



Module 1

Introduction

Energy Efficiency for Construction



24
partners

12
countries

Date of Event

*Author/ **Institute***

Insert Organisier Logo Here
For illustrative purposes only
delete this shape from final
presentation



TUS

Technological University of the Shannon:
Midlands Midwest
Ollscoil Teicneolaíochta na Sionainne:
Lár Tíre Iarthar Láir



Co-funded by the
Erasmus+ Programme
of the European Union

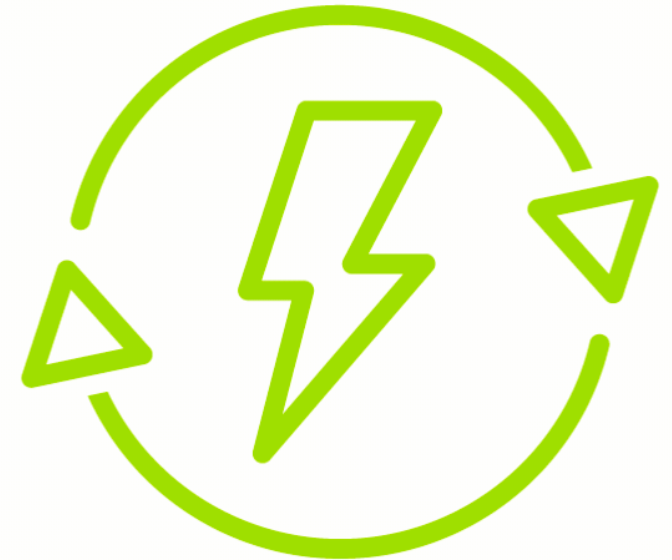
Energy Efficiency for Construction | Summary



Co-funded by the
Erasmus+ Programme
of the European Union

The aim of this programme is to increase your knowledge of the principles and practices applied to the construction/retrofitting of low energy/nearly zero energy buildings.

This improved knowledge will help you to apply your existing skills, so that relevant energy efficient techniques and standards can be achieved.



Energy Efficiency for Construction:
Introduction

Insert Organisier Logo Here
For illustrative purposes only
delete this shape from final
presentation



TUS
Technological University of the Shannon:
Midlands Midwest
Ollscoil Teicneolaíochta na Sionainne;
Lár Tíre Iarthar Láir





Programme Objectives

- List and describe the **key policy and legislative drivers**, relevant to NZEB construction
- Explain the **key energy terms and units** associated with NZEB buildings
- List and describe the key **construction principles, techniques and products** to achieve NZEB compliance.
- List and describe the key **service techniques, methods and equipment** needed to achieve NZEB compliance.
- Identify **best practice examples of common construction methods and details** relevant to NZEB compliance and be able to recognise work practices which fall below this standard.
- Identify **best practice examples of renewable and service technologies** relevant to NZEB compliance and be able to recognise work practices which fall below this standard.
- Understand why there is need to talk and discuss with other trades in order to achieve NZEB compliance through **collaborative teamwork and system thinking**
- Describe some **key challenges** of implementing high quality NZEB building projects and **how to apply specific solutions** to meet those challenges.



Programme Content



Co-funded by the
Erasmus+ Programme
of the European Union



- EU and National Drive
- Energy and Buildings
- Building Fabric 1
- Building Fabric 2
- Heating and Cooling Services
- Ventilation
- Adapting to Climate
- Collaboration and Communication
- Renewables
- Energy Renovation
- Lighting and Small Power
- Measuring Performance
- Smart Cities



Energy Efficiency for Construction:
Introduction

Insert Organiser Logo Here
For illustrative purposes only
delete this shape from final
presentation

