and checking all the fields, the suggestion is submitted by clicking on the "Submit" button.

#### 3.6 Energy Planning



The energy planning are allows you to visualize your energy sources and where the energy is being used. Inputting the data for the energy flow (Sankey) diagram and configuring the Energy Planning are detailed in a later chapter on setting up the Energy Flow Assessor.

#### 3.7 System Overview



This custom-in progress window allows users to view the status progress of:

- Improvement Opportunities (IOs)
- Nonconformities (NCs)
- Documents (Docs)
- Audits
- Meetings

The system Overview can be restricted to only allow certain individuals see this widget e.g. Energy Manager or the system administrator; this can be configured by an administrator through the user settings.

As displayed, the icon can be accompanied by two numbered markers:

- the blue marker points out the total number of items
- the red marker points out the number of overdue items

#### 3.8 Your Tasks

As seen for System Overview, "Your Tasks" shows items that have been assigned to the specific user who is logged into the system. When an item is clicked it shows the status and target date for the items.



Beside each icon, the total number of tasks assigned to the user appears in the blue box. The numbers of overdue tasks are highlighted in the red box.

#### 3.9 Document Management

The Document Management functionality allows users to manage and control documents related to energy management activities which can then be easily accessed through the Document Management widget. The main Document Management window can be opened by clicking on the button (...) in the picture below.

Document Management	
Legal Requirements (training)	
specifiche tecniche cdz - file too large too upload	
relazione generale tecnica T1	
technical_data_ahu's_mxp	
DG8003_B_Schemadiflusso_SCT_4	

Through this window it is possible to find documents. Documents can be sorted by Category or Standard by clicking on the correct button. By clicking on the Old & Obsolete button, it will be possible to check old documents, if such documents are present. "Close" button (bottom-right) closes the window.

Category Standard O	d & Obsolete			
¢ Category	¢ Title	Owner	¢ Date	
Operational control	DG8003_B_Schemadiflusso_SCT_4	Mark McCaffrey	02/08/2013	E
Operational control	DG8008_A_DistributionWater_C19_C20_	Marcella Scuccimarra	02/08/2013	E
Operational control	DG8018_C_AirDistribution_Risers_C19C20	Mark McCaffrey	02/08/2013	E
Operational control	MXP_T1_EG	Marcella Scuccimarra	02/08/2013	E
Operational control	MXP_T1_OG1	Marcella Scuccimarra	02/08/2013	E
Operational control	MXP_T1_OG2	Marcella Scuccimarra	02/08/2013	E
Operational control	MXP_T1_UG	Mark McCaffrey	02/08/2013	E
Operational control	MXP_T1_UG2	Marcella Scuccimarra	02/08/2013	E
Operational control	relazione generale tecnica T1	Marcella Scuccimarra	02/08/2013	E
Operational control	specifiche tecniche cdz - file too large too upload	Marcella Scuccimarra	02/08/2013	E
Operational control	technical_data_ahu's_mxp	Marcella Scuccimarra	02/08/2013	E
Energy Baseline	EST DOcument	John Cunningham	24/08/2013	E
Legal and Other Requirements	Legal Requirements (training)	Mark McCaffrey	06/09/2013	E
e e 1 - 13 /13 e e				

## 3.10 Reports/Charts

This widget allows user to access pre-configured charts. By clicking on the top-right button (highlighted in red) a drop-down menu opens.





The options are:

- **Update** updates data behind the report in background
- Refresh the chart refreshes with the new selected options
- Large Chart by clicking this button current Chart gets enlarged to full-window mode inside user's browser

• More – this command opens the multiple charts window. For more details see Paragraph 0.

#### **Multiple Charts view**

By clicking on the "More" option (described above, the multiple Charts page opens.



Selectable commands are:

- **Change chart** the first field allows to choose main category/location/plant; the second field shows the specific sub-category/assignment/sub-location
- Update
- Refresh
- Large Chart

The default charts that appear in the multiple charts view are defined in the Location document (see section 11.1 in the Administration chapter.)

#### How to export charts data

Export Data	
SEU VIC Consumption	

Using the bottom control panel you can also export a CSV spreadsheet containing all the information stored in the Enerit software related to:

- SEU Significant Energy User
- IO Improvement Opportunities/Actions
- NC Nonconformities
- Consumption Data

Charts		
· · · · · · · · · · · · · · · · · · ·	•	•
	•	ABC
	•	Locations <u>d</u> <u>d</u>
רופווניוט. ט		9 PI
Plant No. 2	_	

#### Interaction with a single chart

All of the Charts are interactive: By clicking the chart it will allow you to drill down through the different levels of the chart and access the chart data.



## 4 Energy Flow Assessor



The energy Flow Assessor allows you to account and visualize your supply of energy sources (e.g. Electricity, Natural Gas etc.) and where it is being used (Energy Uses e.g. Terminal Buildings, Chillers etc.)

The Enerit Energy Flow Assessor functionality is integrated into the software platform. The following describes how to configure the Energy Flow Assessor.

## 4.1 Identifying Energy Sources

In order to add an Energy Source, click on the "+" button



This action opens the "Add Energy Source Details" form.

Add	Add Energy Source Details	:
+	+ View/Add Energy Sources	
	Unit of Measure Conversion Factor ("Unit Cost (6/'Unit of Measure"/kWh measure")	f CO2 Emission Factor (tCO2/kWh)
	Electrical +	
ļ	Thermal 🕂	
	Transport	
	<ul> <li>Add Bill/Meter Identifier</li> <li>Add Consumption Data Import Consumption Data</li> <li>Add Sub-Meter Identifier</li> <li>Set Energy Flow Period</li> </ul>	

By clicking on the green plus button (red arrows), five fields appear: they must be filled by the user in order to identify the energy source.

Add Energy Source Deta	ils				×
+ View/Add Energy Source	es	Occurring Forder alleli		000 Entering Earlier	
	Unit of Measure	Conversion Factor ("Unit of Measure"/kWh	Cost (€/"Unit of measure")	CO2 Emission Factor (tCO2/kWh)	
Electrical	2	3	4	5	

These fields are:

- 1) Name of the Energy Source type (e.g. Electricity, Natural Gas)
- 2) Unit of Measure: This is the units that are used to record the specific energy sources. This can be from utility bills. Electricity is typically measured in kWh but Natural Gas may be measured in m3.
- 3) Conversion factor of unit of measure inserted to kWh (e.g.: if the company already uses kWh, this factor will be 1. If the used measure is MWh, the factor will be 1000)
- 4) Cost, in € per Unit of Measure
- 5) CO2 Emission Factor in tons of CO2 per kWh

When the above data is entered, click on the "check" button (red arrow).

## 4.2 Specifying Bill / Meter Identifiers



#### Specifying bill/meter identifiers

To specify a bill or to add a meter identifier, click on "Add Bill/Meter Identifier", then:

- From the drop-down menu, choose which Energy Source does the bill/meter applies to
- Insert an identifier/name in the second field

## 4.3 Choose period data range

The period range can be changed using the edit button beside the period dates above the energy flow diagram.

≭ Energy Planning	Energy (MWh) Cost (€)	
Period: 01/01/2012 to: 31/12/2012 @	Sub-meter Energy Uses o Σ 14889 MWh	
10523 53% metered Electricity	HVAC Chiller 2 510s 0 NCs Target 0%	
	Select the Period Start Date	×
7785 24% metered Natural Gas 716 Oil 1500 Diesel	Start Date: Of the page to confirm the period change, please wait for the page to refresh in order to see the updated Energy Flow details.	
	Close	;

## 4.4 Importing Energy Source Data

Add Energy Source Details



Click on the Import Consumption Data link, and then select the file containing historical energy source data extracted from bills or meter readings. Note: you need a file for each Energy Source.

The file must be formatted as in the example below:

А	В	С	D	E	F	G	Н	I
Date from	Date to	Energy	Own	System	Cost	Location	Sub-	Bill/Meter
Date ITOIII	Date to	Source	Units	Units	COST	Location	location	name
01/01/2014	31/12/2014	Electricity	000	000	000	Location1	Sub-L1	BM Name

Column	Must be filled?	Spreadsheet Format	Notes
Α	Always	Date	dd/mm/yyyy
В	Always	Date	dd/mm/yyyy
С	Always	General	Name of the energy source
D	If your data do	General (mandatory)	The system will convert this field in
U	not use EnMS	General (manuatory)	EnMS
E	If your data	General (mandatory)	If the data are inserted in the EnMS,
E	already use EnMS	General (manuatory)	you can input monthly usage
F	If available	General (mandatory)	Total cost per month for the energy
G	Always	General	Name of the Location
Н	If available	General	Name of the Sub-Location
I	Always	General	Enter the Bill/Meter name

#### Legend of the data source spreadsheet

It is important an exact matching between .csv file and keywords.

## 4.5 Adding Energy Uses

In ISO 50001, an Energy Use is defined as every manner of kind of application of energy (e.g. ventilation, heating, cooling, lighting, etc.).

An Energy Use can be added by clicking on the "plus" button beside the "Energy Use" heading in the Energy Flow Assessor window (or by clicking on the right command of "Create New" drop-down menu)



Draft	In V	Vorkflow	Closed			CASCADE
Sigr Please The inf	ificant Energy U enter the following inform formation with "" must be	SE nation to create a Significant filled in order to submit or sa	Energy Use docur ve the form.	nent.		ICT for Energy Illiciant Argon
- 6	Basic Information/Annu	ual Usage				
Basi	c Information					
	Title: *					A short summary of the significant energy use
	Is this an SEU?	Click here if this E	inergy Source is a	n SEU		
	Location:*	FCO		~	Please select the location	
Annu	ial Usage					
	Benchmark		to	stimate		Details:
+	Electrical	kWh	€	tCO2	Metered?	
		0	0	0		^
+	Thermal	kWh	€	tCO2	Metered?	
		0	0	0		
+	Transport	kWh	€	tCO2	Metered?	
		0	0	0		
	Total	0	€	tCO2		~
+	Water		€			Please add the detail of the annual usage
		0	0			Attachments: Attach file
						Relative Chart
	Details:					
	Attachments:	Please add any relevent Attach files	detail for the signi	ficant energy u	se	
+1	mprovement Opportun	ities				
+ (	Objectives & Targets					
+1	Netering Plan					
	Submit Save	Cancel and Close				

Enter details as follows:

#### **BASIC INFORMATION**

**Title** – insert the title of Energy Use **Location** – select applicable location from drop-down menu

#### ANNUAL USAGE

Add estimates of the annual energy consumption of the energy sources identified **Details** – add details in the blank fields or attaching documents (it is also possible to insert a reference to the Relative Chart)

When ready, click **Submit** and confirm.

See Chapter 0 for instructions on creating and assigning Improvement Opportunities.

See section 6.3 for Setting Energy Use Object & Targets.

## **5** Improvement Opportunities

#### 5.1 Overview

There are many different sources of Improvement Opportunities within the solution. Improvement opportunities can be created manually from many different locations within the software (e.g. "Create New" button, Energy Uses, Meetings and Audits).Section 3.5 describes how to create a suggestion and notify the energy manager of a new potential Improvement Opportunity.

Another source of improvement opportunities is from pre-populated lists. The "Human Pre-Populated" source of improvement opportunities or "IO Playbook". The "IO Playbook" allows the Energy Manager to review a pre-defined list of energy saving strategies and create improvement opportunities to include in his energy management program and plans. Creating improvement opportunities from the IO playbook is described in section 5.3 and the configuration of the "IO Playbook" is described in section 11.5 of the Administration chapter.

First we will look at how to create a "Human" or "Manual" improvement opportunity using the "Create New" button.

#### 5.2 Creating a new Improvement Opportunity



Draft	In Work	flow Clo	sed		×
Imp	ovement Opportuni	ity			CASCADE ICT for Energy Efficient Alopent
Please	enter the following information to brmation with "" must be filled in	o create a improvement Opportu	nity document.		
			L		Resources Mark Marcette
Jasio		ource: -			Requestor: Mark McCaffre
	1 Action Title:*				A short summary of the opportunity
	2 Reference:				tem will add the reference after saving or submitting the form
	3 Location:*	Select an Option			se select the location
	4 Sub-Location:	Please select the sub-location	on after you have se	elected the location	
	5 Category:	Select an Option			ise select the applicable category
	6 Sub-Category:	Please select the applicable	sub-category after	you have selected	I the category
		-None-		• Op	Please select the SEU first, then open it by cilcking "Open SEU"
	Details:				
	8				
			I for the lenger per	ant annortunitu	
	Attachments:	Attach Files 9			
otim	ated Savings & Payba				
sum					Comments:
	Electrical	kWh	€	tCO2	
		0	0	0	
	Thermal	kWh	€	tCO2	
	Total 10	0	0	0	
	Transport		€	tCO2	
	Total	0	0	0	
		, , , , , , , , , , , , , , , , , , ,	v		
۲.	Water		€		
		0	0		Please add a short comment
				tCO2	
,	Annual Savings:	€	0	0	Co-Benefits Details:
			e		
Ann	ual co-Benefits:	11			
	Total Savings:	€	0		
12	Capital Cost:	€ Pleas	se enter the necess	sary Investment	Please add a short description of the co-benefits
	mated Payback:	0.00 year(s			Complexity Detail:
	Timeframe: Sele			13	
G	HG Scope 1&2: Sele	ct an Option		14	
	tural Resources: Selec	•		15	
	Social Sele	ct an Option		16	Please add a short description of the complexity
	Sustainability:	a an option	•	10	
			:	Submit	Save Cancel
				17	18 19

**Note:** A new IO can also be created from, Audits, Meetings, Energy Uses and the IO Playbook.

With reference to picture below are listed the commands to fill in the new Improvement Opportunity form.

#### **Basic Information**

- 1. Action Title insert a title (short description) of the new improvement opportunity
- 2. Reference this field will be added by system after saving or submitting the form
- 3. Location select the location from a predefined drop-down list
- 4. Sub-location select the sub-location related to the location from the list in the drop-down menu
- 5. Category select from a pre-defined list made by Administration
- 6. Sub-category select from a pre-defined list in the drop-down menu
- 7. Significant Energy User Select from list of SEUs ("Open SEU" button allows you to see the details of the SEU)
- 8. Details enter any additional information about the energy saving idea by filling the field
- **9.** Attachments by clicking on this button, a floating window opens: clicking on "Choose file" will be possible to choose the attachment. Then, clicking on the button with the "clip" picture, the file will be attached to the document

#### **Estimated Savings & Payback**

- 10. Add the selected typology of saving by clicking on the correspondent button (Electrical, Thermal, Transport and Water). Enter the estimated annual energy savings in the MWh box; CO2 emissions and costs are automatic defined. Filling the field on the right it is also possible to add comments.
- **11. Annual co-benefits** insert estimated co-benefits. Filling the field on the right it is also possible to add comments and details about this estimation.
- **12.** Capital cost enter the cost to implement these savings
- 13. Timeframe Select the expected timeframe factor (See Notes below and Appendix A)
- **14. GHG Scope 1&2** Select the greenhouse gas emission scope 1&2 factor (See Notes below and Appendix A for more details)
- **15.** Natural Resources Select the expected impact on natural resources(See Notes below and Appendix A for more details)
- **16. Social Sustainability** Select expected impact of this IO on social sustainability(See Notes below and Appendix A for more details)
- **17. Submit** by clicking on submit, Meeting information will be send to the people selected in the Meeting form
- **18.** Save by clicking on "Save" at any moment, the form will be saved with all the info contained; then, editor will be able to continue editing
- 19. Cancel selecting this option all the unsaved information added will be lost

Note: Not all fields need to be filled in when creating a new improvement opportunity as sometimes not all the information is available to the creator.

The impact factors (13 to 16) are used, along with the "Total Savings" and the "Estimated Payback", for ranking the improvement opportunities to help energy managers to make decision on the priority of different energy saving actions. See Appendix A for full description of these impact factors and the priority ranking framework implemented in the Enerit software.

Note: Not all fields need to be filled in when creating a new improvement opportunity as sometimes not all the information is available to the creator. The "Human" or manually generated improvement

opportunities are processed using the following workflow. When the user is finished entering the details they click on the submit button (17) and the IO moves to the "FOR REVIEW" step for review and decision by the energy manager.



The following sections guide the users on how the improvement opportunity is processed at the different steps in the above workflow. Improvement opportunities generated from the integrated FDD system have their own unique workflow describe section **Error! Reference source not found.** 

#### 5.2.1 **Reviewing an Improvement Opportunity**

The Energy Manager will receive an automatic email when a new improvement opportunity is created. At this stage in the process, the Energy Manager still has the option to add new data or modify existing data and information about the opportunity.

