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SUSTAINABLE ENERGY AUTHORITY OF IRELAND

SUSTAINABLE ENERGY COMMUNITIES PROGRAMME

HANDBOOK 2018

Join us on this journey

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THE SUSTAINABLE ENERGY COMMUNITIES (SEC) HANDBOOK

Welcome to the SEC Network! This handbook is intended to inform and guide you on your journey to becoming a Sustainable Energy Community. It sets out the various supports that are available to your SEC based on the three key steps of SEAI's Learn-Plan-Do approach.

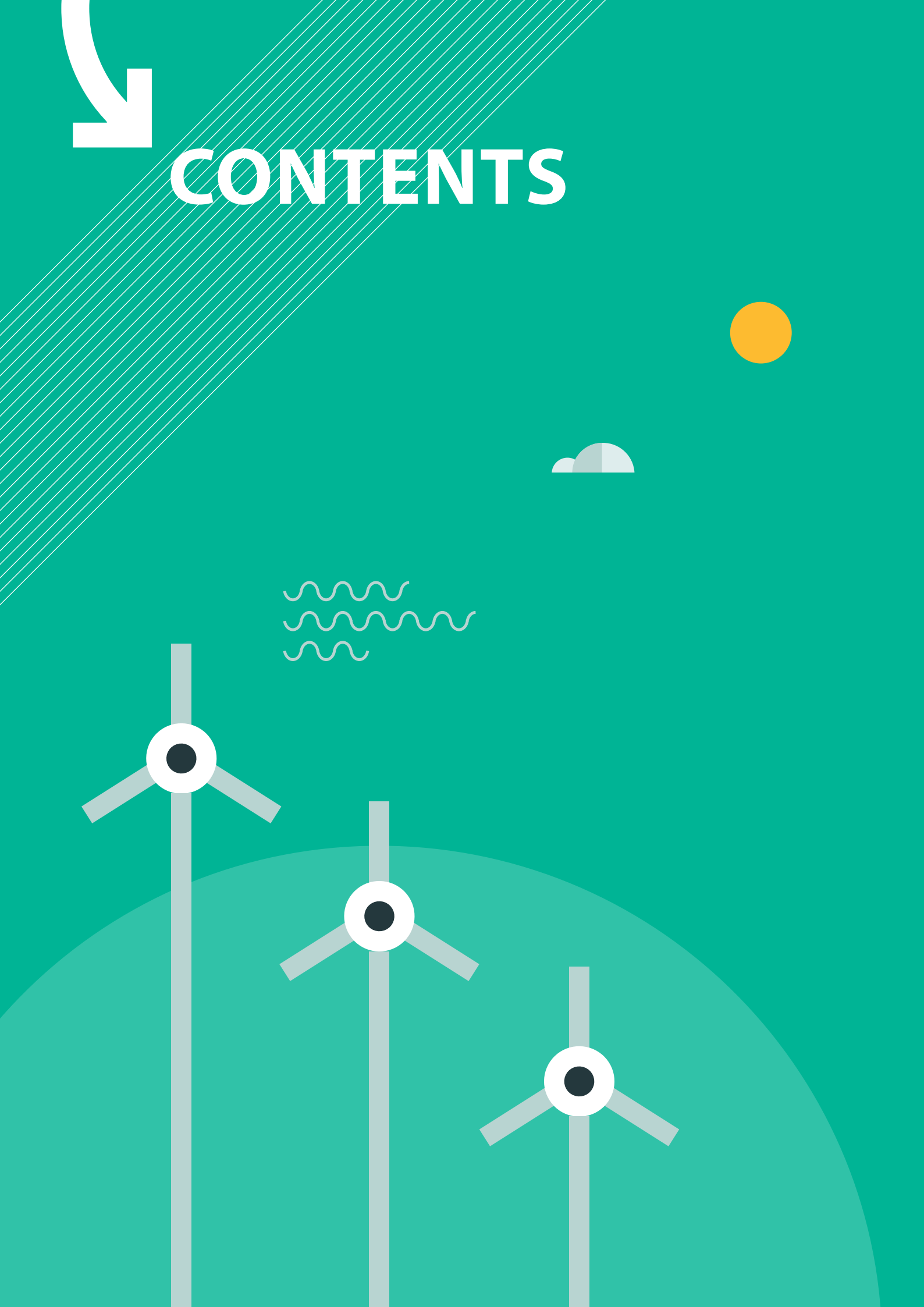
You can dip in and out of the handbook depending on what stage your community is at. Section 1 is aimed at those who have just joined the Network and want to learn about what they can do to get started. Section 2 is for those who have started to plan out their goals and want to develop an energy masterplan and Section 3 is about identifying grants or other supports to help you to implement your energy projects.