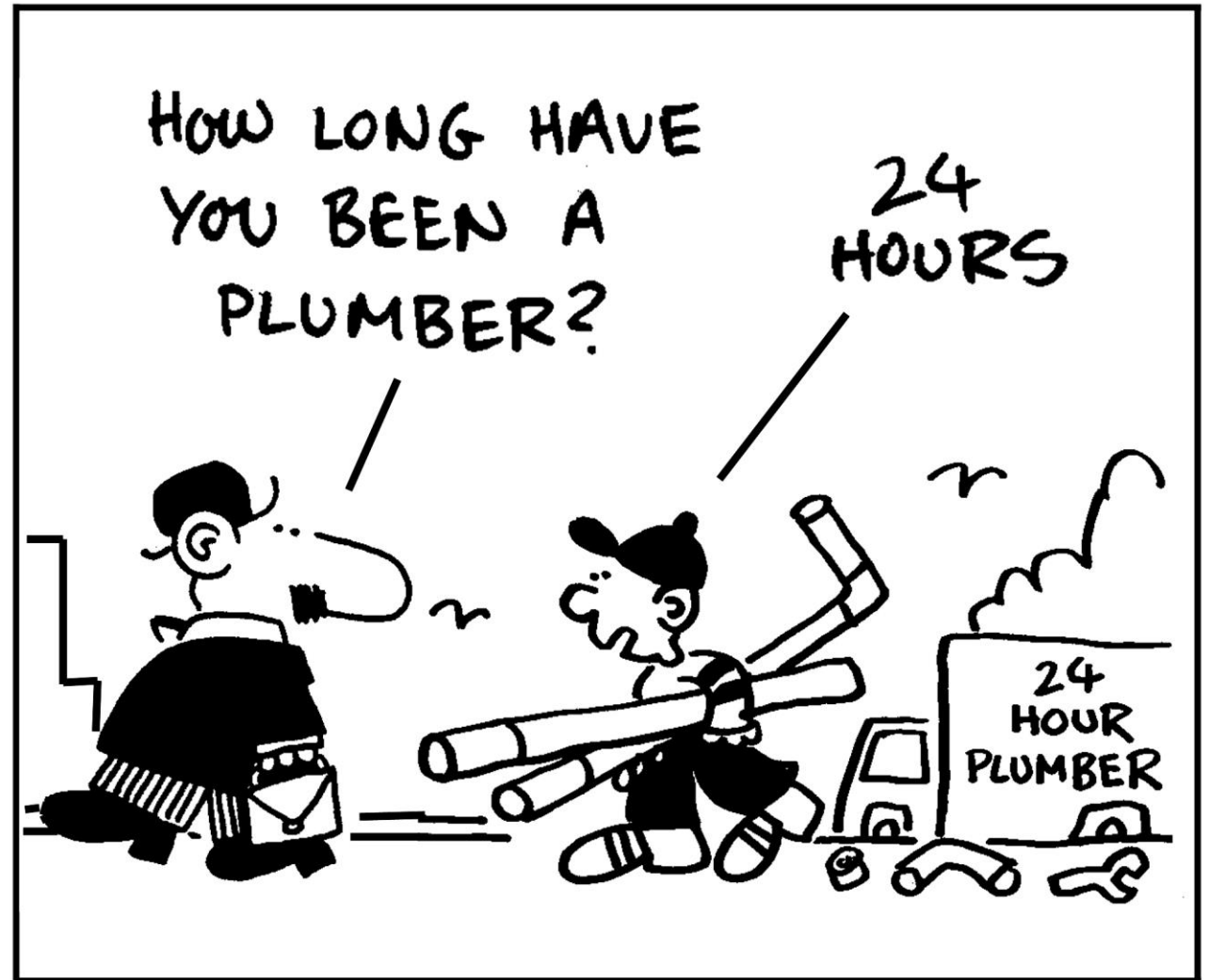


TUS
Technological University of the Shannon:
Midlands Midwest
Ollscoil Teicneolaíochta na Sionainne;
Lár Tíre Iarthar Láir



Topic 1.1- Introductions

1.1.1 Introduce yourself



Introduce Yourself



Co-funded by the
Erasmus+ Programme
of the European Union

You can use your phone or tablet and connect to:

- Slido.com

Or

- use the QR Code XXXXXXXX

slido

In this exercise we would like you to download the QRCode App and use the QR Code



Energy Efficiency for Construction:
Introduction

Insert Organisier Logo Here
For illustrative purposes only
delete this shape from final
presentation



TUS
Technological University of the Shannon:
Midlands Midwest
Ollscoil Teicneolaíochta na Sionainne:
Lár Tíre Iarthar Láir



Introduce Yourself

- State Full Name
- Use 3 words to describe your type of work
- What do you hope to get out of this course?

Use whiteboard/Slido and type away.





Introduce Yourself

How do I scan a QR code without an App on my mobile phone?

Open the camera and focus it at QR-code.

1. Press and hold the Home button
2. Tap the magnifying glass icon to scan QR Code
3. Tap the pop up notification
4. Welcome to Slido.

slido



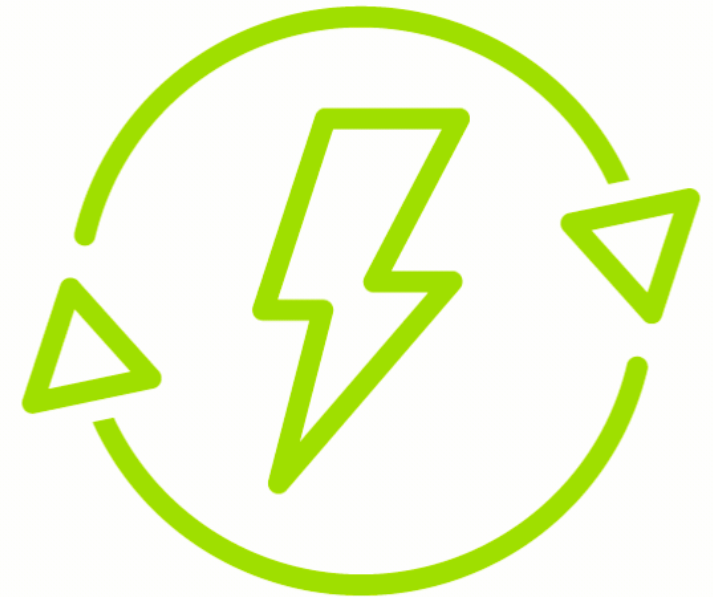
The Energy Efficiency Programme will be delivered in a blended format: **Online theory and face to face practical work**

Online – self directed learning (everything can be done at home)

Read the slides, watch the videos and read the extra resources, then complete the quiz or online activity.