	+ Ele	ectrical	MWh	€		Comments:
			15	1050	8100	Saving calculated based on spplier quotations and survey. See attachment above
	🔹 The	ermal	MWh	€		
			0	0	0	
	🔹 Tra	ansport	MWh	€		
			0	0	0	
	🔹 Wa	ater		€		
			0	0		Please add a short comment
					tCO <sub>2</sub>	
	Annua	al Savings:	€	1050	8100	Co-Benefits Details:
	A	o-Benefits:	_	€ 100		There will be lesst maintenance. New sensors are required
		al Savings:	€	1150		
				1150		
	0.0	apital Cost:	€ 1000			Please add a short description of the co-benefits
		P	lease enter the necessary inves			Complexity Detail:
		d Payback:	0.87 year(s		_	Many sensors are required. Some reqiring is also required.
			Medium Effort	•		
			mproved environmental he			
		EU Impact: 3 F		•		Please add a short description of the complexity
	Maintena	ace Impact: 21	None	-		
	Assessm	Assigned To:			Seler	ct Assignee
Option 2		Start Date:			Selec	End Date:
Option 2		Start Date.				
			Assign			
Option 1	Implement					Document Status:FOR REVIEW
	What woul	ld you like to do	with this improvement opp	oortunity?		
Option 3	Close	On Hold	Include in Acton Plan	Please choo	ose one of the opti	ions to continue.
Option 4						

Using newly visible sections on the IO form the Energy Manager can decide from the following options:

- Close No Action: if the IO is not relevant or not feasible
- On Hold: It is a viable option but will not be included in any plans yet
- Include in Action Plan: it should be included in the energy management action plan or assigned to someone. In case of assignment, the energy manager will define:
  - o Who is in charge
  - o Start date
  - o End date

The following sections describe how the Energy Manager can implement these options.



#### • Option 2: Assessment

Assessment			R
Assigned To:	-	Select Assignee	
Start Date:		End Date:	
2. Sele 3. Click	Assign "Select Assignee". ct Start Date and End Date t Assign button atus changes to FOR ASSESSMEN	NT	

The "Assignee" selected to carry out the assessment will have the option to enter more details into the "Basic Information" and the "Estimated Energy Savings and Payback" sections of the improvement opportunity as described above

Assessment		
Assigned To:	Mike Brogan	Select Assignee
Start Date:	24-Mar-2014	End Date: 28-Mar-2014
	Assessment Complete	

The Assignee clicks on the Assessment Complete button when they have completed the assessment has completed the assessment and the Energy Manager gets an email

#### • Option 3: On-Hold

Review by Energ	y Manager		Document Status: CLOSED - NO ACTION
What would you I	like to do with this improvement o	pportunity?	
Close	Hold Include in Action Plan	Please choose one of the options to continue.	
Are you sure yo	<ul> <li>want to place this improvement</li> </ul>	t opportunity ON HOLD?	
Yes By d	licking "Yes", the improvement opp	ortunity will be placed ON HOLD in	the Improvement opportunities list.
	1. Choose "O		
		to close this opportunity a	and change the status to
	ON-HOLD		

• Option 4: Include in Action Plan (but not ready to assign to a person yet)

Review by Energy Manager	Document Status: PLANNED
What would you like to do with this improvement opportunity?	
Close On Hold Include in Action Plan Please choose one of the options to continue.	
Do you want to assign an action for this improvement opportunity now?	
Assign Now Assign Later & Include in Action Plan Please choose one of the options to continue.	
Continue?	
Yes By clicking "Yes", this action will be included in the action plan but not assigned to anyone.	
<ol> <li>Choose "Include in Action Plan".</li> <li>Choose "Assign Later &amp; Include in Action Plan"</li> <li>Click 'Yes' to close this opportunity and change the status to PLANNED</li> </ol>	

• Option 4: Include in Action Plan (and assign to person)

What would you lik	e to do with this improvement opp	ortunity?	
Close On	Hold Include in Action Plan	Please choose one of the options to continue.	
)o you want to a	assign an action for this impro	wement opportunity now?	
	Assign Later & Include in Action	n Plan Please choose one of the options to continue.	
Assign Now			
Assign Now			
Assign Now			



**Note:** For all of the options above, the Energy Manager can update existing data or input new data into the Basic Information and Estimated Savings and Payback sections before moving to the step.

#### 5.2.2 Responding to energy saving actions

• By assigned person – Status = ASSIGNED

<b>H</b> (2) în (	
Annual co-Benefits Total Savings	€ 200 € <u>340</u>
Capital Cost Estimated Payback Complexity Trivia	Complexity Details:
Review by Energy Mana	iger Document Status: ASSIGNED
	Mark McCaffrey
Start Date:	18/09/2012 End Date: 18/09/2012
Verification Method:	Check PSI remains set at the specified pressure.
Notes for Assignee:	The manual for the compressor system is uploaded to the Implementation section of the Enert ISO 50001 software. This is in accordance with section 4.5.5 - Operational Control.
Action Details	
Details:	
Attachments:	
	Complete Re-assign

When the Energy Manager assigns an action to a person, the assigned person receives an automatic email with a link to the action.

- A new **Action Details** section appears on the form for the assigned person with the following options.
  - **Details**: Enter the details of the actions carried out.
  - **Attachment** (button): Attachments with more detail about the action carried out can be added by clicking on this button.
  - **Re-Assign** (button): This allows the assigned person to request that the Energy Manager reassign the action to another person. The assigned person will be asked to leave a comment why they wish to have the action reassigned.
  - **Reschedule** (button): This allows the assigned person to request more time to complete this action.
  - **Complete** (button): The assigned person clicks on this button when they have completed the action.

Action Details	
Details:	Reduced PSI setting by 1.5 PSI. Will follow up by looking for pressure leaks & also making sure the setting remains at the negovalue.
	1. Enter details of actions carried out.
Attachments:	Attach Files - None -
	Complete Re-assign
	ete" button when you have
	on. The status will change
OFOR VALIDATION	I. A state of the

This above was the first of 2 stages in the action workflow process for the assigned person:

- 1. The assigned person details the actions carried out as described above.
- 2. The assigned person then enters the **Actual Savings & Payback** information as a result in carrying out this action as described in the next section.
- By assigned person Status = FOR VALIDATION

When the assigned person has completed the action as described in the previous step, the action is moved to the FOR VALIDATION step where they have to complete the "Actual Savings & Payback" section.

	Notes for Assignee:	The manual for the compres section 4.5.5 - Operational C	sor system is uploaded to the imple ontrol.	mentation section of th	e Enerit ISO 50001 softwar	.:i		
	Action Details							
	Details:	Reduced PSI setting by 1. Will follow up by looking fi	5 PSI. or pressure leaks & also makir	g sure the setting re	mains at the new value.			
	Attachments:	Attach Files - None -						
	Actual Savings & Paybao	:k						
		MWh€	kgCO2	Comments:				
	Electrical Thermal Water Annual Savings	MWh e m3 e e 0	kgCO2			paybadk	a	
	Annual co-Benefits Total Savings	€0		Co-Benefits Detail:	5:			
	Capital Cost Payback Period	€ Please 0.00 year(s)					a.	
		Complete						
	Actual Savin	igs & Payba						
	El	ectrical	MWh 3	€ 210	kgCl 180		Comments: Validated using meter numb	2. Enter comments on how
	т	hermal	MWh	€ 0	kgCl	02		actual savings were calculated.
nter act	tual	Water	m3	€				Ŀ.
ngs and	d <sup>nual</sup>	rings	€	210	180	0 kgCO2	Please add a short comment abou	t the actual payback
back	al co.	enefits		€ 200			Co-Benefits Details: By reducing PSI, the compresso	or will needed less regular maintenance
ails.		avings	€	410			-)	
	Capit	al Cost		€ 0 Pleas	e e the act	ual capital cost		
	Payback	Period	0.00	year(r	3 Click+	the "Comple	Please add a short description of t	he co-benefits
			Complete		have co	mpleted thi	s action. The status	
					will char	nge to AWA	ITING CLOSURE.	

When the Assigned person has completed the "FOR VALIDATION" step, the Energy Manager is notified that this improvement opportunity has been completed and ready for final review and verification by the energy manager.

sav pay det

#### 5.2.3 Approving an Energy Saving Action (Energy Manager)

When the assigned person has completed the validation step then Energy Manager is automatically notified by email that the improvement opportunity has been completed and is now ready for final review verification by the energy manager.

<b>H</b> 🖉 🗑 G	<u> </u>		
Notes for Assignee:	The manual for the compresso accordance with section 4.5.5		the Implementation section of the Enerit ISO 50001 software. This is in
Action Details			
Details:	Reduced PSI setting by 1.5 PS Will follow up by looking for pre		ng sure the setting remains at the new value. $\label{eq:setting}$
Attachments:	- None -		
Actual Savings & Paybe Electrical Thermal Water Annual Savings	ack MWh E 3 210 MWh E 0 m3 E E 210 0 c 210 0 c 210 0 c 210 0 c 210	kgC02 1800 kgC02 0 1800_kgC02	Comments: Validated using meter number 7.
Annual co-Benefits Total Savings	€ <u></u> €		Co-Benefits Details: By reducing PSI, the compressor will needed less regular maintenance.
Capital Cost	0		
Payback Period	0 year(s)		
Verification:			
Were the actions carried out Comments:	as originally expected? 🤅		n "Yes" or "No" to complete your verification of this document.
Attachments: Atta	- None -		

The Energy Manager will receive an automatic email when the validation of the savings and payback step has been completed by the assigned person.

The workflow now allows the Energy Manager to decide one of the 2 following options:

- a) Close The energy saving action has been completed as originally expected.
- b) Re-Open The energy manager requires further information or clarification on the actions carried out or the savings and payback calculations

Verification:	
Were the actions carrie	d out as originally expected? <ul> <li>Yes</li> <li>No</li> </ul> If you are satisfied with actions carried out click on the Close button and the action will be closed.
Comments: Attachments:	1. Select "Yes" (or No) 2. Enter any comments (optional)
	3. Add any attachments
	4. Click "Close" (or Re-Open) button

#### 5.3 Improvement Opportunity Playbook

Another source of improvement opportunities is from pre-populated lists or IO Playbook. This IO Playbook allows the Energy Manager to review and create improvement opportunities from a default list of best practices that have been configured by your consultant or energy management team.





3 Choose "Create IO" to create an improvement opportunity to include in the action plan

The Playbook IO input form (figure below) allows you to details the following parameters; *Timeframe, GHG Scope* 1&2, *Natural Resources, Social Sustainability* and also include information on *Financial Considerations, Implementation Considerations* and *Potential Limitations* for each suggested improvement

opportunity. More detailed descriptions and instructions on the creation and configuration of "Playbook IO" items are described in the Administration chapter later.

	ICT for Energy BI	cient Ai
Title*	Perform Energy Audits A short summary of the opportunity	
Reference:	PM-02 A short summary of the opportunity	
Category:	Performance Management	
Sub-Category:	Please select the applicable sub-category after you have selected the category	
Details:	By performing regular energy audits, an airport operator may identify opportunities for energy conservation measures. Regular energy audits may ensure that the building's mechanical and electrical systems are running efficiently and cost effectively, with the ultimate goal of reducing greenhouse gas (GHG) emissions. An energy auditor may evaluate the facility envelope, mechanical, electrical, renewable energy, and all other energy consumption systems. The facility's envelope evaluation may specifically focus on wall/roof/floor construction, insulation, windows/doors/skylights and building orientatio By evaluating the facility envelope an airport operator would identify if the facility was minimizing energy consumption, and Please add any relevant detail for the improvement opportunity.	( n.
Attachments:	Attach Files - None -	
Timeframe:	4 < 1 Year (Immediate) ▼	
GHG Scope 1&2:	1: Low: reduction of Scopes 1 + 2 emissions is always relatively low	
Natural Resources:	0: No benefit or impact to natural resources	
Social Sustainability:	0: No adverse or positive impacts to the built environment	
Detailed Description	By performing regular energy audits, an airport operator may identify opportunities for energy conservation measures. Regular energy audits may ensure that the building's mechanical and electrical systems are running efficiently and cost effectively, with the ultimate goal of reducing greenhouse gas (GHG) emissions. An energy auditor may evaluate the facility envelope, mechanical, electrical, renewable energy, and all other energy consumption systems. The facility's envelope evaluation may specifically focus on wall/root/floor construction, insulation, windows/doors/skylights and building orientation By evaluating the facility envelope an airport operator would identify if the facility was minimizing energy consumption, and	( n.
Financial Considerations	The cost of performing an energy audit is minimal, especially when compared to the potential savings that may result. An audit may include a mechanical and/or electrical engineer surveying the facility, its envelope and mechanical/electrical systems. This is often a few days of week, depending on the size and complexity of the facility. An airport operator may the be given an energy audit report which would detail the existing systems, provide energy conservation and retrofit measures provide potential energy/cost savings and payback periods and identify any available grants or incentives.	
Implementation Considerations	Implementation considerations for the energy audit are also quite minimal. An airport operator would have to allow the energy auditor(s) access to the mechanical/electrical rooms as well as any other areas as they pertain to the building envelope. Also it is often important that an airport operator be available for discussion with the auditor(s), to answer questions. Energy audits are data intensive and require on-site inspections of equipment and utility bills.	(
	Implementation considerations may drastically vary if an airport operator chooses to implement the energy audits	
Potential Limitations	Access to secure areas may present an obstacle to conducting an energy audit.	
	Create IO	

opportunity to include in the action plan.

When the "Create IO" button is clicked a new Improvement Opportunity is created in the Improvement Opportunities module and the Energy Manager receives an automated email similar to example in the following figure.
From:	i john.cunningham@enerit.com
To:	Mark Mccaffrey
Cc	
Subject:	New Improvement Opportunity (Perform Energy Audits) created from IO Playbook - Please review the Improvement Opportunity
As an Ene	ergy Manager, you have been notified of a new Improvement Opportunity.
Click on li	nk below to read the Improvement Opportunity details. You will be asked to enter your username and password.
https://c	ascade.en16001.com/0010/UEB_Documents.nsf/Default/B4CB34CFDE9526CD00257E2E005319D7?EditDocument
(Do not r	eply to this email. This is an automated email. If you have any questions, contact: <u>help_desk@enerit.com</u> )

The improvement opportunity can be viewed by clicking on the link in the example email above or by clicking on the link in the Improvement Opportunity view from the "IOs" icon in the System Overview area of the Dashboard.

Open Closed							
Category/System	♦ Summary	Source	¢	÷	Start	Target	1
Performance Manageme	Perform Energy Audits	IO Playbook	2	্	-	-	
HVAC	AHU-01 Allow the cooling coil and heating coils va.		2	<b>2</b>	-	-	
HVAC	AHU-01 Check the set-values of the relative humidi	-	2	<b>i</b>	-	-	
IVAC	AHU-01 Modify the heating and cooling coil control	-	2	<u> </u>	-	-	
HVAC	AHU-02 Check the control valve and the control par	-	2	<b>i</b>	-	-	
HVAC	AHU-02 Check the pressure set-values and the press	-	2	23	-	-	
HVAC	AHU-02 Check the signals of the dampers.	-	2	<b>i</b>	-	-	
HVAC	AHU-02 Make sure that the cooling coil and heating	-	2	23	-	-	-
HVAC	AHU-02 Modify the heating and cooling coil control	-	2	୍	-	-	
IVAC	AHU-03 Check the pressure sensor and the set-value	-	2	୍	-	-	
IVAC	AHU-03 Make sure that the cooling coil and heating	-	2	୍	-	-	
HVAC	AHU-03 Modify the heating and cooling coil control	-	2	$\sim$	-	-	
HVAC	AHU-04 Check the humidifier pump.	-	2	୍	-	-	
HVAC	AHU-04 Check the pressure set-values of the fans.	-	2	0	-	-	
IVAC	AHU-04 Make sure that the cooling coil and heating	-	2	୍ଦ୍	-	-	

The source of the improvement opportunity is "IO Playbook" and can be found by sorting the source column. Click on the title to open and begin reviewing this new improvement opportunity.

	overnent Oppertu	nity			ICT for Energy Efficient Aliports
se	ovement Opportu enter the following information	to create a Improvement Opport.	unity document.		
Info	ormation with "" must be filled	In order to submit or save the for	n.		
sic	Information	Source: IO Playbook			"IO Playbook" text to open the Playbook IO to
	Action Title:	Perform Energy Audit	5	see all c	other details of the proposed actions.
	Reference:	IO-0004		Sys	tem will add the reference after saving or submitting the form
	Location:*	FCO		Plea	se select the location
	Sub-Location:	Select an Option		- Plea	se select the sub-location after you have selected the location
	Category:	Performance Manage	ment	- Piea	se select the applicable category
	Sub-Category:		sub-category af	ter vou have selected	the category
	Energy Use:	-None-		-	en SEU Please select the SEU first, then open it by clicking "Open SEU"
	Details:	By performing regular measures. Regular en efficiently and cost ef auditor may evaluate consumption systems.	ergy audits fectively, wit the facility The facility	may ensure the th the ultimate envelope, 's envelope s and building	
	Attachments:	Please add any relevant deta Attach Files - None			
	,	- NOR			
m	ated Savings & Payb	ack			
	Electrical	MWb	€	kgCO2	Comments:
		0	0	0	
	Thermal				
		MWh	€	kgCO2	
		0	0	0	
	Transport	MWb	€	kgCO2	
		0	0	0	
	Water		£		
		0	0		
			-		Please add a short comment
				kgCO2	
f	Annual Savings:	€		0	Co-Benefits Details:
			€		
п	ual co-Benefits:				
	Total Savings:	€	0		
		€			Please add a short description of the co-benefits
	Capital Cost:			essary investment	Comp Detail:
i	mated Payback:	0.00 year(s	)	_	
	Timeframe: 4 <	1 Year (Immediate)		•	
3	HG Scope 1&2: 1: L	ow: reduction of Scope	s 1 + 2 emi	-	Evaluation parameter details also copied
8	tural Resources: 0: 1	No benefit or impact to i	natural reso	-	in form the Playbook IO details. These
	Social 0: 1 Sustainability:	No adverse or positive in	npacts to th	<b>•</b>	can be modified as required.
ie	w by Energy Manag	er			Document Status:FOR REVIEW
a	t would you like to do	with this improvement	opportunity'	2	
	ose On Hold	Include in Acton Plan	Pleas		tion 6.2 for reviewing an improvement opportunity.