There are references throughout the handbook to other support documents and resources that are available to download from SEAI's website. If you need hard copies of any of these please contact us at sec@seai.ie.

"Provides an opportunity to network with other SEC's to get a feel for where they are and to exchange ideas but also to engender strength of numbers towards the same ideal."

ANONYMOUS RESPONDENT, SEAI SEC NATIONAL EVENT SURVEY 2017

CONTENTS



BACKGROUND 01

About SEAI
Ireland's Energy White Paper

INTRODUCTION 02

i. What is an SEC?
ii. Why become an SEC?
iii. Key Features of an SEC
iv. The SEC Network

1. LEARN 05

1.1 How homes, schools, and workplaces can take part

2. PLAN 07

2.1 The SEC Partnership Agreement
2.2 Community Charter
2.3 Creating an Energy Master Plan

3. DO 15

3.1 Competency Development
3.2 Finance and Delivery Supports
3.3 SEC Pilot Grant
3.4 SEC Reporting Requirements

4. APPENDICES 19

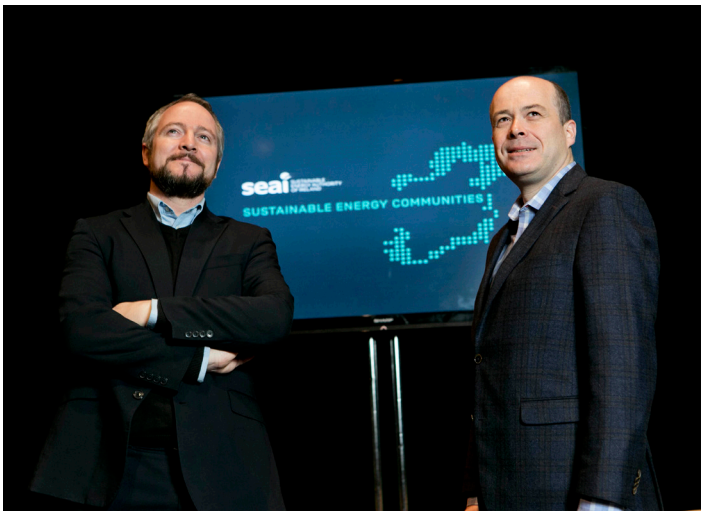
4.1 FAQs for SECs
4.2 Glossary of energy terminology
4.3 List of useful acronyms
4.4 Resources listings
4.5 Community Charter template
4.6 Estimating Your Energy Spend
4.7 Estimating Your Time Inputs

BACKGROUND

ABOUT SEAI

The Sustainable Energy Authority of Ireland (SEAI) was established as Ireland's national energy authority under the Sustainable Energy Act 2002.

SEAI works with householders, businesses, communities and government to create a cleaner energy future.



Jim Gannon, SEAI CEO, and Minister Denis Naughten TD, at the first National SEC Network Event on Saturday 26th November 2016 at the Backstage Theatre in Longford.

IRELAND'S ENERGY WHITE PAPER

In December 2015, Ireland's Energy White Paper was launched. This document sets out government actions to achieve a low carbon energy system by 2050 and become carbon-free by 2100. This energy transition requires all energy users to think and act differently. The White Paper sets out actions for communities to effect change in energy use.

The SEAI Sustainable Energy Communities (SEC) programme will support communities to develop energy management skills and knowledge. This includes low carbon transport and heating, and investing in smart technologies.

A key part of this programme is the SEC Network which was established by SEAI in 2015 to support a national movement of SECs. The Network is now operating in every part of the country.

INTRODUCTION

i. What is an SEC?

A Sustainable Energy Community (SEC) is a community that works together to develop a sustainable energy system. To do so, they aim to;

- be energy-efficient
- use renewable energy
- consider smart energy solutions

An SEC can include a range of different energy users in the community such as homes, sports clubs, community centres, churches and businesses. In this way, an SEC connects sustainable energy, local economic development and public wellbeing.

ii. Why become an SEC?

There are many benefits to becoming an SEC, including to:

- Achieve financial and energy savings
- Enhance comfort and health from energy efficient buildings
- Boost local employment
- Support community development
- Build capacity and access funding

By becoming an SEC, your group will be able to access a range of supports from SEAI for energy projects. An integrated community approach makes it possible to deliver much more than is possible at an individual level.

