Part E

Project worksheet

How to reduce energy costs

Key considerations for local physical activity and sports facilities

Contents

Overview

Before you use this worksheet, it's recommended that you look at the accompanying Parts A to D of the How to reduce energy costs guidance.

The worksheet can help operators of local physical activity and sports facilities understand their own energy use profile and develop an action plan to reduce costs. Local physical activity and sports facilities vary greatly, and individual assessments are recommended to help track the actual energy use of the key elements and select appropriate mitigation measures.

The worksheet has helpful tips and cross references to other parts of the guidance. See Part A for information on the role of an energy champion and the benefits of installing smart meters and modern control systems.

The initial focus should be on energy reduction efforts for the high-energy-use items that can give the highest savings. However, the cumulative effect of a series of smaller changes in user behaviours or operating procedures could also be significant.

Individual assessments are recommended to help track the actual energy use of the key elements and select appropriate mitigation measures.

Table E-1 Overview of key actions

Item	Actions
Initial action 	• Select a person or team within the organisation to investigate and make recommendations; • Establish energy champion(s).
Install a smart meter to monitor energy usage and real time costs 	• Review historic data; • Contact energy suppliers about smart meter installations and best tariffs; • Establish an energy benchmark.
Take regular readings and track against the programme of use 	• Track the daily or weekly readings to identify the profile of use peaks and troughs; • Compare with the energy supplier's data; • Consider augmenting with IoT software / monitoring technology.
Identify high energy use items where a % reduction might generate most savings	Draw up a priority list of items and consider: • Impacts on users; • Affordability; • Operational factors; • Value for money.

Worksheet

The following tables include advisory notes indicated in green text.

Table E-2 Facility and author

Item	Details to be added
Name of your club/ facility:	
Name of operator/ organisation:	
Date of worksheet completion:	
Version number:	
Author(s): Advisory note — See Part A for information on the role of energy champions.	

Table E-3 Understanding your facility and stakeholders

Item	Details to be added
In this section, list all the facility elements that consume energy. Advisory note — Examples may be categorised under: • Outdoor amenities e.g. grounds/ pitches/ activity/ parking areas with external lighting, floodlighting, security cameras, signage etc.; • Indoor amenities e.g. changing rooms, toilets, clubroom, bar, kitchen, storage, office space etc.; • Equipment e.g. grounds maintenance. See Part B Facility elements and checklist.	
Who will need to be involved in the review and planning of energy reductions? Advisory note — Consider everybody who could help with the project e.g. management and operation teams, and users.	
What in-house skills and experience are available? Advisory note — Users/ stakeholders with building management or construction experience may be particularly useful e.g. appropriately qualified and experienced building industry professionals and specialists.	

Table E-4 Benchmark (previous period)

Tasks	Energy Types	Cost per kWh	Consumption (kWh/year)	Total costs/year
In this section, you should profile the energy use over the previous year. This will help give a high level benchmark for measuring future reductions. Advisory note — Some of these will not be applicable to your facility. See your past energy bills for tariff costs and energy consumption. These are usually available from energy suppliers' websites.	Mains electricity	£		£
	Mains gas	£		£
	LPG (bottled gas)	£		£
	Heating oil	£		£
	PV panels	£		£
	Solar thermal	£		£
	Motor fuel	£		£
	Other	£		£
			Overall total cost for previous period	**£**

Table E-5 Projected (forthcoming period)

Tasks	Energy Types	Cost per kWh	Consumption (kWh/year)	Total costs/year
In this section, you should forecast the likely changes in tariffs at the end of the current contract period. Advisory note — Some of these will not be applicable to your facility. For gas and electricity, the KWh consumption figures can be taken directly from the utility bills. However, oil and LPG are usually billed in litres and can be converted to kWh by using multiplying factors e.g. 10.3 for oil and 6.9 for LPG.	Mains electricity	£		£
	Mains gas	£		£
	LPG (bottled gas)	£		£
	Heating oil	£		£
	PV panels	£		£
	Solar thermal	£		£
	Motor fuel	£		£
	Other	£		£
			Overall total cost for forthcoming period	**£**

Table E-6 Energy monitoring equipment

Tasks	Energy types	Smart meter by energy supplier	Access to energy supplier's energy dashboard	Additional meters	Comment
In this section, you should review the energy monitoring equipment. Advisory note — Energy suppliers are required to provide a smart meter upon request and can then provide feedback on energy usage; Operators can install additional metering systems with smart or conventional technologies.	Mains electricity				
	Mains gas				
	LPG (bottled gas)				
	Heating oil				
	PV panels				
	Solar thermal				
	Motor fuel				
	Other				