# 5.3.2 **Processing an Playbook improvement opportunity**

See section 5.2.1 to 5.2.3 for instructions on processing a new improvement opportunity.

## 5.4 Improvement Opportunity Ranking

In order to help the energy management team make decision on what improvement opportunities to include in the energy management action plans, an Action Management Prioritization Framework has been developed in the software. A detailed description of this framework is included in Appendix A.

The ranking establishes 6 evaluation parameters for any Improvement Opportunity, being these:

- A. Total Estimated Savings [TS]
- B. Payback Period [PB]
- C. Timeframe [TF]
- D. GHG Scopes 1&2 emissions reduction [GHG]
- E. Impact on Natural Resources [NR]
- F. Impact on Social Sustainability [SS]

	Electrical					Comments:
			0	0	0	
ŝ	Thermal					
			0	0	0	
ε.	Transport					
			0	0	0	
ł.	Water					
			0	0		
	Annual Savings:		€	0	0	Co-Benefits Details:
Ar	Annual Savings: nnual co-Benefits: Total Savings:			0	0	Prese and a thirt teory or exclamation
	nual co-Benefits: Total Savings: Capital Cost:	Press after 214.1	E	0 mart	0	
	nual co-Benefits: Total Savings: Capital Cost: stimated Payback:		•	0	0	Phase said a shart tangen with a standard
Es	nual co-Benefits: Total Savings: Capital Cost: stimated Payback:	Select an Option	<	0 mart	A	Press and a Print Design on exclamation
Es	Total Savings: Capital Cost: Stimated Payback: Timeframe:	Select an Option Select an Option	<	0 mart	• A • C	Phase sold a start factor of the scalarship Complexity Detail:

The Energy management team can view the ranking in the Improvement Opportunity view which can be accessed from the IO icon in the System Overview are of the dashboard.

Open Closed							$\frown$
Category/System	♦ Summary	Source	¢	¢	\$ Start	Target	Ranking
HVAC	AHU-01 Allow the cooling coil and heating coils va	-	2	<b>S</b>	-	-	0.1234
HVAC	AHU-01 Check the set-values of the relative humidi	-	2	2	-	-	0.0015
HVAC	AHU-01 Modify the heating and cooling coil control	-	2	<b>i</b>	-	-	-
HVAC	AHU-02 Check the control valve and the control par	-	2	2	-	-	-
HVAC	AHU-02 Check the pressure set-values and the press	-	2	<b>i</b>	-	-	
HVAC	AHU-02 Check the signals of the dampers.	-	2	27	-	-	0.0015
HVAC	AHU-02 Make sure that the cooling coil and heating	-	2	2	-	-	-
HVAC	AHU-02 Modify the heating and cooling coil control	-	2	0	-	-	-
HVAC	AHU-03 Check the pressure sensor and the set-value	-	2	୍	-	-	0.1234
HVAC	AHU-03 Make sure that the cooling coil and heating	-	2	٩,	-	-	-
HVAC	AHU-03 Modify the heating and cooling coil control	-	2	0	-	-	
HVAC	AHU-04 Check the humidifier pump.	-	2	0	-	-	-
HVAC	AHU-04 Check the pressure set-values of the fans.	-	2	0	-	-	
HVAC	AHU-04 Make sure that the cooling coil and heating	-	2	୍ଦ୍	-	-	-
HVAC	AHU-05 Check the alarm signal of the humidifier	-	2	0	-	-	-

# 6 Objectives & Targets

### 6.1 Overview

This section allows the organization to define and track energy saving objectives and targets. To view the objectives and targets go to the Objectives and Targets area on the dashboard.



To see a detailed view of the objectives and targets, click on the icon in the right hand corner and click in "Details (see figure above). The following screen appears.



Objectives & T	argets	EnPls O&Ts	Benchmark Data							
4	2012	2013	2014	2015	2016 2017	201	18			
							Elec	trical(kWh)	Ther	mal(kWh)
Title			kWh	Objective	Target	Actual	Target	Actua	l Target	Actual
1 Overall Object	tive: Redu	ce overall energy	consumption by 5%		4 14398742	5 700000 6	8813406	7 300000	8 5585336	400000
Total			287974849			1	8167029	<b>12</b> 300000	45265300	6400000
• Terminal T3 - F	со		118801684	Reduce Energy	consumption by 5%		4071830	0.00	1868253	0.00
• Terminal T1 - F	со		39856522	Reduce by 5%			1115991	300000	876835	0
Merci - FCO			25899282	Reduce by 5%			662980	<b>13</b> 0.00	631983	17 0.00
Catering - FCO			19232905	Reduce by 5%		1	261464	0	700181	400000
Altri Edifici - FC	0		12739606	Reduce by 5%		-	292001	0.00	15 <sub>344979</sub>	0.00
Palazzina EPU/	A - FCO 🧧	2	3 11108741	Reduce by 5%			357079	0.00	198358	0.00
Mense - FCO			9873799	Reduce by 5%			297625	0.00	196064	0.00
• Terminal T5 - F	со		8570681	Reduce by 5%			178030	0.00	250503	0.00
Parcheggi - FC	0		8247664	Reduce by 5%			406179	0.00	6204	0.00
Piste - FCO			7258201	Reduce by 5%			362910	0.00	0	0.00
• Terminal T2 - F	со		7057614	-			160940	0.00	191940	0.00
• Officina - FCO			5374110	-			0	0.00	0	0.00
Uffici ADR - FC	0		4303882	-			0	0.00	0	0.00
Impianti specifi	ici - ECO		4025220	-			0	0.00	0	0.00

Columns of the table represent:

- 1. Overall Objective: This is a statement of overall objective for energy savings for the year. This is configured in the "Location" document in the Admin area (See Administration help) for the current location.
- 2. Title: The first column shows the title of the Energy Uses. The location is also indicated in this column. This allows for data from multiple locations to be easily analyzed particularly when energy uses might have the same name in different locations (e.g. Lighting, Heating.)
- **3.** (**kWh**): The second column shows the annual energy usage of energy use (This shows the default units configured for the system, e.g. kWh, MWh, etc.)
- **4.** Target: This is the total target savings for this location based on the total of the overall Electrical Target (see item 6) and the overall Thermal Target savings (see item 8.)
- 5. Actual: This is total actual savings based on the total Electrical Actual savings (see item 7) and Thermal Actual savings (see item 9.)
- **6. Electrical Target** (bold text): This is the Electrical Target savings defined for the year for this location. The Electrical Target is defined in the Location document (see later sections).
- Electrical Actual (bold text): This is the total actual savings achieved for each energy use from the associated improvement opportunities. This is the summation of the energy savings for each energy use in the column below (see item 13)
- **8.** Thermal Target (bold text): This is the Thermal Target savings defined for the year for this location. The Thermal Target is defined in the Location document (see next sections).
- **9.** Thermal Actual (bold text): This is the total actual thermal savings achieved for each energy use from the associated improvement opportunities. This is the summation of the energy savings for each energy use in the column below (see item 17)
- **10. Total target electrical savings for all Energy Uses:** This number is the total of electrical savings targets from all of the energy uses in the column below (**11**).
- **11.** Electrical savings targets for each energy use.
- **12.** Actual electrical savings achieved so far for all energy use: This number is the total of actual electrical savings from all of the energy uses in the column below (13).

- **13.** Actual electrical savings for each energy use. The actual electrical savings is calculated from the actual savings from each of the completed improvement opportunities associated with that energy use (see next section for more detail.)
- **14. Total target thermal savings for all Energy Uses:** This number is the total of thermal savings targets for all of the energy uses as shown in the column below **(15)**.
- **15.** Thermal savings targets for each energy use.
- **16.** Actual thermal savings achieved so far from all energy use: This number is the total of actual thermal savings from all of the energy uses in the column below (17).
- **17.** Actual thermal savings for each energy use. The actual thermal savings is calculated from the actual savings from each of the completed improvement opportunities associated with that energy use (see next section for more detail.)

By clicking on the triangular icon beside the energy use, the actions related to that item will be displayed as follows:

	2012	2013	2014	2015	2016 2017	20	)18			
							Elect	rical(kWh)	Therm	al(kWh)
Title			kWh	Objective	Target	Actual	Target	Actual	Target	Actua
Overall Objectiv	e: Reduce (	overall energy c	onsumption by 5%		14398742	700000	8813406	300000	5585336	400000
Total			287974849				8167029	300000	5265300	400000
Terminal T3 - FCO			118801684	Reduce Energy	consumption by 5%		4071830	0.00	1868253	0.00
Terminal T1 - FCO	)		39856522	Reduce by 5%			1115991	300000	876835	400000
7/31/2014 - 1	nstall new	energy efficient o	vens in kitchens in	Terminal 1			0	o <mark>2</mark>	235009023	400000
19 3/31/2014 - 1	nstall LED	lighting in the an	ivals hall			2	250000 2	1300000	-	-
				ers to avoid simu	Itaneous heating and c	ooling in	0	-2	2 180000	-
AHU-01 Allo	w the coolir	ig coil and heatii	ng coils valves opera	ation only the	18		0	-	-	-
AHU-01 Che	ck the set-v	alues of the rela	tive humidity of the e	exhaust air			0	-	-	-
AHU-02 Mak temperature.	e sure that	the cooling coil a	and heating coils on	ly operate if there	is a usable water supp	bly	0	-	-	-
2 AHU-02 Che	ck the cont	rol valve and the	control parameters	of the post-heate	r.		0	-	-	-
2 AHU-02 Che	ck the pres	sure set-values	and the pressure se	ensors of the sup	ply fan.		0	-	-	-
2 AHU-02 Che	ck the sign	als of the dampe	ITS.				0	-	-	-
Total						2	<b>4</b> 250000 <b>2</b>	5 3000002	530090 <b>27</b>	400000
Merci - FCO			25899282	Reduce by 5%			662980	0.00	631983	0.00
Catering - FCO			19232905	Reduce by 5%			261464	0.00	700181	0.00

The additional information displayed relating is as follows:

- 18. List of improvement opportunities associated with the selected energy use. Only improvement opportunities that have been review and with a status of PLANNED, ASSIGNED, WAITING, FOR VALIDATION, AWAITING CLOSURE or CLOSED are included in this view (see chapter 5 on improvement opportunities for details on the different status.)
- **19.** The icons represent the status of the improvement opportunities.
- **20.** This is the estimated electrical savings from the improvement opportunity. This is entered when the improvement opportunity is create or reviewed by the energy manager (see section 5.2.1.)
- **21.** This is the actual electrical savings from the improvement opportunity entered by the assigned person at the FOR VALIDATION step (see section 5.2.2 for details.)
- **22.** This is the estimated thermal savings from the improvement opportunity. This is entered when the improvement opportunity is create or reviewed by the energy manager (see section 5.2.1.)

- **23.** This is the actual thermal savings from the improvement opportunity entered by the assigned person at the FOR VALIDATION step (see section 5.2.2 for details.)
- **24.** This is the total of the estimated electrical savings from al the improvement opportunities related to the energy use selected. Ideally you should be trying to identify as many improvement opportunities with estimated electrical energy savings that are greater than the target electrical savings for the selected energy use (see item 11 above.)
- **25.** This is the total actual electrical savings calculated from all of the improvement opportunities associated with the selected energy use.
- **26.** This is the total of the estimated thermal savings from all the improvement opportunities related to the energy use selected. Ideally you should be trying to identify as many improvement opportunities with estimated thermal energy savings that are greater than the target electrical savings for the selected energy use (see item 11 above.)
- **27.** This is the total actual thermal savings calculated from all of the improvement opportunities associated with the selected energy use.



# 6.2 Setting Overall Objectives & Targets

This section describes the instructions for configuring the Overall Objectives & Targets.

### **Objectives & Targets**

**Target Saving – Elect (kWh)**: Enter the Electrical Target savings for the current year for this location. This is the electrical target that appears in the Objectives & Targets view.

**Target Saving – Thermal (kWh)**: Enter the Thermal Target savings for the current year for this location. The Thermal Target appears in the Objectives & Targets view.

**Energy Saving Commitment:** Enter a statement of overall objective for energy savings for the current year. This appears as the Overall Objective in the Objectives & Targets view described in the previous sections.

# 6.3 Setting Energy Use Objectives & Targets

The Energy Use Objectives & Targets are inputted into the Energy Use form. The following are the steps in entering the Objectives & Targets for an Energy Use.



Total	0	
Details:		~
Attachments:- N	lone -	~
Addeninento. 1		
+ Improvement Opportuniti		
+ Objectives & Targets	Click on the "Objectives & Targets" section	

The following section appears:

- Objectives & Targets	
Objectives:	Please enter your objective Reduce energy consumption by 10%
Targets:	Electrical         Thermal         Transport.         Water           192         MWh         0         MWh         0         Im3         Please enter your objective
Energy Drivers:	Please add any energy driver detail for the significant energy use
Performance Indicator O	biectives and Targets
Name:	
Annual Total:	15000
Baseline EnPI:	3.11 MWb/m2
EnPI Objectives:	reduce by 5%
Targets:	2.95 MWh/m2
Owner:	Mike Brogan Select Owner
Training Need:	Please add any training needs related to this significant energy usage
Attachments:	Attach file None -

Targets can be defined as both absolute values (kWh, MWh etc.) and also in terms of energy performance indicators (kWh/m2 or MWh/kg etc.) Targets based on absolute or total energy consumption values may not be very useful for some sectors such as industry where energy consumption may depend heavily on production levels.

The absolute or total energy targets are defined as follows:

Objectives & Targets Objectives:	Please enter your objective	Reduce energy consumption	by 10%		
Targets:	Electrical 192 MWh	Thermal 2139 MWh	Transport:	Water 0 m3	Please enter your objective
Energy Drivers:					<b>^</b>

#### **Objectives & Targets**

**Objectives**: Enter statement on targets for this energy use. This is the statement that appears in Objectives & Targets view for each energy use.

Targets:

- **Electrical**: Enter total amount of electrical energy that you would like to reduce. The units are based on the system units defined in the System Settings (see Administration help.)
- Thermal: Enter total amount of thermal energy that you would like to reduce. The units are based on the system units defined in the System Settings (see Administration help.)
- **Transport**: Enter total transport energy that you would like to reduce. The units are based on the system units defined in the System Settings (see Administration help.)
- **Water**: Enter water usage that you would like to reduce. The units are based on the system units defined in the System Settings (see Administration help.)

**Energy Drivers**: Enter a description of the various factors that influence energy usage for this Energy Use (e.g. level of production or quantity of products produced, degree days etc.)

### **Performance Indicator Objectives and Targets**

Performance Indicator O	bjectives and 1	argets
Name:	m2	
Annual Total:	15000	
Baseline EnPI:	3.11	MWh/m2
EnPI Objectives:	reduce by 5%	
Targets:	2.95	MWh/m2

Name: Enter the name of the performance indicator (e.g. m2, kgs)

Annual Total: Enter the annual total of the indicator (total m2, total kgs)

Baseline EnPI: The baseline EnPI is calculated from the total energy in the Annual Usage section.

**EnPI Objectives**: Enter a statement describing the target.

**Targets**: The target is calculated based on the total energy reduction in the Objectives & Targets section above.

# 7 Document Management

## 7.1 Overview

Through this window it is possible to find documents. Documents can be sorted by Category or Standard by clicking on the correct button. By clicking on the Old & Obsolete button, it will be possible to check old documents, if such documents are present. "Close" button (bottom-right) closes the window.

Document Management	
Legal Requirements (training)	
specifiche tecniche cdz - file too large too upload	
relazione generale tecnica T1	
technical_data_ahu's_mxp	
DG8003_B_Schemadiflusso_SCT_4	
	- *****

Documents Management widget

	dard Old & Obsolete		
Category	≑ Title		\$
perational control	DG8003_B_Schemadiflusso_SCT_4	Mark McCaffrey 02/08/2013	Edi
perational control	DG8008_A_DistributionWater_C19_C20_	Marcella Scuccimarra 02/08/2013	Edi
perational control	DG8018_C_AirDistribution_Risers_C19C20	Mark McCaffrey 02/08/2013	Edi
perational control	MXP_T1_EG	Marcella Scuccimarra 02/08/2013	Ed
perational control	MXP_T1_OG1	Marcella Scuccimarra 02/08/2013	Edi
perational control	MXP_T1_OG2	Marcella Scuccimarra 02/08/2013	Edi
perational control	MXP_T1_UG	Mark McCaffrey 02/08/2013	Ed
perational control	MXP_T1_UG2	Marcella Scuccimarra 02/08/2013	Ed
perational control	relazione generale tecnica T1	Marcella Scuccimarra 02/08/2013	Edi
perational control	specifiche tecniche cdz - file too large too upload	Marcella Scuccimarra 02/08/2013	Edi
perational control	technical_data_ahu's_mxp	Marcella Scuccimarra 02/08/2013	Edi
nergy Baseline	EST DOcument	John Cunningham 24/08/2013	Ed
egal and Other Requi	irements Legal Requirements (training)	Mark McCaffrey 06/09/2013	Edi

**Documents Management exploring window** 

# 7.2 Creating a new Document

In order to create a new document, just select "Document" through the path "Create New"  $\rightarrow$  "Document Management".