SECs also contribute to national energy targets and reduce society's environmental impact. At a global level, low carbon and renewable energy sources support the need to address climate change by reducing our global emissions.

"The reason we got involved in the SEC network was that we recognised some time ago that you can't do everything on your own, you've got to have support; the support of colleagues who are going through similar issues as you, and if you have that support then the whole task of what we want to achieve becomes much easier."

EUGENE CONLON, DUNLEER COMMUNITY DEVELOPMENT BOARD

iii. Key Features of an SEC

An SEC is a partnership approach between public, private and community sectors. Partnerships make it possible to share local resources, knowledge and experience. This enables long-term mutual benefits for all involved. While each SEC is unique, they are likely to include some or all of the following attributes:

- A mix of activities and sectors in the community
- A geographically defined area or common field of interest
- Strong stakeholder commitment
- A defined organisational structure
- A balance between energy-efficiency projects and development of renewable energy supply

Typically, an SEC will use a collaborative approach to achieve their common objectives.

iv. The SEC Network

The SEC Network is designed to enable communities to manage and save energy across all sectors. Being a member of the Network enables SECs to engage and learn from project site visits, seminars, events, and case studies.

To join the Network the first step is to establish your group. You should aim to encourage a wide range of energy users to participate in your SEC. As part of the Network, the SEAI will help your community to identify and put in place sustainable energy initiatives, over three years. Your SEC will then be eligible to apply for dedicated funding from the SEAI.

SEAI Chairperson Julie O'Neill photographed here with Eugene Conlon, Dunleer Community Development Board, Justin Kilcullen, Shankill Action for a Green Earth, and Declan Meally, Head of Emerging Sectors SEAI, at the SEC Network national event 2017.

