

Dalkey Sustainable Energy Community (DSEC)

- Journey & Experience -

Paul Durrant

Introduction – overview of the journey

- Journey started in November 2018
- Aspiration of DTT to take action mitigate climate change
- Researched comm. supports available
 - ❑ Discovered SEAI SEC Network
 - ❑ SEAI assigned a mentor to us
- Introduced Energy Master Plan (EMP)
- Completed April 2021



Preparing the road to commence EMP work

Setup a Steering Committee

“to deliver the vision and targets for your community”

Create a Community Charter

“to list specific aspirations for your community”

Grant Application Successful

*Work on EMP begins
Oct. 2019*

Apply for EMP Grant

*Gather information
Approx. energy spend
Businesses willing part EMP
Challenges / Opportunities
Complete application*



Producing an Energy Master Plan

Community
Engagement



Development
of the Master
Plan



**Energy
Master Plan**

Developing an Energy Master Plan (EMP)

Procure Energy Consultant to lead EMP development

**RfQ and
Selection
Process**

Key milestones:

- **Desk study & energy mapping – who uses what energy, when, how, where & why**
- **Business/Community Facility Energy Audits x 3**
- **Residential Building Energy Ratings (BERs) x 10**
- **Household survey (including transport) carried out by DSEC**
- **Register of Opportunities**

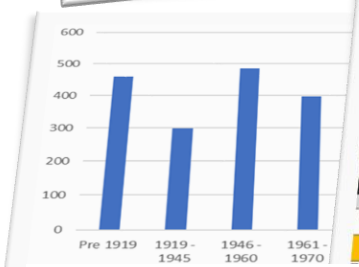
**Iterative
Education
Process (for
DTT team)**

EMP Results – retrofit potential

- A baseline of energy consumption
- Energy audits / BERs
 - real solid examples for others
- Improve efficiency, reduce CO₂ emissions
 - ✓ National target 500,000 to B2 by 2030.
 - ✓ 25% of National housing stock.
 - ✓ Dalkey equivalent : 750 retrofits in total or 75 per annum.
- Opportunities to introduce renewable energy technologies for homes and small businesses
- A Register of Opportunities

Residential Total Energy Use kWh/yr:	63,058,315
Residential Total Electricity Demand kWh/yr:	15,789,260
Residential Total Fossil Fuel Use kWh/yr:	47,269,055
Residential Estimated Total Annual Cost:	€7,047,869
Commercial Total Energy Use kWh/yr:	11,225,475
Commercial Total Electricity Demand kWh/yr:	4,209,553
Commercial Total Fossil Fuel Use kWh/yr:	7,015,922
Commercial Estimated Total Annual Cost:	€1,004,680
Total Energy Use kWh/yr:	74,283,790
Estimated Total Annual Cost:	€8,052,549

Table 1 – Dalkey SEC Baseline Energy Consumption (commercial sector is based on S



Ref	Address	BER Before (Indicative)	BER After (Indicative)	BER Before (Actual)	BER After (Actual)	Floor
DSEC1	Dundela		B1	D2		
DSEC2	Barnhill/ Hillside		B1	E2		
DSEC3	Sorrento		A2	C2		
DSEC4	Gosworth		B1	E2		
DSEC5	Killiney Road		A3	C3		
DSEC6	Mount Salus		A3	D2		
DSEC7	Pilot View		B1	D1		1
DSEC8	Barnhill		A3	B3		2
DSEC9	St. Begnets Villas		A2	F		360
DSEC10	Torca Road		A2	E1		360

ENERGY AUDIT REPORT

DALKEY PHARMACY

Various opportunities assessed are summarised as follows:

- Heat pump installation: Cost - €4,000. Saving 4,820 kWh/€520 per annum. Payback without grant 8 years.
- LED lighting: Cost - €1,380. Saving 3,010 kWh/€529 per annum. Payback without grant 4 years.
- Solar PV: Cost - €4,500. Saving 2,700 kWh/€480 per annum. Payback without grant 9 years.