A detailed description of the form and completing the fields is provided in the next section.

H 🛎 🕗 🗡 🛍 G-
Draft In Workflow Closed Add to Favourites CASCADE In Vorkflow Closed CASCADE In Vorkflow Closed
Please enter the following information to create a document. The information with " must be filled in order to submit or save the form.
Document           1         Title:*         A short summary of the document
2     Global Document     Please click here if you want this document to be visible to all locations.       3     Building/Location:*     Select an Option <ul> <li>Please select the location</li> </ul>
<ul> <li>Sub-Location: Please select the sub-location after you have selected the location</li> <li>Document Type:* -  Please select document type</li></ul>
6 Category: Select an Option  7 Sub-Category:
8 Standard: ISO 14001
9 Version: 0 Select Owner
10       Owner:* Andrea Manfreda         11       Document Type:* <ul> <li>Document Type:*</li> <li>Document Attachment</li> <li>URL Link</li> <li>Attachments:</li> <li>Attach Files</li> </ul>
Details: Please enter and edit the detail in the text area below
13
14 Submit Save Cancel 15 16

Fields that must be filled are:

### DOCUMENT

- 1. Title insert the title of the document
- 2. Global Document mark this flag if the document should be visible to all locations
- 3. Building/Location select the location from the drop-down menu
- 4. Sub-Location select the sub-location from the drop-down menu that opens
- 5. Document type select the typology of the document from the drop-down menu

- 6. **Category** select the category from the drop-down menu
- 7. Sub-Category select the sub-category from the drop-down menu that opens
- **8. Standard** by selecting from the options listed in the drop-down menu, it is possible to assign many standards and relative sections to the document
- 9. Version this flag shows the version of the document
- **10. Owner** by clicking on the "Select Invitees" button a window with the list of selectable owners opens
- **11. Format –** the document can be created in three ways:
  - Document: filling the form fields (the body of the document must be written in the "Details" field)
  - Attachment: adding as an attachment; by selecting the attachment from the "Attach files" button
  - URL link: selecting this option, a new field appears; it must be filled with the URL
- **12.** Attachments by clicking on this button, a floating window opens: clicking on "Choose file" will be possible to choose the attachment. Then, clicking on the button with the "clip" picture, the file will be attached to the document

### DETAILS

- **13.** This field should be filled with the document body of with additional details that are not contained in the attachments. This field is only available when "Document" is selected as the format.
- 14. Submit click this command to submit the document. The Submit button allows the user to submit the document to the energy manager (for the location selected in the Building/Location item 3 of this list). This is the first step in the workflow where any new documents must be first accepted by the Energy Manager for inclusion in the system. If the energy manager is satisfied of the validity of the document, then the energy manager has a different workflow options. It can be submitted for review and authorization or it can be submitted directly for issue.
- 15. Save click this command to save the document for further changes. If a document is saved and closed at this stage it is still has a "DRAFT" status. Draft documents created by individual users can be found in the users "My Tasks" widget on the dashboard.
- 16. Cancel click this command to close the window and abandon the unsaved changes

#### 7.2.1 Adding an Attachment



"In Progress" Documents can be checked in the "System Overview" widget.

If a user has been assigned to review, authorize or issue a document, a task should also appear in the "Your Tasks" area.

# History S&C ent Type: 🔽 <sub>Dock</sub> Energy Policy LINLOX Ltd. Dublin produces liquid nitrogen (LIN) and liquid oxygen (LOX). The raw materials are atmospheric air and electric energy. By means of compression, expansion as well as cooling via heat exchangers, the air is cooled down to a liquid condition, after which a distillation process takes place. LINLOX Ltd. Dublin wishes constantly to uncover the options for a more energy and environment friendly production, and is committed to continual improvement. For that reason LINLOX Ltd. Dublin will implement proposals, which will ensure a leading position as regards energy efficiency and least possible environmental impact, if these proposals turn out to be profitable to carry out and fulfil the commutments to the customers as to quality and supply security. Edit The energy policy is complied with in practice by: • Setting objectives and targets and reviewing such annually · Addressing its significant energy usage areas, specifically selecting one or more spheres of processes at regular intervals for a thorough energy review (screening), focusing on the energy consumption in connection with procurement of new equipment and renovati ×plain, how they can influence the energy consumption. ies in the field of energy as well it" with the Sustainable Energy in is committed to observe the National Standards Authority of

#### Edit

If a user has sufficient privileges they can edit a document (See next slide for more information)

#### **History**

Information on the history of the document can be viewed by clicking on the History symbol.

#### Save & Close (S&C)

A user can Save and close the document by clicking this button.

recording energy consumption and preparing usable key figures,
<ul> <li>making the energy consumption visible to all employees and together with them e- the energy consumption, without any reduction in quality and flow of the production,</li> </ul>
<ul> <li>motivating the employees to draw up proposals, which may contribute to reducing the</li> </ul>
LINLOX Ltd. Dublin will observe relevant legislation and relevant requirements of the authoritie as other stipulations, to which the company may have subscribed.
LINLOX Ltd. Dublin has subscribed to: 'Voluntary Agreement concerning Energy Management Ireland, SEI. This agreement is renegotiated every third year. With that LINLOX Ltd. Dublin standard IS 393 and the requirements to energy management in relation to IS 393 issued by the N. Ireland.
Bo Kuraa
Lokalenergi
New Revision Obsolete

#### 7.2.3 **Editing a Document**

Category	Standard	Old & Obsolete			
Category	\$	Subcategory	<b>♦</b> Title	Owner	-
Distribution	foi	rms	Outbound Trailer Log	Mike Brogan	Edit
Distribution	Re	eceiving	Assigning Lot Numbers to Multiple Batch Loads & Toll Pr	Cody Crawford	Edit
Maintenance	-		JC TEST 2	Shannon Gilbert	Edit
Quality Systems	5 H/	ACCP	HACCP PROCEDURES - CCP Metal Detector Drop Thru - CQP/0	Dave Nelson	Edit
SHE	Sa	afety	Lockout Tagout	Christopher Uptegrove	Edit

#### Edit

If a user has sufficient privileges they can edit a document by clicking on the Edit button circled above

#### <u> Or</u>

When they have opened the document by clicking the Edit icon (described above), the user can then click the Edit symbol in the top left corner (Step 2).

# 7.3 Document Management Workflow

The following is the available workflow for reviewing, authorizing and issuing documents.



The following describes the steps in more detail.

### 7.3.1 Requesting a New Document

The instructions for creating a new document and entering the details are described in section 7.2 above. A new document can be created by any user of the system. This new document is then submitted to the Energy Manager who decides if this document can be included in the system. The following describes the steps in requesting and submitting a new document:



### 7.3.2 Submitting a Document for Review

1. Purpose:	ensure traceability of multiple batch lo		
2. Scope: This work applies to all 3. Responsibilities:	multiple batch raw material loads and	Toll Processed items re	ceived at DUSM.
Review Details			
What would you like to do Submit for Review	with this document? Submit for Authorization	Submit for Issue	Please choose one of the option to continue.



### 7.3.3 Submitting a Document for Authorization



### 7.3.4 Reviewing/Authorizing a Document







# 8 Audit

# 8.1 Overview

An internal audit of an EnMS is an objective, systematic review of all or part of an organization's EnMS. The purpose of the audit is to:

- determine if the requirements are being met;
- Identify and drive improvements in energy performance and the EnMS.

This is accomplished by an internal audit process, which is documented (see ISO 50001:2011, 3.20), and should include the following:

- a) competent auditors
- b) verification of auditor competency
- c) auditor independence from the area being audited
- d) an audit schedule covering a defined period of time (usually at least one year)
- e) an audit schedule and individual audit plans not based on clauses alone, but on the processes of the EnMS, taking into account the organization's facilities, equipment, systems and processes;
- f) defined approaches for agreeing on EnMS audits scopes and objectives
- g) processes for planning, and conducting audits, including the use of any audit forms, checklist or other audit tools, if applicable
- h) compiling and communicating audit results to top management
- i) clearly defined responsibilities and requirements for taking and completing corrective actions on audit nonconformities
- j) appropriate records of the audit process and audit results;

EnMS internal audits should be prioritized and conducted more frequently for:

- areas that influence energy performance such as objectives, targets, SEUs, operational controls, significant deviations, measurement, monitoring and analysis, and energy review;
- other areas where important nonconformities have been identified in previous audits;
- areas that have experienced changes to equipment, systems, processes and personnel since the last EnMS audit;
- Areas where changes are planned that could have a significant impact on energy performance.

EnMS internal audits may be conducted less frequently for:

- a) areas that do not significantly impact energy performance, such as document control; or
- b) Processes that have fewer nonconformities from previous audits.

This ensures that the audit process is focused on the areas and processes that assist the organization in improving energy performance and the effectiveness of its EnMS.

The organization should maintain evidence that all the EnMS requirements were audited within a defined period of time specified on an audit schedule. This can be achieved in a number of ways:

- a matrix with processes/areas and the requirements applied to them during the audit(s);
- completed audit plans and audit schedules providing details of processes/ areas and requirements audited;
- Recorded in audit notes, audit report or other format.

2014 👻 Internal 👻									View	v 'Month	s' v	iew 'da
						20	14					
Description	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
EnMS Internal Audit	1											
EnMS - Warehouse Audit		1										
QMS - Operations Audit		<u></u>										
EMS - External Audit			1									
EnMS Audit												
EnMS Energy Audit - Fabrication Plant												
OHSAS - Operations Audit				-		1						
QMS - Finance Audit												
								1			-	4
Open Closed		•	¢I	III Location		\$ Statu	s	•	\$ Ow	ner	•	▶ Date
Open Closed		¢				<ul> <li>Statu</li> <li>AUDIT SC</li> </ul>		Đ	Ow Mike Br			▶ Date /01/2014
Open Closed  Title EnMS Internal Audit		•		Location	pany		CHEDULE		Mike Br		20	
Open Closed  Title  Title  Title  Title  Characteristic Audit  Ch		¢ •	ļ	Location ABC Com	pany pany	AUDIT SC	CHEDULE	D	Mike Br	rogan Louchard	20 10	/01/2014
Open Closed     Title     EnMS Internal Audit EnMS - Warehouse Audit     QMS - Operations Audit		¢ •	4 4 4	Location ABC Com ABC Com	pany pany pany		CHEDULE CHEDULE CHEDULE	D D	Mike Br Celine I	ogan Louchard ogan	20 10 24	/01/2014 /02/2014
Open Closed     Title EnMS Internal Audit EnMS - Warehouse Audit EMS - Operations Audit EMS - External Audit		•	د د د	Location ABC Com ABC Com ABC Com	pany pany pany pany	AUDIT SC AUDIT SC AUDIT SC	CHEDULE CHEDULE CHEDULE CHEDULE	:D :D :D	Mike Br Celine I Mike Br	rogan Louchard rogan rogan	20 10 24 11	/01/2014 /02/2014 /02/2014
•		•		Location ABC Com ABC Com ABC Com ABC Com	pany pany pany pany pany	AUDIT SC AUDIT SC AUDIT SC AUDIT SC	CHEDULE CHEDULE CHEDULE CHEDULE CHEDULE	ED ED ED ED ED	Mike Br Celine I Mike Br Mike Br Andrea	rogan Louchard rogan rogan	20 10 24 11 08	/01/2014 /02/2014 /02/2014 /02/2014
Open Closed     Title EnMS Internal Audit EnMS - Warehouse Audit OMS - Operations Audit EnMS - External Audit EnMS Audit		•	لر لر لر لر	Location ABC Com ABC Com ABC Com ABC Com	pany pany pany pany pany pany	AUDIT SC AUDIT SC AUDIT SC AUDIT SC AUDIT SC			Mike Br Celine I Mike Br Mike Br Andrea	rogan Louchard rogan rogan a Costa	20 10 24 11 08 21	/01/2014 /02/2014 /02/2014 /03/2014 /03/2014
Open Closed     Title EnMS Internal Audit EnMS - Warehouse Audit 2MS - Operations Audit EMS - External Audit EnMS Audit EnMS Audit EnMS Energy Audit - Fabrication Pla		¢ • •		ABC Com ABC Com ABC Com ABC Com ABC Com ABC Com	pany pany pany pany pany pany pany	AUDIT SO AUDIT SO AUDIT SO AUDIT SO AUDIT SO	CHEDULE CHEDULE CHEDULE CHEDULE CHEDULE CHEDULE	ED ED ED ED ED ED	Mike Br Celine I Mike Br Mike Br Andrea	rogan Louchard rogan rogan a Costa Harding cCaffrey	20 10 24 11 08 21 18	/01/2014 /02/2014 /02/2014 /03/2014 /04/2014 /04/2014
Closed     Closed     Title EnMS Internal Audit EnMS - Warehouse Audit OMS - Operations Audit EnMS Audit EnMS Audit EnMS Audit EnMS Energy Audit - Fabrication Pla OHSAS - Operations Audit OMS - Finance Audit		•	د د د د د د د د د د د د د د د د د د د	Location ABC Com ABC Com ABC Com ABC Com ABC Com ABC Com	pany pany pany pany pany pany pany pany	AUDIT SC AUDIT SC AUDIT SC AUDIT SC AUDIT SC AUDIT SC	CHEDULE CHEDULE CHEDULE CHEDULE CHEDULE CHEDULE CHEDULE	ED ED ED ED ED ED ED ED	Mike Br Celine I Mike Br Mike Br Andrea Jacob I Mark M Alfio G	rogan Louchard rogan rogan a Costa Harding cCaffrey	20 10 24 11 08 21 18 01	/01/2014 /02/2014 /02/2014 /03/2014 /04/2014 /04/2014 /06/2014
Closed     Closed     Title EnMS Internal Audit EnMS - Warehouse Audit EMS - Operations Audit EnMS Audit EnMS Audit EnMS Audit EnMS Audit EnMS Serrgy Audit - Fabrication Pla DHSAS - Operations Audit		•	د د د د د د د د د د د د د د د د د د د	Location ABC Com ABC Com ABC Com ABC Com ABC Com ABC Com ABC Com	pany pany pany pany pany pany pany pany	AUDIT SC AUDIT SC AUDIT SC AUDIT SC AUDIT SC AUDIT SC AUDIT SC	CHEDULE CHEDULE CHEDULE CHEDULE CHEDULE CHEDULE CHEDULE	ED ED ED ED ED ED ED ED	Mike Br Celine I Mike Br Mike Br Andrea Jacob I Mark M Alfio G John C	rogan Louchard rogan rogan a Costa Harding cCaffrey alata	20 10 24 11 08 21 18 01 11	/01/2014 /02/2014 /02/2014 /03/2014 /04/2014 /04/2014 /06/2014 /07/2014
Open Closed     Title     EnMS Internal Audit EnMS - Warehouse Audit OMS - Operations Audit EnMS - Operations Audit OMSAS - Operations Audit EnMS - Distrubution Audit EnMS - Distrubution Audit		¢ • • • • • • • • • • • • • • • • • • •		Location ABC Com ABC Com ABC Com ABC Com ABC Com ABC Com ABC Com ABC Com	pany pany pany pany pany pany pany pany	AUDIT SC AUDIT SC AUDIT SC AUDIT SC AUDIT SC AUDIT SC AUDIT SC AUDIT SC	CHEDULE CHEDULE CHEDULE CHEDULE CHEDULE CHEDULE CHEDULE	ED ED ED ED ED ED ED ED	Mike Br Celine I Mike Br Mike Br Andrea Jacob I Mark M Alfio G John C	ogan Louchard ogan ogan a Costa Harding cCaffrey alata unninghan ionnelly	20 10 24 11 08 21 18 01 18 01 11 11	/01/2014 /02/2014 /02/2014 /03/2014 /04/2014 /04/2014 /06/2014 /07/2014

### Why are AUDITS important?

Regulation ISO 50001 states that audits are very important for the Energy Management System and must be regularly planned in order to ensure that:

- the EnMS conforms to planned arrangements for energy management (including the requirements of the ISO 50001)
- EnMS conforms with the energy objectives and targets established
- is effectively implemented and maintained, with confirmation of the improvements it brings to performances in terms of energy consumption

#### Who can use the AUDITS module?

The Audit management module can be used alike by:

- managers
- auditors
- outside regulators

#### Which is the scope of AUDITS module?

Scope of the AUDIT module is to ensure that everyone is always up to date on what is happening, what actions need to be carried out and how effective the actions have been implemented.

#### What can be practically performed with AUDITS module?

- Plan and schedule audits of all management systems (including: Quality, Environmental, Health & Safety, Energy, Customer, Suppliers and 3<sup>rd</sup> Party audits)
- Assign Auditors and Auditees
- Reference relevant standards and regulations
- Create audit checklists
- Review findings
- Ensure closure

### 8.1.1 Audit workflow

The next sections describe how to schedule an Audit, complete an Audit, check an Audit and finally review and approve an Audit based on the following audit workflow.