The SEC Journey

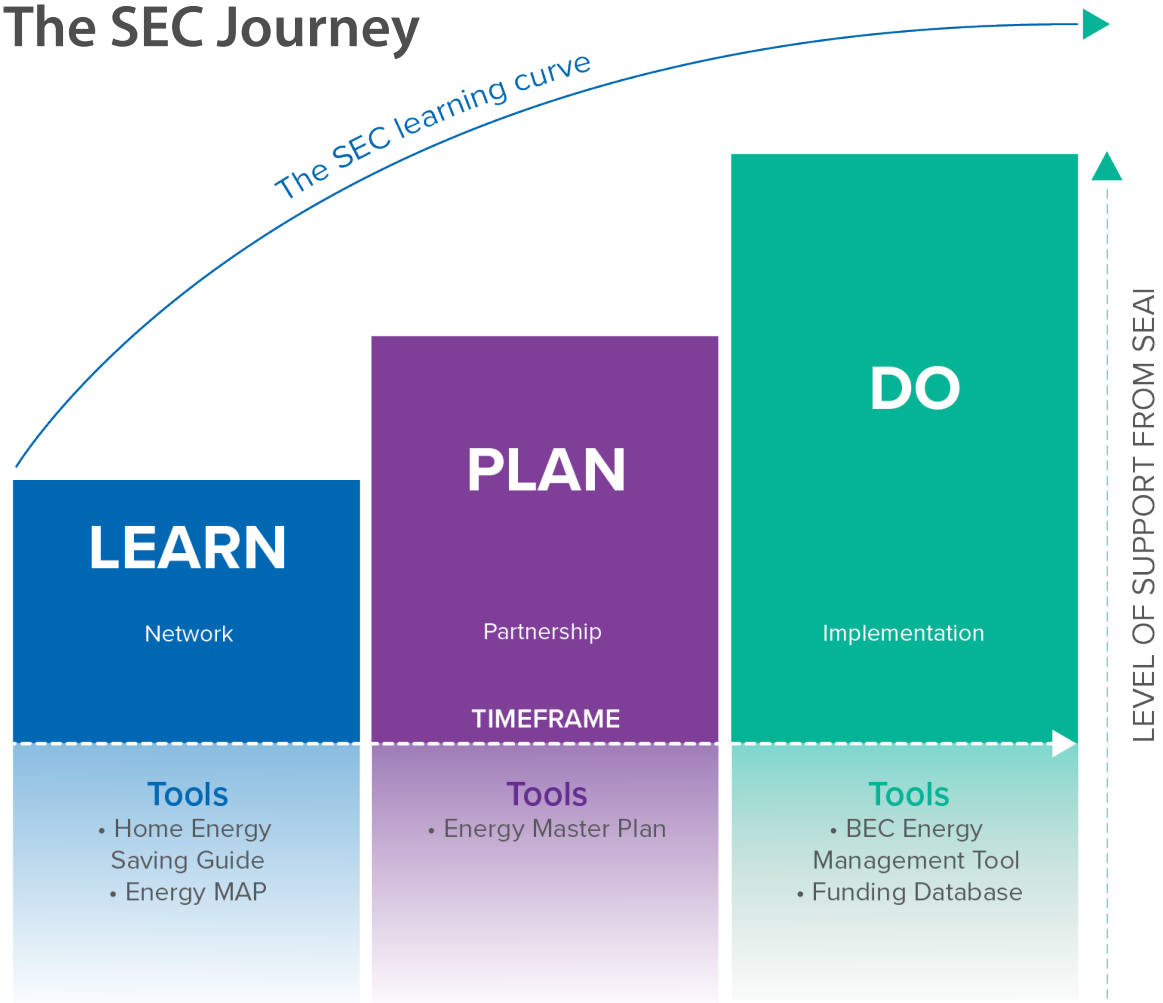


Figure 1: The Learn, Plan, Do approach

LEARN: Your community joins the SEC Network, where you can learn about community energy and start thinking about what you can do on the ground.

PLAN: If your community decides to progress, we will support you in doing a baseline Energy Master Plan. You enter a partnership with us, and we provide further supports as you progress this plan.

DO: Once you have developed an Energy Master Plan, your community will be able to prioritise the best energy projects to start with. Then you can identify grants or supports to help achieve these projects.

1. LEARN

When a community joins the SEC Network, they learn about community energy and start to think about what they can do on the ground.

This learning period is an opportunity to:

- Get in touch with other communities who have common interests
- Learn from communities who have conducted local energy projects
- Learn about energy technologies and the types of solutions available
- Start thinking about energy use in your own community in an informed way
- Learn from energy experts
- Receive learning supports

Go to the SEAI website for more information (www.seai.ie/sechandbook) and to access the SEC Network application form. Applications should be sent to sec@seai.ie and are welcomed throughout the year, there is no deadline. A mentor will be in contact with you soon after your application has been submitted. As a network member, you will also receive a quarterly e-newsletter with Network updates, case studies and news of upcoming events.

"New learning about the many supports available, practical ideas about how to involve both community and businesses, finding out what other communities have done, I feel inspired and energised."

ANONYMOUS RESPONDENT, SEAI SEC NATIONAL EVENT SURVEY 2017

1.1 How homes, schools, and workplaces can take part

Homes: Householders can actively take part in the SEC, either with or without a financial investment. A combination of actions will increase the amount of energy saved. Such actions may include turning down thermostats, switching off lights, and electrical appliances when not required, adding extra insulation and considering alternatives to fossil fuels. By adopting simple behavioural changes in the home, we can all save energy.

Schools: SEAI has teaching resources and energy management tools for both primary and secondary schools (find out more about Energy in Education here). The annual One Good Idea Campaign receives support from schools around Ireland. This initiative provides a platform to discuss energy issues and climate change.

Workplaces: All places of work can save energy. The first step is to manage energy in the workplace using a structured approach. SEAI has developed several tools and supports to help save energy in the workplace here, whether energy management is being introduced for the first time or as part of business plans to upgrade existing efforts.

2. PLAN

Plan for your energy future with support from SEAI. Our partnership approach enables engaged communities to create their own Energy Master Plan.

2.1 The SEC Partnership Agreement

SECs already in the SEC Network are encouraged to enter into a three-year Partnership with the SEAI. Over this three-year time frame, your group can access mentoring and SEAI technical supports. These supports will help you to establish a baseline Energy Master Plan. You will also receive support to identify energy saving opportunities, a programme of activities for your community, track progress and review. You may also apply for dedicated SEAI funding to help your group achieve community energy projects.

Partnership Approach
A partnership approach, as illustrated in Figure 2, is at the core of the SEC programme.

The three-year partnership is a two-way exchange. SEAI provides mentoring, funding and technical advice. In return, the SEC provides local knowledge, time, and people required to achieve the ambition of the partnership.