Category	Cost	Cost After Grant	Electricity Saving (kWh)	Cost Saving (€/yr)	CO ₂ Savings (kg)	Payback (with grant)
Heat pump	€4,000	€2,800	4,820	€520	1,580	5.4
LED lighting	€1,380	€1,380	3,010	€529	980	2.6
Solar PV	€4,500	€3,150	2,700	€480	980	6.6
Total	€10,480	€7,330	10,530	€1,529	3,420	4.6

energy efficiency measures identified have an estimated combined cost of c. €10,480. A 30% grant the net cost would be c. €7,330. The estimated energy cost savings is 10,530 kWh per annum with a payback period of c. 5 years.

EMP Results - Transport

The EMP provided

Transport information

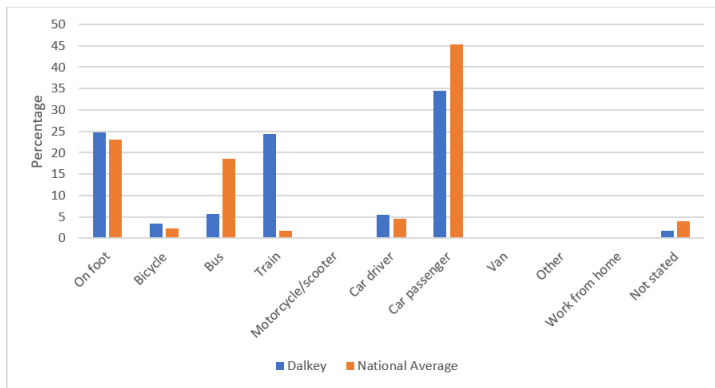


Figure 10- Means of travelling to school

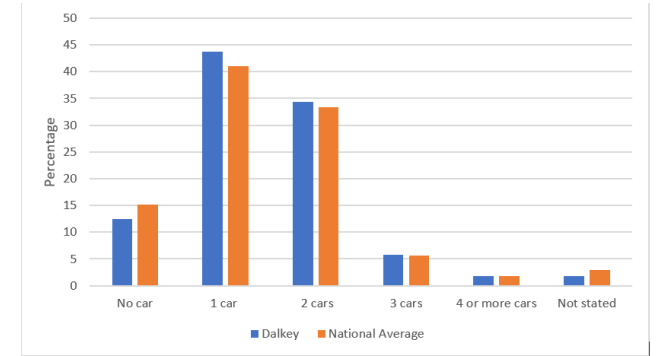


Figure 8- Car Ownership

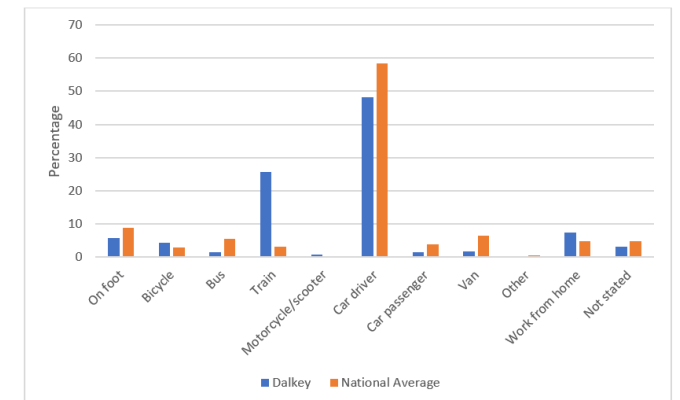


Figure 9- Means of travelling to work

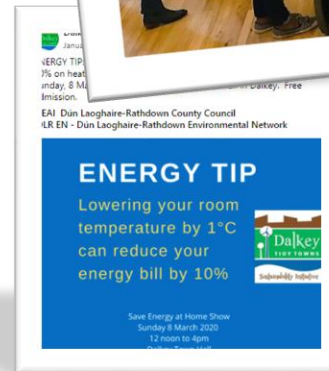
Engaging the Community – Energy-Saving Show and Promotions

'Save Energy at Home' Show held at Dalkey Castle & Heritage Centre

- Range of exhibitors – retrofitting, transport & renewable
- Gen Z – TY Student from local secondary school
- Children's Art Competition
- Senior citizens – energy conservation presentation