# 8.2 Creating and Scheduling a new Audit

The following instructions describe how to create a new Audit:



The following section explains each input fields and how to schedule an audit.

Draft	In Wor	kflow	Closed	0		CASCADE
Audit						ICT for Energy Efficient Airports
Please enter the The information	following informs with ** must be fi	ation to create a Au Iled in order to sub	dit document. nit or save the form.			
Basic Informa	ation					
<b>1</b> T	ïtle: *				A short summa	ary of the significant energy use
2 Loc	ation:* Select	an Option	•	Please select the location		
3 Audit	Type: Select	an Option	•	Please select the audit type		
4 Cate	egory: Select	an Option	•	Please select the applicable ca	legory	
5 Start	Date:*		10:00	Click the button to select the	date	
	Date:*		11:00	Click the button to select the	date	
Lead Au	iditor:* Mark M	cCaffrey	Select Lead Auditor	Lead Auditee:	Selec	t Lead Auditee
7 Other Aud	litors: -		Select Auditors	Other Auditees: -	Select	t Auditees
9 Previous A	udits: View					
Scope & Que	stions					
	Audit Scope:					
Checklis	10 st & Additional Quesions: 11		scope for the audit	r fhe audit		h. 
	Attachments:	Attach Files	12			
	Standard:	-	•	- 🗸	-	- 🗸
13	Section:	-		-	-	-
15	URL Links:	-				
	16	Submit <u>S</u>	ave Cancel and Clos	<u>30</u>		

A new audit has a status of "Draft" shown on the status line above the form (highlighted in red with the label 0 in the above picture.

To schedule the Audit, fill all the fields of the form and click on "Submit".

With reference to the labels in picture above that must be filled are:

#### **Basic Information**

- 1. Title insert title of the Audit with reference to the subject
- 2. **Location** choose the location of from a drop-down menu
- 3. Audit type select the Audit type from a drop-down menu
- 4. **Category** select the category from a drop-down menu
- 5. **Start Date** select the expected start date of the Audit (by clicking on the calendar button on the right, a drop-down calendar will appear to help in the date selection)
- 6. **End Date** select the expected end date of the Audit (by clicking on the calendar button on the right, a drop-down calendar will appear to help in the date selection)
- Lead Auditor / Other Auditors each of these fields must be filled by clicking on the selection buttons on the right: the Auditors must be chosen among those stated by the list contained in the floating window
- 8. Lead Auditee / Other Auditees each of these fields must be filled by clicking on the selection buttons on the right: the Auditors must be chosen among those stated by the list contained in the floating window
- 9. **Previous Audits** by clicking on the "View" button on the right, a database with data from previous Audits will appear: this instrument is an aid to recover data from previous Audits

### Scope & Questions

- 10. Audit scope this field must be filled with a description of the scope of the Audit
- 11. Checklist and additional questions this open field must be filled with notes and other questions
- 12. Attachments by clicking on this button, a floating window opens: clicking on "Choose file" will be possible to choose the attachment. Then, clicking on the button with the "clip" picture, the file will be attached to the document
- 13. **Standard** this is a two-step selection:
  - by clicking on each of these three fields, it is possible to choose the Standard ISO Regulation which the Audit refers
  - Sections after the previous selection, by clicking on the bottom field, a selection of the section of the above selected regulation could be performed
- 14. Links this command gives the user two choices:
  - by clicking on the green button, labeled as "+", one or more links could be added by typing the title in the left field and the URL in the right field
  - by clicking on the red button, labeled as "-", it could be possible to erase the previous inserted links
- 15. URL Links this command gives the user two choices:
  - by clicking on the green button, labeled as "+", one or more links could be added by typing the title in the left field and the URL in the right field
  - by clicking on the red button, labeled as "-", it could be possible to erase the previous inserted links
- 16. **Submit/Save/Cancel and Close** with fields in this section it is possible to: submit the Audit (Submit), save the Audit for a further check (Save), cancel the Audit and close the window (Cancel and Close)

#### NOTES:

• An Audit can be saved and closed during the editing also without submitting. In this case Audit status remains as "Draft" and appears under the "Your Task" section of the software portal and shown on the dashboard (refer to paragraph 3.8 page 12)

# 8.3 Completing an Audit Report (including actions)

To select the Audit that must be completed, open the Audit database by clicking on the Audit button of the "System Overview" area on the dashboard as follows:



Audit Results		
1 Audit Start Date:*		
2 Audit End Date:*		
3 Contacts Seen:*		
Audit Report Summary:		
·		
4		
	Please add report summary for this Audit	
Audit Report Details:		
5		
	Please add report detail for this audit	
Strengths:		
6		
Ŭ		
Weaknesses:	Please add the strength detail for the audit	
Weakitesses.		
-		
7		
	Please add the weakness detail for the audit	
Attachments:	Attach Files - None - 8	
Comments	9	
Action		
New Nonconformity	10	
♦ Туре	11 ¢ Summary ¢ Status ¢ Assigned ¢ Date	t
- None -		
12	Complete Cancel and Close 14	

Fields that must be filled are:

#### **Audit Results**

- 1. Start Date select the actual start date of the Audit (by clicking on the calendar button on the right, a drop-down calendar will appear to help in the date selection)
- 2. End Date select the actual end date of the Audit (by clicking on the calendar button on the right, a drop-down calendar will appear to help in the date selection)
- **3.** Contacts Seen this field must be filled by clicking on the selection button on the right: the contacts seen must be chosen among those stated by the list contained in the floating window which appears
- 4. Audit Report Summary enter a summary of the Audit findings
- 5. Audit Report Details enter details of the Audit findings
- 6. Strengths enter details of the strengths of the area found during the Audit
- 7. Weaknesses enter details of the weaknesses of the area found during the Audit
- 8. Attachments by clicking on this button, it is possible to attach files to the Audit
- Comments in this field auditees and auditors can leave comments when reviewing the final audit results

#### Action

- **10.** New Nonconformity click on this button to enter any compliance non-conformances based on the standard being audited against
- 11. Type \ Summary \ Status \ Assigned \ Target Date this is a summary list of all the actions created from this Audit; the Summary title for each action can be clicked to open the related action in a new window
- 12. Complete click this button when you have completed entering the audit report and all actions have been generated and you are satisfied with the audit report. The Lead Auditee/Other Auditors and Other Auditee will be notified that this audit has been completed
- **13.** Cancel and Close by clicking on this command, the audit will be canceled and auditors and auditees will be notified that the audit has been cancelled.
- 14. Close by selecting this command, the form will be closed losing all the unsaved changes

## 8.4 Final Review and Approval of Audit Report

The Lead Auditee will be asked for an approval of the Audit report. In order to accept the report, he must click on the "Close" button, otherwise he can reject by clicking on "Reject". The Audit report is completed when both Lead Auditor and Lead Auditee have clicked on "Close".

26/09/2011				
26/09/2011				Status: AUDIT COMPLETED
Mike Brogan				Status. ADDIT COMPLETED
the energy policy and the commitment to energy management is well kn objective os compliance to the ISO 50001 standard has been achieved.	ow and implemented by the peop A second objective to identify an	le involved in the audit.	The first	
See attached report for Audit details.				
			al	<b>NOTE:</b> The Audit will only be
One best practice and five positive comments were found, pleae see at	ttached Audit Report.			finally closed when both the Lead Auditor and the Lead Auditee have approved using the close
Some minor non-conformities were found, pleae refer to the attached A	udt report.			button.
EnMS Warehouse Audit Report 26Sep 11.docs				
	A Status	A Assisted	A Target Date	
	CLOSED	Assigned     Celine Louchard	© Target Date	
tional temperature controllers on the return air fans	ASSIGNED	Li Cheng	29/07/2011	If you are not satisfied with the
				Audit Report and actions, click
Close		Cancel		on this "Reject" button. This will notify the Lead Auditor that
	•	$\square$		you need clarification on
	2609/2011  Mike Brogan  A preliminary set of findings has been presented in the final meeting he the energy policy and the commitment to energy management is well to objective as compliance to the ISO 5000 standard has been achieved, the energy saving and process improvement opportunities already in pit See attached report for Audit details.  One best practice and five positive comments were found, please see a  Some minor non-conformities were found, please refer to the attached A  EnMS Warehouse Audit Report 255sep 11.docs  f ther energy awareness training to all staff toonal temperature controllers on the return air fans.	2000/2011         Mike Brogan         A preliminary set of findings has been presented in the final meeting held at the end of the audit. As a get the energy policy and the commitment to energy management is well know and implemented by the policy objective os complemente to be complemented by the policy objective os complemented to the second objective to include the second objective to include the energy saving and process improvement opportunities already in place was also achieved.         See attached report for Audit details.         One best practice and five positive comments were found, pleae see attached Audit Report.         Some minor non-conformities were found, pleae refer to the attached Audit report.         EMMS Warehouse Audit Report 285/sp11.doos         Mike renergy awareness training to all staff       CLOSED         Mike renergy awareness training to all staff       CLOSED         Mike renergy awareness training to all staff       CLOSED	260042011         Mike Brogan         A preliminary set of findings has been presented in the final meeting held at the end of the audit. As a general comment it must be the energy yoldy and the commitment to energy management in well know and implemented by the people involved in the audit. As objective os complement to been proved in the audit. As eacond objective to dentify any additional terms that with the energy saving and process improvement opportunities already in place was also achieved.         See attached report for Audit details.	2000/2011         Mak Brogan         A preliminary set of findings has been presented in the final meeting held at the end of the suift. As a general comment it must be said that the energy policy and the comments to energy management is well know and implemented by the people involved in the suift. The said that the energy saving and process improvement opportunities already in place was also achieved.         See attached report for Audit details.         One best practice and five positive comments were found, pleae see attached Audit Report.         Some minor non-conformities were found, pleae refer to the attached Audit report.         Immunor non-conformities were found, pleae refer to the attached Audit report.         Immunor non-conformities were found, pleae refer to the attached Audit report.         Immunor non-conformities were found, pleae refer to the attached Audit report.         Immunor non-conformities were found, pleae refer to the attached Audit report.         Immunor non-conformities were found, pleae refer to the attached Audit report.         Immunor non-conformities were found, pleae refer to the attached Audit report.         Immunor non-conformities were found, pleae refer to the attached Audit report.         Immunor non-conformities attaff       CLOSED       Celine Louchard       14/10/2011         Immunor non-conformities that in fans       ASSINED       L/Deng       2907/2011

If you are satisfied with the Audit Report and actions, click on this "Close" button. This will notify the Lead Auditor that you approve this audit report.

# 9 Nonconformities

### 9.1 Overview

ISO 50001 states that the organization shall address actual and potential nonconformities by making corrections and by taking corrective actions, ensuring that all necessary changes are made to the EnMS.

These actions include:

- Reviewing nonconformities or potential nonconformities
- Determining the causes of nonconformities or potential nonconformities
- Evaluating the need for action to ensure that nonconformities do not occur or recur
- Determining and implementing the appropriate action needed
- Maintaining records of corrective actions and preventive actions
- Reviewing the effectiveness of the corrective action or preventive action taken

Nonconformities can be found in **Audits** and also in the **System Overview** area of the dashboard using the "NCs" icon as shown below.



	Nonconformitie	s			×
	Open Closed				
	+ Assigned Person	♦ Summary	\$ ¢	\$ Start	♦ Target
	Thomas Cantillon	production line staff require refre	୍	08/22/2011	08/24/2012
	Mike Brogan	Energy efficiency purchasing not ca	-	02/26/2014	02/28/2014
	Mike Brogan	Persons responsible for SEUs are no		-	04/30/2015
	ve Brogan	Procedure out of date		-	03/31/2015
	ogan	Training manual is out of date due		08/11/2014	08/15/2014
2. Click the nonconformity you w	ich	Unclear how EnPI's are calculated	5	-	07/29/2015
to view.		Asbestos removal is not being manag	୍	-	10/17/2023
to view.		Oil / Chemical Spill prevention gui	୍	-	10/17/2014
	logan	There are a number of non-conforman	୍	-	10/18/2015
	ike Brogan	There is inadequate implementation	୍	-	10/17/2014
	Mike Brogan	There is no evidence of the process	1	-	01/18/2014
	Mike Brogan	There is poor communication of the	୍	-	10/17/2014
	Mark McCaffrey	Policy states that staff will be tr	1	01/27/2014	01/29/2014
	John Cunningham	The AHU for prouction line 4 is con	-	03/03/2014	03/06/2014
	Don Macdonald	The energy baseline has not been ad		01/01/2013	02/27/2014
	■ ■ 1 - 15 /1	8 • •			

Action				
New Imp	provement Opportunity New Nonconformity			
Type	♦ Summary	♦ Status	Assigned	Target Date
NC	There are a number of non-conformances on system that have not been closed out to date	FOR REVIEW		10/18/2015
NC	Unclear how EnPI's are calculated	ASSIGNED	Mike Brogan	07/29/2015
NC	Persons responsible for SEUs are not clearly identified	ASSIGNED	Mike Brogan	04/30/2015
NC	Procedure out of date	ASSIGNED	Mike Brogan	03/31/2015
NC	It is not clear how staff are trained on policies and procedures	ASSIGNED	Brad McGuire	07/24/2014
NC	The register of legal and other requirements are not checked	CLOSED	Mike Brogan	03/13/2014
NC	There is no real evidence of planning process being conducted.	ASSIGNED	Brad McGuire	03/10/2014
NC	The lack of top management input on an on-going basis is apparent	ASSIGNED	Don Macdonald	02/28/2014
NC	Energy efficiency purchasing not carried out or could not be verified	ASSIGNED	Mike Brogan	02/28/2014
NC	The energy baseline has not been adequately identified	ASSIGNED	Don Macdonald	02/27/2014
NC	Policy states that staff will be trained on EnMS but no evidence	ASSIGNED	Mark McCaffrey	01/29/2014
NC	There is no evidence of the process flow for the energy review as detailed in energy manual	ON-HOLD		01/18/2014
K				

#### View of Nonconformities in an Audit

# 9.2 Creating a Nonconformity (Status = DRAFT)

Energy Manager and Lead Auditor can create Nonconformity by clicking on "Create New"  $\rightarrow$  "Checking"  $\rightarrow$  "Nonconformities" option or from within an Audit document.

Document Management	>			
Planning Observices				
Checking Consumption Data	Audit     Benchmark Data			
Admin	Meeting			
	Nonconformity 1. Click "Create New" – Checki	ng - Nonco	nformity	
Action	provement Opportunity New Nonconformity Or click "New Nonconformity	/" from wit	hin an Audit	
<b>♦</b> Type	Summary	♦ Status	Assigned	
<b>† Type</b> NC			Assigned	
	¢ Summary	♦ Status	Assigned	♦ Target Dat
NC	Summary There are a number of non-conformances on system that have not been closed out to date	Status FOR REVIEW	Assigned	Target Dat 10/18/2015
NC NC	Summary There are a number of non-conformances on system that have not been closed out to date Unclear how EnPI's are calculated	<ul> <li>Status</li> <li>FOR REVIEW</li> <li>ASSIGNED</li> </ul>	Assigned Mike Brogan	Target Dat 10/18/2015 07/29/2015
NC NC	Summary There are a number of non-conformances on system that have not been closed out to date Unclear how EnPI's are calculated Persons responsible for SEUs are not clearly identified	Status     FOR REVIEW     ASSIGNED     ASSIGNED	Assigned Mike Brogan Mike Brogan	<ul> <li>Target Dat</li> <li>10/18/2015</li> <li>07/29/2015</li> <li>04/30/2015</li> </ul>
NC NC NC NC	Summary There are a number of non-conformances on system that have not been closed out to date Unclear how EnPi's are calculated Persons responsible for SEUs are not clearly identified Procedure out of date	Status     FOR REVIEW     ASSIGNED     ASSIGNED     ASSIGNED	<ul> <li>Assigned</li> <li>Mike Brogan</li> <li>Mike Brogan</li> <li>Mike Brogan</li> </ul>	<ul> <li>Target Dat</li> <li>10/18/2015</li> <li>07/29/2015</li> <li>04/30/2015</li> <li>03/31/2015</li> </ul>
NC NC NC NC NC	Summary There are a number of non-conformances on system that have not been closed out to date Unclear how EnPl's are calculated Persons responsible for SEUs are not clearly identified Procedure out of date It is not clear how staff are trained on policies and procedures	Status     FOR REVIEW     ASSIGNED     ASSIGNED     ASSIGNED     ASSIGNED	<ul> <li>Assigned</li> <li>Mike Brogan</li> <li>Mike Brogan</li> <li>Mike Brogan</li> <li>Brad McGuire</li> </ul>	<ul> <li>Target Data</li> <li>10/18/2015</li> <li>07/29/2015</li> <li>04/30/2015</li> <li>03/31/2015</li> <li>07/24/2014</li> </ul>
NC NC NC NC NC	Summary There are a number of non-conformances on system that have not been closed out to date Unclear how EnPI's are calculated Persons responsible for SEUs are not clearly identified Procedure out of date It is not clear how staff are trained on policies and procedures The register of legal and other requirements are not checked	Status     FOR REVIEW     ASSIGNED     ASSIGNED     ASSIGNED     ASSIGNED     CLOSED	Assigned     Mike Brogan     Mike Brogan     Mike Brogan     Brad McGuire     Mike Brogan	<ul> <li>◆ Target Dat</li> <li>10/18/2015</li> <li>07/29/2015</li> <li>04/30/2015</li> <li>03/31/2015</li> <li>07/24/2014</li> <li>03/13/2014</li> <li>03/10/2014</li> </ul>
NC NC NC NC NC NC	Summary There are a number of non-conformances on system that have not been closed out to date Unclear how EnPI's are calculated Persons responsible for SEUs are not clearly identified Procedure out of date It is not clear how staff are trained on policies and procedures The register of legal and other requirements are not checked There is no real evidence of planning process being conducted.	Status     FOR REVIEW     ASSIGNED     ASSIGNED     ASSIGNED     ASSIGNED     CLOSED     ASSIGNED	Assigned     Mike Brogan     Mike Brogan     Mike Brogan     Brad McGuire     Brad McGuire	<ul> <li>◆ Target Date</li> <li>10/18/2015</li> <li>07/29/2015</li> <li>04/30/2015</li> <li>03/31/2015</li> <li>07/24/2014</li> <li>03/13/2014</li> <li>03/10/2014</li> </ul>
NC NC NC NC NC NC NC NC	Summary There are a number of non-conformances on system that have not been closed out to date Unclear how EnPi's are calculated Persons responsible for SEUs are not clearly identified Procedure out of date It is not clear how staff are trained on policies and procedures The register of legal and other requirements are not checked There is no real evidence of planning process being conducted. The lack of top management input on an on-going basis is apparent	Status     FOR REVIEW     ASSIGNED     ASSIGNED     ASSIGNED     CLOSED     ASSIGNED     ASSIGNED     ASSIGNED	Assigned Mike Brogan Mike Brogan Mike Brogan Brad McGuire Brad McGuire Don Macdonald	<ul> <li>◆ Target Dat</li> <li>10/18/2015</li> <li>07/29/2015</li> <li>04/30/2015</li> <li>03/31/2015</li> <li>07/24/2014</li> <li>03/13/2014</li> <li>03/10/2014</li> <li>02/28/2014</li> <li>02/28/2014</li> </ul>
NC NC NC NC NC NC NC NC	Summary There are a number of non-conformances on system that have not been closed out to date Unclear how EnPl's are calculated Persons responsible for SEUs are not clearly identified Procedure out of date It is not clear how staff are trained on policies and procedures The register of legal and other reguirements are not checked There is no real evidence of planning process being conducted. The lack of top management input on an on-going basis is apparent Energy efficiency purchasing not carried out or could not be verified	Status     FOR REVIEW     ASSIGNED     ASSIGNED     ASSIGNED     CLOSED     ASSIGNED     ASSIGNED     ASSIGNED     ASSIGNED     ASSIGNED	Assigned Mike Brogan Mike Brogan Brad McGuire Mike Brogan Brad McGuire Don Macdonald Mike Brogan	<ul> <li>Target Dat</li> <li>10/18/2015</li> <li>07/29/2015</li> <li>04/30/2015</li> <li>03/31/2015</li> <li>07/24/2014</li> <li>03/13/2014</li> <li>03/10/2014</li> <li>02/28/2014</li> <li>02/28/2014</li> <li>02/27/2014</li> </ul>