Table E-7 Action plan

Tasks	Actions required	By who?	By when?	Progress
Task 1: Confirm the role of the energy champion(s)/ team and empower to review and develop proposals for implementation. Advisory note — See Part A for information on the role of an energy champion and consider: • A policy statement by the organisation's management structure; • Setting overall objectives and targets; • Defining a project plan i.e. key tasks, time scales and resources; • Communication with users; • Regular reviews and updates.				
Task 2: Identify all facilities and accommodation on site using energy and all staff, delivery partners and users involved. Advisory note — Use the overview Table E-3 to ensure all facility amenities are being assessed and consider: • Personnel that will need to be consulted on the plan; • Personnel that will need to be involved in the plan delivery; • Any changes to usual roles and responsibilities that might be needed e.g. taking regular meter readings.				

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Tasks	Actions required	By who?	By when?	Progress
Task 3: Review current energy use profile. Advisory note — Energy suppliers can provide a % analysis of energy consumption. For example: • % Fridges and freezers; • % Entertainment; • % Cooking; • % Hot water; • % Always on; • % Lighting; • % Heating; • % Other. Obtain data from the energy supplier every month, correlate with the programme of use, and develop a detailed monitoring table.				
Task 4: Ensure that a smart meter is installed by the energy supplier and that data is regularly reviewed. Advisory note — The government requires energy suppliers to offer smart meters to all homes and small businesses across Great Britain by the end of 2025. Make an on-line application for a free smart meter and review progress.				

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Tasks	Actions required	By who?	By when?	Progress
Task 5: Consider installing additional metering technology to give more detailed information. Advisory note — Additional meters may help give a more detailed understanding of the energy consumption of key areas e.g. floodlighting or fitness rooms. Consider advice from specialist electricians/ suppliers etc.				
Task 6: Develop a detailed monitoring table. Advisory note — The purpose is to understand in more detail where the distribution of energy use is and where the greatest % savings might be achieved by identifying: • What could be switched off? • Where could settings be turned down? • Where smarter controls should be added? • Items of inefficient equipment that should be replaced? These considerations can then be applied to all the elements to be identified in Table E-3.				

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Tasks	Actions required	By who?	By when?	Progress
Task 7: Engage with users/ members to gain support and understand opinions about adopting energy reduction measures. Advisory note — This could include attitudes to: • Reducing energy waste; • Changing personal behaviour; • Reducing comfort levels and convenience; • Upgrades to buildings, facilities and infrastructure; • Short-, medium- and long-term actions. A survey could be undertaken to better understand people's feelings on the above and their habits when using the facility.				
Task 8: Explore and plan for the formal/informal training or development needs of staff/ volunteers/ coaches to support the plan. Advisory note — Consider the operational and health and safety implications of a more energy conscious regime. Ensure the use of controls and equipment is fully understood, and risks of unforeseen consequences are appreciated e.g. risk of legionella in hot water storage or showers.				

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Tasks	Actions required	By who?	By when?	Progress
Task 9: Check whether individuals have key skills and qualifications that can assist? Advisory note — Initial visual assessment may be undertaken by club members, but more detailed inspections and advice should be from appropriately qualified and experienced professionals. Review the need for e.g. building surveyor and architect's services, and the suitability of building services industry contractors e.g. electricians, plumbers, specialist contractors etc. (see: https://www.competentperson.co.uk/).				
Task 10: Tracking of energy usage and making changes? Advisory note — Actions could include: • Contacting energy suppliers for installing the latest smart meters; • Considering whether additional meters are required to monitor specific elements such as floodlighting or separate buildings; • Reviewing usage at the start of every month for comparison; • Establishing energy benchmarks/ targets. • Creating a priority list of items to consider impacts on users, affordability, operational factors, value for money etc.				

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Tasks	Actions required	By who?	By when?	Progress
Task 11: Medium- to long-term planning? Advisory note — Understand which areas are consuming the most energy and the implications for changing these. Obtain quotes for changing high-usage amenities. Consider the cost benefits of energy reduction upgrades such as: • Additional insulation; • Upgrading heating and hot water systems and controls; • Upgrading floodlighting system; • More energy-efficient appliances.				

Document accessibility

This document has been designed for comfortable reading at A4 and on a laptop screen, but can also be printed at A3 for large print versions. The pdf is accessible and has been tested to work with text readers.

Contributors

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User guide

Before using this design guidance note for any specific projects all users should refer to the User Guide to understand when and how to use the guidance as well as understanding the limitations of use.

Click here for **User guide** and other
Design and cost guidance

Issue tracker

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