Other engagement activities

- Switch & Save Campaign
- Articles in Community Newsletter
- Energy Tips on DTT Facebook Page
- Promotional activities



Engaging the Community - Survey

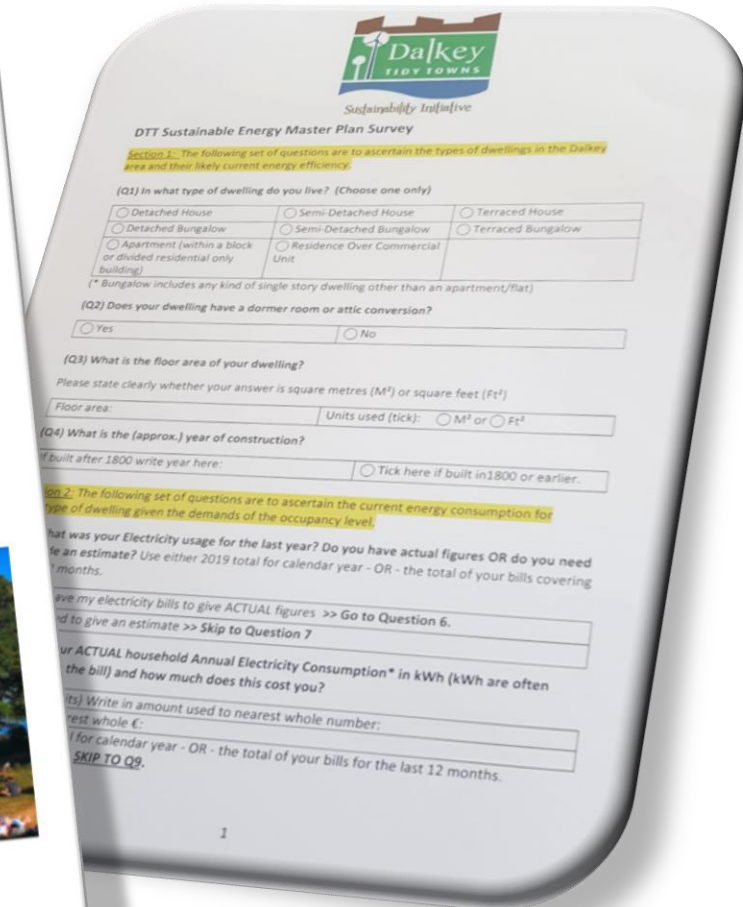
A community wide *Home Energy Survey*

- Dual function:
 - a) Engage with and recruit households and individuals to our SEC
 - b) Capture information on attitudes to and behaviours with sustainable energy

Assisted DSEC to understand the current energy-usage patterns in the residential sector.

Free domestic Building Energy Ratings (BER) (1 offered at show)