A blank nonconformity opens in a new window: the status bar (label 0) states this NCO as "Draft".

Draft	In Workflow		
******		*****	CASCA
Nonconfo		Name	
	he following information to create a n with '*' must be filled in order to :		
Basic Infor	mation		Requestor:Lucia Gi
	1 Title:*		A short summary of the opportunity
	2 Reference:	System will add the reference after	er saving or submitting the form
	3 Location:* Select an O	Please select the location	
4	Sub-Location: Please sele	ot the sub-location after you have selected the location	
	5 Type: Select an O	Please select the applicable Type o	of Nonconformity
	6 Category: Select an O	Dion   Please select the applicable category	ny
7	Sub-Category: Please sele	ct the applicable sub-category after you have selected the category	
	8 Priority: Select an O	tion   Please select the applicable Priority	y of Nonconformity after you have selected the Type
	9 Details:		
1(	Attachments: Attach File	any relevent detail for the nonconformity	
Review by	Energy Manager		Document Status:D
	I you like to do with this non C	an formità?	

The info that must be written in the blank form is:

- 1. Title type in the title of the idea. This field is mandatory
- 2. Reference this field is automatically filled by the system after saving or submitting the form
- **3.** Location to be selected from the list of predefined location in the drop-down menu which opens after clicking
- **4. Sub-Location** to be selected from the list (if available) of predefined sub-location in the dropdown menu which opens after clicking
- 5. **Type** select the applicable type of nonconformity from the drop-down menu which opens after clicking
- 6. Category select the category from the drop-down menu which opens after clicking
- **7. Sub-Category** this field is activated when the previous is chosen; select the sub-category from the drop-down menu which opens after clicking
- 8. Priority select the priority from the list in the drop-down menu which opens after clicking
- 9. Details enter any additional information
- **10.** Attachments by clicking on the "Attach Files" button, it will be possible to select files to be attached from the floating windows which opens

# 9.3 Reviewing a Nonconformity (Status = FOR REVIEW)

### 9.3.1 Nonconformities workflow

The Nonconformity workflow allows the Audit team to perform the following actions:

- 1) Create: nonconformities, corrections, corrective actions and preventive actions related to audits
- 2) Make decisions if action is necessary
- 3) Assign and manage actions through to completion



### • Option 1: Close – No Action

Review by Energy Manager       Document Status: DRA         What would you like to do with this non Conformità?       Include in Action Plan         Close       On Hold       Include in Action Plan         Please choose one of the options to continue.       Are you sure you want to CLOSE this non Conformità?         Image: Please choose one of the options to continue.       Image: Please choose one of the options to continue.         Image: Please choose one of the options to continue.       Image: Please choose one of the options to continue.         Image: Please choose one of the options to continue.       Image: Please choose one of the options to continue.         Image: Please choose one of the options to continue.       Image: Please choose one of the options to continue.         Image: Please choose one of the options to continue.       Image: Please choose one of the options to continue.         Image: Please choose one of the options to continue.       Image: Please choose one of the options to continue.         Image: Please choose one of the options to continue.       Image: Please choose one of the options to continue.         Image: Please choose one of the options to continue.       Image: Please choose one of the options to continue.         Image: Please choose one of the options to continue.       Image: Please choose one of the options to continue.         Image: Please choose one of the options to continue.       Image: Please choose one of the options to continue. <t< th=""><th></th><th></th></t<>		
Close     On Hold     Include in Action Plan     Please choose one of the options to continue.       Are you sure you want to CLOSE this non Conformità?	Review by Energy Manager	Document Status:DRAI
Are you sure you want to CLOSE this non Conformità?	What would you like to do with this non Conformità?	
	Close On Hold Include in Action Plan	Please choose one of the options to continue.
Yes By clicking "Yes", the nonconformity will be visible as CLOSED - NO ACTION in the nonconformities list.	Are you sure you want to CLOSE this non Conform	ità?
	✓ Yes By clicking "Yes",the nonconformity will be	visible as CLOSED - NO ACTION in the nonconformities list.
	anse "Close"	
	ment and change the status	
noose "Close". ick 'Yes' to close this iment and change the status	OSED-NO ACTION	

By clicking "Yes", the nonconformity will be visible as CLOSED - NO ACTION in the nonconformities list.

### • Option 2: On Hold

Review by Energy	Manager	Document Status:DRAF	
What would you like	What would you like to do with this non Conformita?		
Close On I	Include in Action Plan Please choose one of the options to continue.		
Are you su	place this non Conformità ON HOLD?		
Ves E	"Yes", the nonconformity will be placed ON HOLD in the nonconformities list.		
Choose "On-Hold".			
Click 'Yes' to close the change the status			

Review by Energy Manager		Document Status:DRA
What would you like to do with this non Conform	nità?	
Close On Hold Include in Action	Plan Please choose one of the options to continue.	
Do you want to assign an action for this no	n Conformità now?	
Assign Now Assign Later	Please choose one of the options to continue	
oose "Include in Action Plan".		
oose "Assign Later & Include in Ac		
ck 'Yes' to close this document an	d change the status to PLANNED	

### • Option 3: Include in Action Plan (but not ready to assign)

By clicking "Yes", the nonconformity will be placed ON HOLD in the nonconformities list.

Select this option to include the nonconformity in the action plan. It is possible to assign it directly (item **Error! Reference source not found.**) or leave it as pending for a further assignment (**Error! Reference source not found.**)

### 9.3.2 Assigning a Nonconformity

### • Option 3: Include in Action Plan (and assign to person)

Review by Energy Manage	¢r			
What would you like to do w	ith this non Conformità?			
Close On Hold	Include in Action Plan	Please choose one of the options to continue.		
Do you want to assign an action for this non Conformità now?				
Assign Now	Assign Later	Please choose one of the options to continue		
<ol> <li>Choose "Include in Action Plan".</li> <li>Choose "Assign Now"</li> </ol>	1. Choose "Include in Action Plan". 2. Choose "Assign Now"			
2. Choose Assign Now		4. Click on button and select person to assign.		
		Select Start Date and End Date for action.		
Assigned To:*	-	Select Assignee		
Start Date:		End Date:		
Verification Method:				
		4. Enter any comments for the assignee.		
		•. Enter any comments for the assignee.		
	Assign <u>Save</u> Canc	5. Click the "Assign" button when complete.		
		of click the hosigh button when complete.		

**Assigned To** – by clicking on the "Select Assignee" command, a window with the list of eligible person opens; select the assignee/assignees from this list

Start Date - select the start date by clicking on the calendar button on the right

End Date - select the end date by clicking on the calendar button on the right

Verification Method – enter details about the verification method by filling the blank field

Assign – this command assigns the action; the energy manager is notified that a new opportunity has been suggested

Save – use this command to save data inserted in the form

Cancel & Close – selecting this command the action will be closed and canceled

**NOTE:** Nonconformity can also be created from the Audit and Meeting module using the "New Nonconformity" command in the ACTION subgroup

# 9.4 Responding to a Nonconformity (Status = ASSIGNED)

- When an action is assigned, the assigned person receives an automatic email with a link to the action.
- A new Action Details section appears on the action form for the assigned person to complete.

Action Detail			
Detail			њ
Root Cause:			
Corrective Action:			Enter details of actions
Attachments:	Attach Files - None -		Carried
	Complete Re-Assign		
	te" button when you have on. The status will change RE	•	The assigned person also has the option to ask that the nonconformity action be reassigned by clicking on the "Re-Assign" button. The Energy Manager/Auditor gets an email telling them to reassign this action. The status goes back to FOR REVIEW
2. Click the "Comple completed this actic	Complete Re-Assign te" button when you have on. The status will change		reassigned by clicking on the "Re-Assign button. The Energy Manager/Auditor gets an email telling them to reassign this actio

# 9.5 Approving a Nonconformity (Status = AWAITING CLOSURE)

Verification:		
Were the actions carried out as originally expected? Comments:	○ Yes ○ No Click on Yes' or No' to complete your verification of this document.	
Attachments: Attach Files - None -		
Were the actions carried out as originally expected?		O Yes O No

- The responsible Manager/Auditor will receive an automatic email when the validation of the savings and payback step has been completed by the assigned person.
- The workflow now allows the Manager/Auditor to decide one of the 2 following options:
  - a) Close The action has been completed as originally expected.
    - b) Re-Open The Manager/Auditor requires further information or clarification on the actions carried out or the savings and payback calculations

### • Option A: Approve and Close (System Manager/Lead Auditor)

This will close and notify the assign person that the action has been approved and closed by the responsible Manager/Auditor.



#### • Option B: No – Re-open the action

The action will be assigned back to the assigned person.

Verification:		
Were the actions carried out as originally expected?		isfied with actions carried out or need clarification click on the Re-Open action will be returned to the assigned person to respond.
Comments:		
	1. Select "No"	
		T
Attachments: Attach Files . 3. A	dd any attachments	2. Enter any comments explaining why
Re-open 4. Click	« "Re-Open" button	
# **10 Meetings**

# **10.1 Overview**

Meetings function as an indicator of organization's compliance with regulatory and energy standard requirements: they ensure every part involved is always up-to-date on what is happening, what actions need to be carried out and how effective actions have been implemented. The Meetings module can be used alike by:

- managers
- members of the energy team
- all users of Enerit software

# **10.2 Meeting Workflow**

The Meeting workflow allows the energy team to:

- Create, plan and schedule Meetings
- Invite the energy team along with details of the meeting schedule, time and location
- Record Meeting minutes and generate actions
- Generate both improvement opportunities and nonconformities
- Keeps a full record of all Management Review inputs and outputs



# 10.3 Creating and Scheduling a Meeting (Status = DRAFT)

Create a Meeting by clicking on "Create New"  $\rightarrow$  "Checking"  $\rightarrow$  "Meeting" as shown in the figures below.

	Create New Suggestion	
	Document Management	
	Planning	
2. Cho	ck "Checking" Checking Audit Consumption Data Benchmark Data	
		1. Click "Meeting"
	Jank M	
	Admin 3. A blank Meeting Window. obens in a new Draft In Workflow	
	H G- Window open	
	Draft In Workflow	
		CASCADE
	Meeting Please enter the following information to create a Improvement Opportunity document.	
	The information with ** must be filled in order to submit or save the form.	
	Basic Information	
	· · · · · · · · · · · · · · · · · · ·	ry of the Maxing
	2 Building/Location:* Select an Option     • Please select the location     3 Sub-Location:     Please select the sub-location	
	Sub-Location: Please select the sub-lication after you have selected the tocation     4 Category: Select an Option     Please select the applicable adoptry	
	5 Chairperson: <sup>4</sup> Andrea Manfreda Select Chairperson	
	6 Date & Time.* E Start 22:00 End: 23:00	
	7 Invitees* - Select Invitees	
	8 FYL - Carbon Copy To	
	Agenda	
	9	
	Attachments: Attach Files 10	
	Attendees & Minutes	
	Attendees & Minutes  11 Attendees: -  Neating Minutes	
	Attendees & Minutes	
	Attendees & Minutes  11 Attendees: -  Neating Minutes	
	Attendees & Minutes  11 Attendees: -  Neating Minutes	
	Attendees & Minutes  I1 Attendees: Meeting Minutes:  12	
	Attendees & Minutes       11     Attendees:     Select Attendees       Meeting Minutes:     12       Attachments:     Attach Files     13	
	Attendees & Minutes  I1 Attendees: Meeting Minutes:  12	
	Attendees & Minutes       11     Attendees:     Select Attendees       Meeting Minutes:     12       Attachments:     Attach Files     13	
	Attendees & Minutes 11 Attendees Meeting Minutes 12 Attachments: Attach Files 13 Action 14.1 14.2 New Improvement Opportunity New Nonconformity	Status & Assignant & Target
	Attendees & Minutes 11 Attendees: Meeting Minutes: 12 Attachments: Attach Files 13 Action 14.1 14.2 New Improvement Opportunity New Nonconformity e Type e Summary e	Status + Assigned + Target Date
	Attendees & Minutes 11 Attendees Meeting Minutes 12 Attachments: Attach Files 13 Action 14.1 14.2 New Improvement Opportunity New Nonconformity	Status + Assigned + Target Date

Fields are divided into four sub-categories. The first two items must be completed during the first editing of the Meeting; the second and the third must be filled in at the meeting or after the meeting:

- BASIC INFORMATION
- AGENDA
- ATTENDEES & MINUTES
- ACTION

### **Basic Information**

- 1. Title insert the title (a short description) of the Meeting
- 2. Location select the location of the meeting from drop-down menu
- 3. Sub-Location select the sub-location related to the location from the drop-down menu
- 4. Category select the category from the ones listed in the drop-down menu
- **5. Chairperson** by clicking on the "Select Chairperson" button a window with the list of selectable chairperson opens
- 6. Date & Time set date using the calendar button on the right, then select start and end time by filling the correspondent fields
- 7. Invitees by clicking on the "Select Invitees" button a window with the list of selectable invitees opens
- 8. FYI by clicking on the "Carbon Copy to" button a window with the list of selectable people

### Agenda

Set the agenda filling the information in the blank field.