Face to Face - practical learning in class, on-site or at a workshop.

You are to read the information/PPTs and videos first, before attending class to prepare for the practical workshop or class.



Continuous assessment will involve the completion of online gamification quizzes and/or completion of individual or group practical work.

Group work includes one or more of the following:

Practical work, group discussions, group presentations or individual work.

Each Module is to be completed



Quizzes



Co-funded by the
Erasmus+ Programme
of the European Union

Kahoot!

Learning tool **Kahoot**

<https://kahoot.com/>

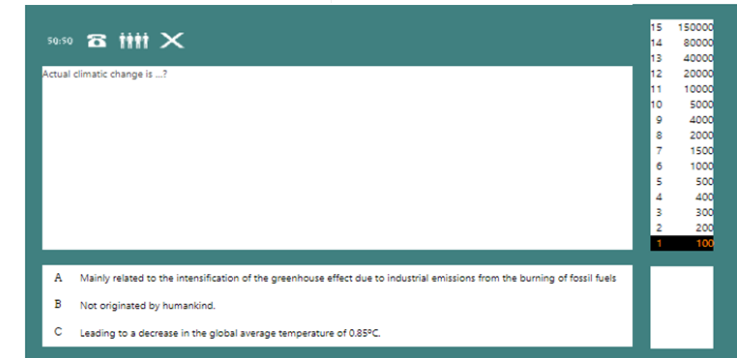
<https://kahoot.com/home/mobile-app/>



Energy Efficiency for Construction:
Introduction



Gamification Quizzes in Moodle



Insert Organiser Logo Here
For illustrative purposes only
delete this shape from final
presentation



TUS
Technological University of the Shannon:
Midlands Midwest
Ollscoil Teicneolaíochta na Sionainne;
Lár Tíre Iarthar Láir



Indicative Timetable



Co-funded by the
Erasmus+ Programme
of the European Union

Module Number		Delivery	Method of Assessment	Duration Hours	Schedule (dates)
1	Induction			1.00	
2	European & National Drive- Climate Change and Policies NZEB Principles National Regulations	online	quiz	1.00	
3	Energy and Buildings- How Energy Works Low Energy Techniques	online	quiz	2.00	
4	Building Fabric 1 – Air Tightness in Buildings Air Tightness Strategy Air Permeability Test	online/blended	quiz/activity	4.00	
5	Building Fabric 2- Continuous Insulation Thermal Bridging Window and Doors	online/blended	quiz/activity	4.00	
6	Heating and Cooling Services- Space Heating and Cooling Water Heating	online	quiz	1.00	



Energy Efficiency for Construction:
Introduction

Insert Organisr Logo Here
For illustrative purposes only
delete this shape from final
presentation



TUS
Technological University of the Shannon:
Midlands Midwest
Ollscoil Teicneolaíochta na Sionainne:
Lár Tíre Iarthar Láir



Indicative Timetable



Co-funded by the
Erasmus+ Programme
of the European Union

7	Ventilation- Ventilation Flows Types of Ventilation Ventilation Strategy	online	quiz/activity	2.00	
8	Adapting to Climate Comfort Air Quality Health and Safety in Buildings	online	quiz	1.00	
9	Collaboration and Communications- Roles and Responsibilities System Thinking Knowledge transfer Mentorship	online/blended	quiz/activity	3.00	
10	Renewables- Introduction to Renewables Renewable Heating and cooling Micro generation of electricity and storage Best Practice Case studies	online	quiz	1.00	
11	Energy Renovation Renovation Strategy Cost Optimisation	online	quiz/activity	3.00	



Energy Efficiency for Construction:
Introduction

Insert Organiser Logo Here
For illustrative purposes only
delete this shape from final
presentation



TUS
Technological University of the Shannon:
Midlands Midwest
Ollscoil Teicneolaíochta na Sionainne:
Lár Tíre Iarthar Láir



Indicative Timetable



Co-funded by the
Erasmus+ Programme
of the European Union

12	Lighting and Small Power- Smart Lighting Small Power	online	quiz	1.00	
13	Smart Controls and Meters- Smart Controls and Sensors Smart meters	online	quiz	1.00	
14	Measuring Performance- Sequencing Works Understanding U-values Energy Assessment Procedures	online	quiz	2.00	
15	Smart Cities- Smart Districts and Neighbourhoods Energy Cooperatives	online	quiz	1.00	
OVERALL Total duration in hours (days)				28.00 hrs (4 days)	



Energy Efficiency for Construction:
Introduction

Insert Organiser Logo Here
For illustrative purposes only
delete this shape from final
presentation



TUS
Technological University of the Shannon:
Midlands Midwest
Ollscoil Teicneolaíochta na Sionainne:
Lár Tíre Iarthar Láir





Thank You

Insert Organisier Logo Here
For illustrative purposes only
delete this shape from final
presentation



Co-funded by the
Erasmus+ Programme
of the European Union

