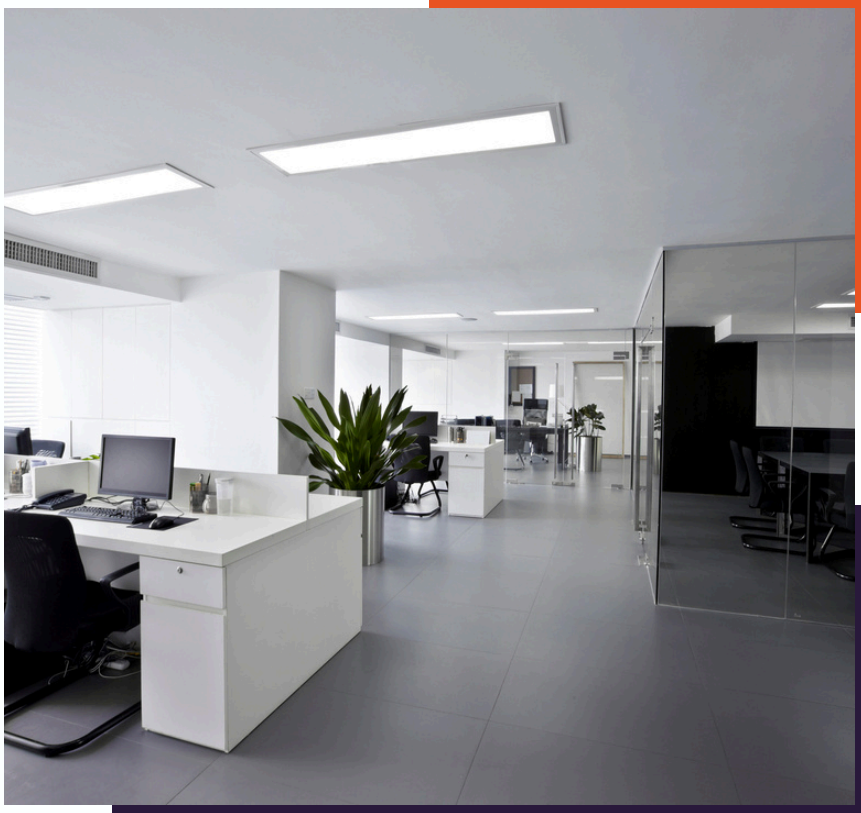
# OFFICE

## Case Study Number: 7



## Overview

- **Location:** Tralee (Rural)
- **Size:** 145 m² (originally 94 m²)
- **Constructed in:** Pre-1841
- **BER Before:** C1 | **BER After:** B1
- **Energy Savings:** Reduced from 13,900 kWh to 2,400 kWh annually
- **Carbon Savings:** 4.41 tonnes $CO_2$
- **Display Energy Certificate:** N/A

A deep EnerPHit retrofit reducing energy and carbon use with insulation, triple glazing, and renewables.

## CHALLENGES

Renovation required relocation of the business, causing moderate disruption. Though economic costs were low, the move incurred significant time and logistical effort.

## SIMPLE PAYBACK

- **Total project cost:** €155,000 (ex VAT; includes extension)
- **Estimated payback:** ~63 years (for entire build; energy-only payback not isolated)
- **Funding Mode:** Private + SEAI EXEED Design Grant

## ADDITIONAL INFORMATION

- The retrofit achieved EnerPHit-level efficiency, drastically reducing operational energy use and carbon emissions.
- Indoor comfort was significantly improved through high-performance materials.

## Energy Upgrade Measures

**Fabric Upgrade:**

- Deep insulation to floors, walls, roof, and windows using natural and synthetic materials.
- Triple-glazed windows and rooflights installed.
- EnerPHit refurbishment applied to front structure (airtightness, thermal bridging, insulation).

**Renewable Energy Integration:**
Solar PV system installed for low-carbon electricity generation.