- 9. Agenda Enter the agenda for the meeting
- 10. Attachments by clicking on this button, a floating window opens: clicking on "Choose file" will be possible to choose the attachment. Then, clicking on the button with the "clip" picture, the file will be attached to the document
- **15. Submit** by clicking on submit, Meeting information will be send to the people selected in the Meeting form
- **16. Save** by clicking on "Save" at any moment, the form will be saved with all the info contained; then, editor will be able to continue editing
- 17. Cancel and Close selecting this option all the unsaved information added will be lost

# 10.4 Completing a Meeting (Status = SCHEDULED)

Attendees & Minutes				
18 Attendees:	Clara Donnelly Select Attendees Mike Brogan Paul Monaghan			
Meeting Minutes:	Actions were reviewed from the previous meeting Training and Procurement guideline documents were agreed upon Operation control for paint process is completed apart from one input from Paul No decision was taken to address Operational Controls for R&D facility Compliance audits were agreed for the 24 business processes Process audits for each of the SEUs have been arranged for next week		łł.	
Attachments:	Attach Files - None - 18			
Action 21 New improvement Opportunit	y New Nonconformity			
+ Type + Summary	23	≑ Status	Assigned      + Target Date	
IO Replace T8 floure	scent in warehouse with LED lighting strips	DRAFT		
H 4 1/1 F H				
	Submit Save Cancel and Close			

### **Attendees & Minutes**

- **18.** Attendees by clicking on the "Select Attendees" button a window with the list of selectable invitees opens
- **19. Minutes** Minutes can be inserted as plain text in the field or, even better, they can be forwarded as attachment...
- **20.** Attachments by clicking on the "Attach Files" button of this second Attachments field a floating window opens: clicking on "Choose file" will be possible to choose the attachment file which contains the Minutes. Then, clicking on the button with the "clip" picture, the file will be attached to the document

#### Action

If the Meeting brought to a decision about a new Action, by clicking on:

- **21. New Improvement Opportunity** by clicking on this button the form for a new improvement opportunity opens. See paragraph 0, 0 and 5.2.2 for details.
- **22.** New Nonconformity by clicking on this button the form for a new nonconformity opens. See Chapter 9 for details
- **23.** Type \ Summary \ Status \ Assigned \ Target Date this is a summary list of all the actions created from this Audit; the Summary title for each action can be clicked to open the related action in a new window

Action			
New Improvement Opportunity New Nonconformity			
¢ Týpe ¢ Summary	\$ Status	+ Assigned	¢ Target Date
IO Replace T6 flourescent in warehouse with LED lighting strips	DRAFT		
A 4 1/1 P P			
Submit Save Cancel and Close			

When you are satisfied that you have completed the Meeting minutes and created the actions, click on the "Submit" button (see figure above). This will close and finalise the meeting details and notify all attendees by email.

# **11 Administration**

Create New	>	Old & Obso	lete	٩	Building: ABC Company Energy Manager. Mike Brogan Phone 🕲 +353 91 709818 Email: mike.brogan@enerit.com	Keywords Users Settings
Checking	Þ				System Overview	
Consumption Data	• • • • • • • • • • • • • • • • • • •	Issued	Review By			14
Admin	Keyword	02/04/2015	01/04/2017	Edit	® <b>1</b> 7	
UEB-GEN-0127	ACME L Location	08/06/2011	06/06/2012	Edit	NC:14 Docs 3 Aud	3. Admin -
UEB-GEN-0165	Monthly	10/07/2011	08/07/2012	Edit		
UEB-GEN-0181	Energy Manual	20/08/2014	19/08/2015	Edit		Only
UEB-GEN-0207	IPMVP	07/06/2011	05/06/2012	Edit		Available
UEB-GEN-0312	Electricity Usage 2003 - 2008	18/07/2011	16/07/2012	Edit	Your Tasks	
UEB-GEN-0313	Electrical Energy Use (login to Montioring system)	18/07/2011	16/07/2012	Edit	23 Tasks 8 Overdues	to Full
UEB-GEN-0314	Energy & Oil Prices (Bloomberg)	18/07/2011	16/07/2012	Edit	Verdues 8	Licence -
UEB-GEN-0361	Procedure for O&M of HVAC Chiller 3	10/05/2012	14/03/2015	Edit	(8) 18 Tasks 13 Overdues	
UEB-GEN-0368	Energy Performance of Buildings	08/06/2012	07/06/2013	Edit		Admin
UEB-GEN-0369	Waste Management	08/06/2012	07/06/2013	Edit	16 Tasks 3 Overdues	
UEB-GEN-0370	Energy Efficiency of Appliances	08/06/2012	07/06/2013	Edit	8 Tasks 8 Overdues	
UEB-GEN-0371	Integrated Pollution Prevention Control (IPPC) Licensing	10/01/2013	10/01/2014	Edit	Co lasks a overdues	
UEB-GEN-0373	Appliance Labelling (Energy Star Products)	08/06/2012	07/06/2013	Edit	4 Tasks 4 Overdues	
UEB-GEN-0374	Organisational Chart	02/04/2013	01/04/2014	Edit		

# **11.1 Locations**

Locations are typically at the level of the site address. You can create as many locations as you require.

To create new locations carry out the following steps:

(Note: If a new location is added to the system and you want a user to have access to this location, then you must add this new location to the Users settings described in the User section below.)





4. A blank Location form opens in a new window.

### 11.1.1 Location Information & ISO Management Systems Configurations:

0	nent Systems Configurations		
litte:*	ABC Company		Please enter the location name
Description:	ABC Company Headquarters		Please enter a short description for the location
Energy Manager:*	Mike Brogan S	Select:	
Phone:	+353 91 709818 Please enter the co	ontact phone number	
e-Mail:	mike.brogan@enerit.com	ase enter the contact e-mail address	
Document Types responsible for:	Energy Management S	Select:	
Action Types responsible for:	Energy Management S	Select	
Health & Safety Manager*	Mike Brogan S	Select:	
Phone:	Please enter the co	ontact phone number	
e-Mail:	Ple	ease enter the contact e-mail address	
	HS Risk Assessment Material Safety Data Sheet Standard Operating Procedure Work Instruction	Select:	
	Health and Safety Management Internal Incident	Select	
Environmental Manager*	Mike Brogan S	Select:	
Phone:	Please enter the or	ontact phone number	
e-Mail:		ease enter the contact e-mail address	
Document Types responsible for:		Select:	
Action Types responsible for:	Environmental Management	Select	
Quality Manager*	Mike Brogan S	Select:	
Phone:	Please enter the co	ontact phone number	
e-Mail:	Ple	ease enter the contact e-mail address	
	Controlled Document Quality Management Standard Operating Procedure Work Instruction	Select	
Action Types responsible for	Nonconformity Quality Management	Select:	

Enter the following details:

- **Title**: Enter the title of the Location. This field is mandatory.
- **Description**: Enter a description of the location.
- Energy Manager/Health & Safety Manager/Environmental Manager/Quality Manager:
  - Click "Select" and choose the names for each of the above managers for this location.
  - Enter Phone and Email details for these functions.
- Document Types responsible for: Select the document types that are the responsibility of this manager. This defines the person that new documents will be submitted to for initial review and who can issue these types of documents. The available list is defined in the <u>DocumentType</u> keyword settings for the Document Management module (see related training material.)



 Action Types responsible for: Select the nonconformities that are the responsibility of this manager. This defines the person that nonconformities will be submitted to for final approval for these Types of Nonconformities. The <u>Type</u> list is defined in the Keyword settings for the Nonconformity Management module (see related training material.)

🏟   🖵   🕩 🔤	Keywords
Locations Keywords Admin Settings	<ul> <li>Audit</li> <li>Document</li> <li>Electricity</li> <li>Heavy Fuel Oil</li> <li>Improvement Opportunity</li> <li>Internal Incident</li> </ul>
	<ul> <li>Meeting</li> <li>Nonconformity</li> <li>Category</li> <li>Priority</li> <li>Type</li> <li>Oil</li> </ul>

## 11.1.2 **Objectives & Targets**

Objectives & Targets			
Target Saving - Electrical (number):	1000	Enter the Target Energy Savings (Electrical) for the current Period	
Target Saving - Thermal (number):	631	Enter the Target Energy Savings (Thermal) for the current Period	
Overall Location Objective	Overall Location Objective Reduce total energy consumption by 10%		
(text):	Enter in text a o	ommitment on Energy Savings for the current year	
Energy Efficiency Project Budget (number):		Enter a budget available for Energy Savings related projects for the current y	

Enter the following details:

- Target Savings Electrical (number): Enter the overall electrical energy savings target for this location. Enter in the default units that you have specified in your System Settings document (see later slides.) This is then displayed in the Objectives & Targets Dashboard. This field is a number field.
- Target Savings Thermal (number): Enter the overall thermal energy savings target for this location. Enter in the default units that you have specified in your System Settings document (see later slides.) This is then displayed in the Objectives & Targets dashboard. This field is a number field
- **Overall Location Objective:** Enter statement outlining your objectives. This is a text field. This will be displayed in the **Objectives & Targets** dashboard.
- Energy Efficiency Project Budget (number): Enter the budget that you have allocated for energy efficiency projects. (This feature has not been released yet. Please contact Enerit support if you are interested in finding out more about this feature.)

The values entered appear in the following Objectives & Targets view (see Chapter 7 for details.)



## 11.1.3 Default Chart Configurations

Default Chart Configurations: Main Screen - Objectives & Targets Dashboard - Charts Dashboard Configurations					
	Main screen "Reports/Chart":	http://demo.en16001.com/0016/UEB_Charts.nsf/Con_VddcChartDisplay/KPI_7_2014?opendocument			
	Main screen "Obj. & Targ,":	http://demo.en16001.com/0016/UEB_Charts.nsf/Con_VddcChartDisplay/SEU%20Targets%20vs.Actual2014?c			
	"Objectives & Targets" Dashboard	http://demo.en16001.com/0016/UEB_Charts.nsf/Con_VddcChartDisplay/SEU%20Targets%20vs.Actual2014?c			
	Chart Dash. Top LHS:	http://demo.en16001.com/0016/UEB_Charts.nsf/Con_VddcChartDisplay/Cost%20Savings%20per%20Catego			
	Chart Dash. Top RHS:	http://demo.en16001.com/0016/UEB_Charts.nsf/Con_VddcChartDisplay/Imp%20Opportunity%20Priorities?op			
	Chart Dash. Bottom LHS:	http://demo.en16001.com/0016/UEB_Charts.nsf/Con_VddcChartDisplay/Elect14%28Bills%29?opendocumen			
	Chart Dash. Bottom RHS:	http://demo.en16001.com/0016/UEB_Charts.nsf/Con_VddcChartDisplay/Actions%20by%20Assigned?opendo			

• Enter the URL for the chart in the appropriate box that you want to appear in the position described in the images below



## 11.1.4 Energy Sources – Units and Conversion Factors

Energy Sources - Units	and Conversion Factors	Conversion Foster			
Electrical	Unit of Measure	Conversion Factor ("Unit of Measure"/MWh)	Cost (€/"Unit of measure")	Cost (€/MWh)	CO2 Emission Factor (tCO <sub>2</sub> /MWh)
Electricity	kWh	0.001	0.08	80	0.5
Thermal					
Natural Gas	m3	0.009	0.4	44.44444	0.2
LPG	litre	1	0.08	0.08	0.4
Oil	litre	0.011	0.70	63.63636	0.6
Transport					
Diesel	litre	0.010169	1.4	137.67332	0.2067
Petrol	litre	1	0.08	0.08	3
	Specify the	Enter the	Specify the		Specify the
	unit that your	Conversion factor to	cost that		CO <sub>2</sub> emission factor
	organisation	convert from	your organisation		related to the Energy Source:
	uses to	the "Unit of	uses to		used for
	measure this	Measure" to	measure the		Improvement
	Energy Source.	the System	Energy		Opportunities
	Source.	Unit	Source		Estimated Savings

# 11.1.5 Saving your New Location

(			
	H 🗡 🗊 G	•	
	Draft In W	orkflow Closed	Company
	Location		
		nation to create a Location information document. filled in order to submit or save the form.	
	Location Information		
	Title:*	ABC Company	Please enter the location name
	Description:		Please enter a short description for the location
	Alias (Used in league Tables):		Please enter the CO <sub>2</sub> Emission
	Energy Manager:*	Mike Brogan Select	

If you are satisfied with the Location details, click on "Save" or "Save & Close" (highlighted in red box above). This will close and save the Location details.

### 11.1.6 Creating Sub-Locations

Sub-Locations are at the level of the buildings within a site e.g. "Building 1"

Creating a Sub-Location for a Location allows you to further define areas in your organisation and to help sort actions and documents.



### Data Entry: Sub-Location Information:

- **Location**: Choose which location it will apply to. This field is mandatory.
- Title: Enter the title of the Sub-Location e.g. "Building 1"
- **Description**: Enter a description of the sub-location e.g. boundary information.

**NOTE:** When finished creating a Sub-Location click on Save in the top left corner and then close the window. You're new Sub-Location will then appear on all new documents you create in the software.

# 11.2 Keywords

Keywords help you customise the Enerit software to work for your organisation, to choose words and categories that have real meaning for your organisation.

For each type of item/document you can create in the Enerit software there are configurable keywords on each to help sort and categorise information. The following figure shows how the keywords work in the charts.



### 11.2.1 Creating New Keywords

Create New	"Create New"			
2. Click "Admin"	Commitment Planning Implementation Checking Consumption Data Admin		Keyword Location Sub-Location Unit	3. Click "Keyword"
Players in a formation to create a line information with " must be filled in order to su Keyword Details:	Keyv		Ç	ASCADE Cf for Energy Efficient Alignets
Document Type: Field Name:			e select the document type	
Keyword:		e keyword		
Keyword Description: Existing Sub-Keywords:			Please enter a short description for the keyw	vord
Add new Sub-Keywords (Comma separated):			Please enter a new sub-keyword	
	Submit			
			re finished entering the Keyword or omit" or "Save" button. This will cre	

#### **Keyword Details**

- **Document Type**: Choose the document type you want to create a keyword for.
- Field Name: Enter the title of the Sub-Location e.g. "Building 1"
- Keyword: Enter a description of the sub-location e.g. boundary information.
- Keyword Description: Enter a description of the sub-location e.g. boundary information.
- Sub-Keywords: Add new sub-keywords separated by a comma

**NOTE:** When finished creating a Keyword or Sub-Keyword click on Save in the top left corner and then close the window. You're new Keyword or Sub-Keyword will then appear in the specified document type when you create a new one in the software.

Sub-Keyword. You can view the Keywords in The Administration view

# 11.3 Users

All Users are initially registered to use the system by Enerit. Contact Enerit Help Desk for assistance (help\_desk@enerit.com)

### **Updating User Settings**

When users are registered, you can update their configurations by access the list of users through the Users in the Administration section of the software (see following screenshots.)



**User Information** 

First Name:	Mark	
Middle Name:		
Last Name:	McCaffrey	
Mail Address:	mark.mccaffrey@enerit.com	
Locale:	English -	
Location:	MXP -	
Locations Allowed:	FCO MXP	Add/Remove Location
Manager:	-	Choose Manager
Access:	<ul> <li>○ None</li> <li>○ Responder</li> <li>○ Reader</li> <li>● Editor</li> </ul>	
Dashboard default Main Widget:	Energy Planning 👻	
System Overview	On Off	
FDD	On Off	
Can Issue Documents?	Tes Yes	
Details:		
	Save	

(Note: The Save button may not be visible until you scroll down the page in the window. If you do not click the Save button your changes will not be saved.)

First Name: Users first name (set-up by Enerit when user registered.) Not editable.

Middle Name: Users middle name (set-up by Enerit when user registered.) Not editable.

Last Name: Users last name (set-up by Enerit when user registered.) Not editable.

Mail Address: Enter the email address for the user.

Locale: Select the language settings for the user (e.g. Italian or English).

**Location:** Select the default location for the user. This is the location that is displayed on the dashboard when the user first logs onto the system. Note: If user changes the location using the location list in the Dashboard, it will remember this setting the next time they log onto the system.

**Locations Allowed**: Use the "Add/Remove Location" button to add the locations that this user is allowed to access. Note: If a new location is added to the system and you want a user to have access to this location, then you must add this new location here.

**Manager**: This is used for escalation of actions. If you specify a manager here any tasks that become overdue will send an escalation notification to the users manager.

o 🖵 💌

Access: This defines the type of access that you want the use to have. Only users with the Editor access are allowed to see the "Create New..." button on the dashboard.

**Dashboard default Main Widget**: This defines what appears in the main central area of the dashboard. The options are:

- <u>Energy Planning</u>: When this is selected the Energy Flow Assessor diagram will appear as follows:



– <u>Documents</u>: If this is selected then the Document Management view appears as follows:

Reference	♦ Title	Issued	Review By	•	System Overview
VEB-GEN-0308	IDe     Orderer Inteler	• issued 05/12/2011	• Keview By 05/12/2012	Edit	
UEB-GEN-0308	Log Representation	06/09/2013	05/09/2012	Edit	8 8 8 8 8
UEB-GEN-0349	17.7.04	02/08/2013	01/08/2014	Edit	NCs 1 Docs 1 Audits 1 Meeting
UEB-GEN-0329	44.3.80	02/08/2013	01/08/2014	Edit	
UEB-GEN-0336	International Statements of the	02/08/2013	01/08/2014	Edit	
UEB-GEN-0331	Dillow, L. advantation, Name, 2 (1973)	02/08/2013	01/08/2014	Edit	Your Tasks
UEB-GEN-0338	Indiana dan awa me	02/08/2013	01/08/2014	Edit	
UEB-GEN-0333	17 T 161	02/08/2013	01/08/2014	Edit	8
UEB-GEN-0330	DOMESTIC DAMAGEMENT OF LOSS.	02/08/2013	01/08/2014	Edit	1 Tasks 1 Overdues
UEB-GEN-0340	sectors reports and reported and	02/08/2013	01/08/2014	Edit	
UEB-GEN-0335	10.0.0	02/08/2013	01/08/2014	Edit	Cr .
UEB-GEN-0339	reading permanence for	02/08/2013	01/08/2014	Edit	*
UEB-GEN-0334	APC/UNK	02/08/2013	01/08/2014	Edit	-
H H 1 - 13/	13 B H				Favourites
					Legal Requirements (training)

- <u>Audits</u>: If this is selected then the Audit Management view appears as follows:



**System Overview**: Select "On" if you want the user to be able to see the "System Overview" area of the dashboard.

**Can Issue Documents?**: Tick "Yes" if this user is allowed to issue documents. This will control the "Issue" section in the document creation form in the Document Management functionality (see section 7.3.5 on issuing a document.)