Free detailed energy audits on 3 non-domestic buildings



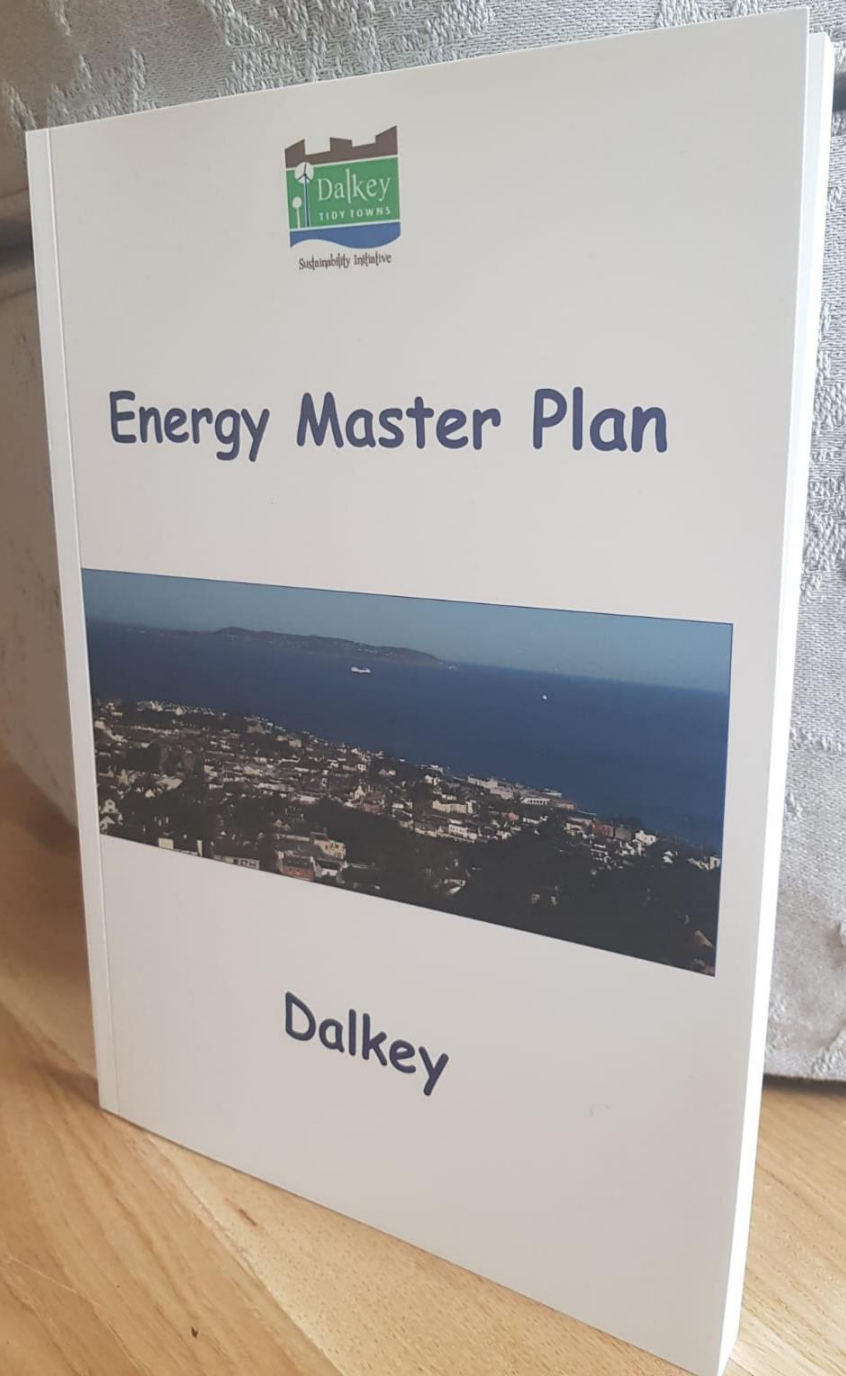
Benefits of EMP

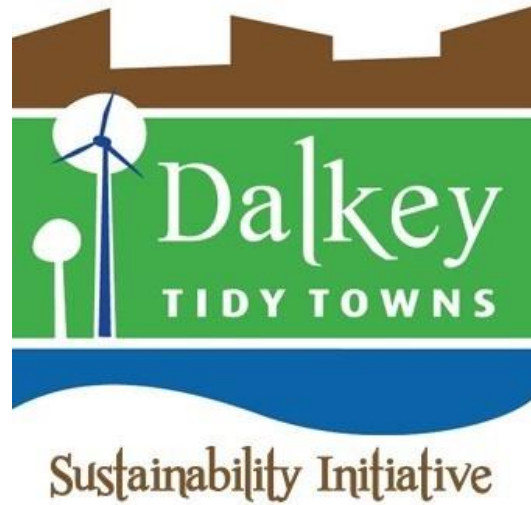
- Understand our community's energy use
- Identify and prioritise solutions
- Community informed of the importance of energy efficiency
- Community participating and benefiting in savings and comfort



If successful retrofit 75 homes p/a Dalkey will achieve a **reduction of 4,200 tonnes annually** in carbon emissions from 2030.

What
happens
next?





Thank you !

Email: dalkeysustainablecommunity@gmail.com