**Details**: This is a free text box to enter any other details about this user.

(Save): Click on the Save button to save your changes.

# 11.4 Settings

This section describes how to configure the global setting for the software through the "Settings".



A new "Settings" document can be created from the "Create New... > Admin > Units" option.



NOTES: Only one Settings document is required in the system and is configured with default settings when software is first installed.

×	-
CASCAD	E
ICT for Energy Efficient Airport	

	ICT for Every Efficient Arpon mation to create a Units information document. e filled in order to submit or save the form.
Portal Information:	
Portal Title:	to the Enerit Enact ISO 50001 Support System
Attach Company Logo:	Attach files
	*important notes:- first attachment is Company logo displayed on forms within the system - needs to be close to 280 x 75 pixels in size for proper display - - second attachment is Partner logo displayed on Portal - needs to be close to 120 x 40 pixels in size for proper display -
Customer URL:	
Partner URL:	
Partner Name:	
Show League Table:	Ves
Dashboard Main Widget:	Energy Planning
System Units	
Units-Electrical Energy:	MWh
Units-Thermal Energy:	MWh
Units-Water (Delivery):	m <sup>3</sup>
Units-Water (Total):	1
Units-Currency:	€
Units-CO2:	kgCO <sub>2</sub>
Area:	m²

#### **Portal Information:**

- **Portal Title**: Enter the information your organisation will see when you log in to the software (at the top of the screen).
- Attach company logo: Add a company logo that appears in for top RHS of all documents.
- **Customer URL**: Enter the URL for your company website. It will be linked to your company logo.
- **Partner URL:** (not currently available)
- **Partner Name:** Enter the partner name, if applicable.
- Show League Tables: (not currently available).

#### System Units:

- Units Electrical Energy: Input the unit used for reporting electrical energy use
- Units Thermal Energy: Input the unit used for reporting thermal energy use
- Units Water (delivered): Input the unit used for reporting water use
- Units Currency: Input the currency unit for reporting
- Units CO2: Input the unit used for reporting CO2
- Area: (not currently used)

**NOTE:** When finished editing the Units and settings document click on Save in the top left corner and then close the window. You're new Unit settings will then appear throughout the system and on all new documents you create in the software. Some old documents need to be re-saved to see new units, if changes have been made to the settings above.

#### League Tables & Units

(Not currently available in this version of the software)

#### Default Chart Configurations: Main Screen – Objectives & Targets Dashboard – Charts Dashboard

Default Chart Configura	tions: Main Screen - Objectives & Targets Dashboard - Charts Dashboard Configurations	
Main screen "Reports/Chart":		
Main screen "Obj. & Targ,":		
"Objectives & Targets" Dashboard		
Chart Dash. Top LHS:		
Chart Dash. Top RHS:		
Chart Dash. Bottom LHS:		
Chart Dash. Bottom RHS:		

This defines the default charts for user who default location is defined as "All Allowed" in the User settings (see section **Error! Reference source not found.** for detailed explanation.) See section 11.1.3 for description of Default Chart configurations.

#### **Import Details**

Import Details				
Settings for importing consumption detai	ls:			
Group Identifier	Import Directory (Path must end with a "\")	Close	File Delimiter	Decimal Delimiter
				· · · ·

These are setting used to configure the automated importing of consumption data using FTP data transfer techniques and CSV files. Contact Enerit Help Desk (<u>help\_desk@enerit.com</u>) for help on configuring these settings.

# 11.5 Playbook IO

The IO Playbook allows users to create improvement opportunities from a pre-defined list or library of energy saving strategies.





The next section details how to configure the individual "Playbook IO" items in the pre-defined list shown above.

### 11.5.1 Creating a new Playbook IO



**Title**: Enter the title of the energy saving strategy

- Reference: Enter a reference number or lave blank and a number will be assigned automatically.
- **Category**: Select the category of the energy saving strategy. The category field keywords are configured in Keywords area in the Admin section (see 11.2 above for configuring keywords.)



**Sub-Category:** Select the associated sub-category for the selected category above.

Details:	Enter the details of this energy saving strategy. The details entered here will be copied into associated improvement opportunities created from this Playbook IO.
Attachments:	Add ay attachments if necessary.
Timeframe:	Select the timeframe keywords.
GHG Scope 1&2:	Select the GHG Scope 1&2 keyword associated with this energy saving strategy.
Natural Resources:	Select the Natural Resources keyword associated with this energy reduction strategy.
Social Sustainability:	Select the Social Sustainability keyword associated with this energy reduction strategy.
Detailed Description:	Enter more detailed description of this energy saving strategy. Note: This text will not be copied to any improvement opportunities created from this Playbook IO but the use can link back to view this detailed description.
Financial Considerations:	Enter details on financial considerations of this energy saving strategy. Note: This text will not be copied to any improvement opportunities created from this Playbook IO but the use can link back to view this detailed description.

# Implementation

**Considerations**: Enter any implementation considerations of this energy saving strategy. Note: This text will not be copied to any improvement opportunities created from this Playbook IO but the use can link back to view this detailed description.

Potential

Limitations: Enter any limitations of this energy saving strategy. Note: This text will not be copied to any improvement opportunities created from this Playbook IO but the use can link back to view this detailed description.

A detailed description of example airport specific impact factors is available in Appendix A

# Appendix A: Action Management Prioritization Framework

# A.1 Objective of the prioritization framework

ISO 50001 standard requires the identification, prioritization and recording of opportunities to improve energy performance (Improvement Opportunities or IOs). Typically, the bulk of IOs are generated during the energy review stage. A tool to assist energy managers on the prioritisation of IOs is provided within the Enerit solution.

Enerit software provides a high level ranking method based on a scoring system. Improvement opportunities are assigned a set of categories according to predetermined evaluation criteria. Eventually, a final ranking of IOs is produced aimed to facilitate decision making. Low risk and high impact IOs would rank high whereas less efficient and risky actions will score low. This classification ultimately encourages adoption of IOs in a systematic way, mitigating uncertainty.

# A.2 Proposed ranking system

This is a proposed ranking for airports based on sustainability programs targeted at Airports such as the ACRP 02-10 tool. The ranking establishes 6 evaluation parameters for any Improvement Opportunity, being these:

- G. Total Estimated Savings [TS]
- H. Payback Period [PB]
- I. Timeframe [TF]
- J. GHG Scopes 1&2 emissions reduction [GHG]
- K. Impact on Natural Resources [NR]
- L. Impact on Social Sustainability [SS]

Each of these has different valuation criteria and will be described in the next sections.

# A.2.1 Financial Parameters

Financial information about the IOs is needed for two of the valuation criteria: Estimated savings and Payback period. The degree of accuracy on financial information such as capital cost, or operations and maintenance annual expenditure costs can vary greatly, from roughly estimates or detailed quotations. Enerit software provides flexibility for this, allowing the user to input any quantity. The energy manager ultimately may provide comments or additional information regarding the method or criteria used for the quantities entered (e.g.: "this is estimated" or "based on up to date quotations"). Comment fields are provided for this purpose. Users can also link IOs with supporting documentation such as detailed quotations coming from subcontractors or documents generated based on an internal cost database. For some of the actions proposed in the pre-populated list, a threshold bands will provide an orientation of the degree of capital intensity of the action proposed.

# A.2.1.1 Total Estimated Savings - [TS]

The Total Estimated Savings is calculated based on estimated energy savings entered by the user. The tool allows a differentiation between Thermal and Electrical energy savings. Estimated annual Operations and Maintenance (O&M) cost savings are calculated by the users and entered in the "Annual Co-Benefits" field.

Once the energy savings and the O&M cost savings have been entered, the annual estimated costs savings are calculated automatically by the tool and appear in the "Total Estimated Savings" field. The energy cost savings are calculated using unit costs defined in the "Location" configuration in the "Administration" view (See Section on Administration in the User Guide.)

The ranking criteria for the "Total Estimated Savings" are configured as follows:

Total Estimated Savings [TS]	Score
<b>TS</b> <€10,000	4
€10,000 < <b>TS</b> < €25,000	3
€25,000 < <b>TS</b> < €100,000	2
€100,000 < <b>TS</b>	1

# A.2.1.2 Payback Period - [PB]

The software calculates the Payback period of an IO using two inputs: (1) Total estimated savings (described above) and (2) the capital cost to implement the IO.

The "Capital Cost" is defined as the initial upfront cost of an Improvement Opportunity. The user may also consider identified funding instruments (tax rebates, carbon mitigation/offset credits, accelerated depreciation allowances), when calculating the initial capital cost.

The rating criteria for the "Payback Period" are configured as follows:

Payback Period [PB]	Score
PB < 2 Years	4
2 Years < PB < 5 Years	3
5 Years < PB < 10 Years	2
10 Years < <b>PB</b>	1

# A.3 Timeframe and Potential Impacts

This section is strongly linked with the environmental regulations and compliance with standards such as ISO 14001, widely adopted by airports. Energy and environmental aspects are interrelated fields. Actions in one field mutually influence/affect to aspects on one another. In many cases, the decision chain with regards to Energy Management and Environmental compliance is closely connected or fall under the same person/team dealing with O&M.

The metrics related and described next are:

- Timeframe [TF]
- Impact on GHG Scope 1 and 2 emissions [GHG]
- Impact on Natural Resources [NR]
- Impact on Social Sustainability [SS]

# A.3.1 Timeframe - [TF]

This metric represents the duration of the IO implementation. The user should consider the whole lifecycle of the IO including also the time spent to plan, design and build the reduction strategy and get in operation. Administrative procedures, bureaucratic delays or general long term uncertainty can also have a significant impact on decision-making. Timeframe can influence decisions due to management short-termism, regulatory framework uncertainty or long term financial risk. Short term and high impact actions are considered as more positive and likely to be adopted thus rating higher.

The rating criteria for "Timeframe" are as follows:

Timeframe [TF]	Score
TF < 2 Years	4
2 Years < TF < 5 Years	3
5 Years < TF < 10 Years	2
10 years < <b>TF</b>	1

# A.3.2 GHG Scope 1 and 2 emissions reduction - [GHG]

This parameter reflects how a particular IO impacts on sources of emissions for which airport would be responsible. Scope 1 and 2<sup>1</sup> refers to the definition on the GHG protocol [3]. The metric was defined based on the Green House Gas Protocol<sup>®</sup> classifications and professional judgment concerning the degree of effect on the emissions [3]. The airport need to define an inventory as part of the GHG emissions declaration, thus the IOs have to be allocated and calculated accordingly with the inventory.

The rating criteria for the "GHG Scope 1 and 2 emissions reduction" are as follows:

GHG Scope 1 and 2 emissions reduction [GHG]	Score
Zero: There is NO reduction of S1/S2 scope emissions	0
Low: Reduction of S1/S2 scope emissions is relatively low	
Medium: There is a significant reduction of S1/S2 scope emissions	2
High: There is a high reductions of S1/S2 scope emissions	3

# A.3.3 Impact on Natural Resources - [NR]

These indicate what effect the IO will have on natural resources. This assessment is evaluated in terms of the direct effect of the strategy on natural resources e.g.: emissions of air pollutants to the atmosphere,

<sup>&</sup>lt;sup>1</sup> **Scope 1** emissions are direct emissions from sources it owns or controls (such as companyowned cars and factory smokestacks). Direct GHG emissions are emissions from sources that are owned or controlled by the reporting entity. **Scope 2** emissions refer to the electricity, heating and cooling energy the airport consumes. Indirect GHG emissions are emissions that are a consequence of the activities of the airport, but occur at sources owned or controlled externally to the airport boundary.

increase/decrease on general water usage, effect on ground water reserves, impact on sediments of surrounding areas, depletion of natural water reservoirs, impact on floodable lands, depletion of undeveloped lands, etc.). This is important when considering energy efficient technologies that may have an impact on natural resources, e.g.: ground water source heat pumps may have a side effect on lakes or rivers ecosystems by changing average temperature.

The rating criteria for "Impact on Natural Resources" are as follows:

Impact on Natural Resources [NR]	Score
Negative impact on natural resources	- 2
No impact on natural resources	0
Positive impact on natural resources	+2

Note: Within the Enerit tool, a ranking of 1, 2, 3 have been used for the -2, 0, 2 scores respectively.

## A.3.4 Impact on Social Sustainability – [SS]

This parameter is based on one of the pillar of sustainable development as defined by WCED 1987 [2]. This criterion reflects how an IO affects the surrounding communities in terms of qualitative impacts (positive or negative). Generally, the impact in the human environment is correlated with impact in natural resources. Examples of this parameter could be (but not limited to): Impact in noise generation, changes in traffic volume in the surroundings of the airport, etc.

The rating criteria from "Impact on Social Sustainability" configured in the tool is as follows:

Impact on Natural Resources [NR]	Score
Negative impact on social sustainability	- 2
No impact on social sustainability	0
Positive impact on natural resources	+2

Note: A ranking of 1, 2, 3 have been used for the -2, 0, 2 scores respectively.

# A.4 Composition of the Priority Ranking

The above ranking evaluation parameters and associated ranking criteria can be configured in the Enerit software

The final raking of the different IOs is constructed using the following formula:

Where: TS = Total savings score, PB = Payback Period score, TF = Timeframe period score, GHG = Green House Gas Scope 1&2 score, NR = Natural Resources score, SS = Social Sustainability score.

The following table summarizes the different valuation criteria for each impact factor, showing the score assigned for each band or threshold considered.

Impact Factor	Band	Score
[TS] Total Estimated Savings	TS <€10,000	4
	€10,000 < TS < €25,000	3
	€25,000 < TS < €100,000	2
	€100,000 < TS	1
[PB] Payback Period	PB < 2 Years	4
	2 Years < PB < 5 Years	3
	5 Years < PB < 10 Years	2
	10 Years < PB	1
[TF] Timeframe	TF < 2 Years	4
	2 Years < TF < 5 Years	3
	5 Years < TF < 10 Years	2
	10 Years < TF	1
[GHG] GHG Scope 1 and 2 emissions reduction	Zero: There is NO reduction of S1/S2 scope emissions	1
	Low: Reduction of S1/S2 scope emissions is relatively low	2
	Medium: There is a significant reduction of S1/S2 scope emissions	3
	High: There is a high reductions of S1/S2 scope emissions	4
[NR] Impact on Natural Resources	Adverse impact to natural resources	-2
	No impact on natural resources	0
	Positive impact on natural resources	2
[SS] Impact on Social Sustainability	Adverse impact to social sustainability	-2
	No impact on social sustainability	0
	Positive impact on social sustainability	2

Note that some criteria work with negative scores. These scores are automatically transformed by the tool when calculating the priority ranking.

The following figure shows an example of the final outcome of the ranking process, which is a list IOs sorted by highest ranking score at the top based on the above calculations.





Example list of Improvement opportunities ranked by priority

# A.4.1 Additional considerations

In addition to ranking criteria, other considerations may be taken into account. Users may or may not consider using this ranking framework when analysing any of the IOs proposed. Again, it is up to the user to decide which degree of information is useful to facilitate decision making. Some organizations may require a thoroughly investigation of whereas other may use the tool for a quick initial selection of IOs for further analysis.

Within the "IO Playbook" (See Section on "IO Playbook" in this User Guide) additional fields are provided as supporting information and are broken down into four categories as follows:

- 1. Detailed description. Provides details of the IO further than the initial short description. This section may include useful online resources, links to key documentation, identified sources of funding and/or case studies where the IO have been implemented;
- 2. Financial considerations. This section provides the details that went into the determination of the financial parameters (estimated capital cost, O&M costs, payback period, etc.) It includes any additional information that may be needed to be considered for the implementation of the IO. For example, this text may discuss strategies involving third-party agreements. Here a list of examples of potential issues affecting financial aspects:
  - Financial framework regulating Energy Service Companies (ESCOs) under UE legislation;
  - Strategies affecting airport operation and subject to approval or negotiation with other stakeholders such as airlines, handling companies etc.;
  - Revenues generated by selling energy (renewable energies, co-generation);
  - Funding instruments: carbon offsets, tax rebates, accelerated depreciations, revolving funds or other indirect costs or financial benefits that may be associated with the reduction measure;
- 3. Implementation considerations. This section explains how the rest of criteria (impact on natural resources, timeframe, GHG reductions and Social sustainability) were considered.

4. Potential limitations. Here the user can identify potential obstacles to adopt the IO that may be encountered. Interaction or competition between existing systems or technologies already present at airports may limit the extent of the IO considered. GHG carbon accountancy may increase Scope 1 while reduce Scope 2. Identified risks can also be considered in this section

# References

[1] ACRP Report 56, 2011. "Handbook for Addressing Practical Greenhouse Gas Emission Reduction Strategies for Airports". June, 2011.

[2] WCED, 1987. **"Our Common Future, Report of the World Commission on Environment and Development".** World Commission on Environment and Development, 1987. Published as Annex to General Assembly document A/42/427, Development and International Co-operation: Environment. August 2, 1987.

[3] WRI. 2001 **"The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard".** Available from [http://www.ghgprotocol.org/] accessed on [15/Aug/2013]