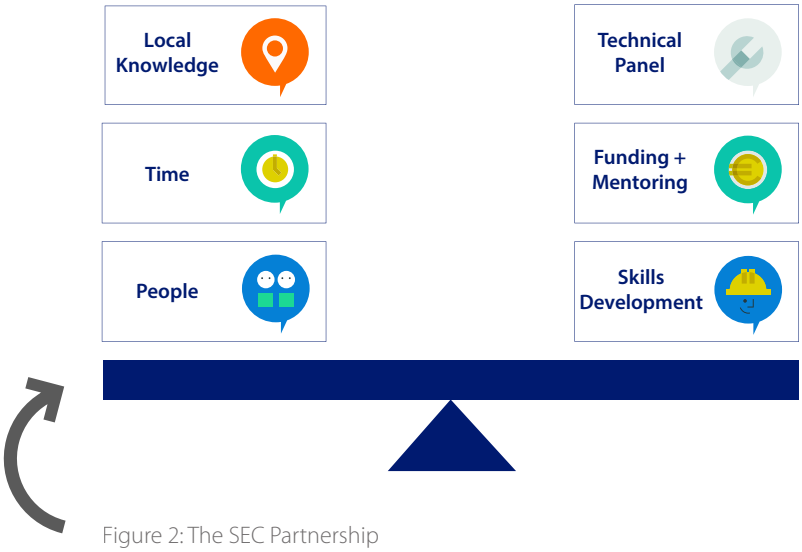


Figure 2: The SEC Partnership

"This is an opportunity to network with other communities to get a feel for where they are and to exchange ideas but also to engender strength in numbers towards the same ideal."

ANONYMOUS RESPONDENT, SEAI SEC NATIONAL EVENT SURVEY 2017

The SEC Partnership Agreement process

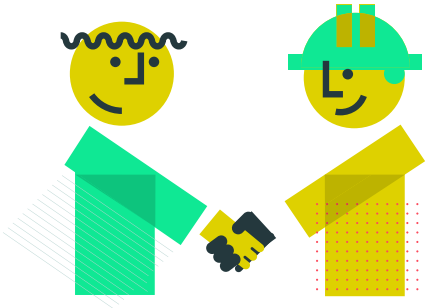
The Partnership Agreement is a formal commitment to the programme. This agreement establishes your SEC's baseline energy use and year one opportunities. To enter into a Partnership Agreement, you must set up a clear organisational structure to manage your SEC. This will differ between communities. At a minimum, a Steering Committee, main contact person and financial controller should be identified.

The role of the Steering Committee is to deliver the vision and targets for your SEC. It provides guidance to the group and drives the development of your SEC. There is no maximum or minimum number of members. It is recommended that the committee represents the range of energy users within your SEC (e.g. residents associations, schools, public sector, community groups, charities, businesses or industry).

As part of the Partnership Agreement process you must complete the following:

- SEC Community Charter: each SEC, with its Steering Group, will create and sign their own Community Charter to signify their commitment. See Section 2.2 for more information.
- SEC Competency Evaluation: each SEC will use the Competencies Compass as a baseline for later evaluation. The Competency Evaluation is an excel spreadsheet which asks you some questions in order to establish your current competency level based on eight building blocks for a successful SEC. Your SEC will aim to develop these competencies, as you evolve and grow. See Section 3.1 for more information.

Network members will be assigned a mentor to assist with their partnership application.



Partnership Agreement Funding

The amount of funding available for your Energy Master Plan (EMP) is determined by your SEC level as set out in Figure 3 below. The table indicates upper limits of funding available.

SEC LEVEL	SCALE	SPEND	FUNDING
Level 1	Street/ Village	Up to €2,000,000	€10,000
Level 2	Town / Island	Up to €20,000,000	€15,000
Level 3	County / Regional	Up to €50,000,000	€20,000
Level 4	National / Other	Over €50,000,000	€25,000

Fig 3: SEC levels and EMP Funding

The partnership application, along with the community charter and competency assessment, are submitted when you wish to start an Energy Master Plan for your community. Once the partnership application is approved, a letter of offer for your Energy Master Plan funding is issued.

2.2 Community Charter

A Community Charter is a one-page overview of your SEC's vision and goals. It outlines your commitments and is signed on behalf of your SEC by nominated Steering Committee members. Your signed Community Charter should be submitted as part of your SEC partnership application. Once SEAI have received and approved your application, they will counter-sign your Community Charter at the annual SEC National Event, signifying their commitment to work with you over the duration of your three-year partnership.

The Community Charter is not a legal document; it is a statement of intent and represents the collective ambition of your community. A template for a community charter is included in Appendix 4.4.

Eugene Conlon and Julie O'Neill with the Dunleer Community Charter at the SEC Network national event in 2017.

Five typical Community Charter components are defined below:

1. **Vision Statement:** A single sentence, describing what your SEC would like to achieve.

2. **Elaborated Vision / Goals**

3. **Guiding Principles:** A statement on how your group will operate to achieve its goals.

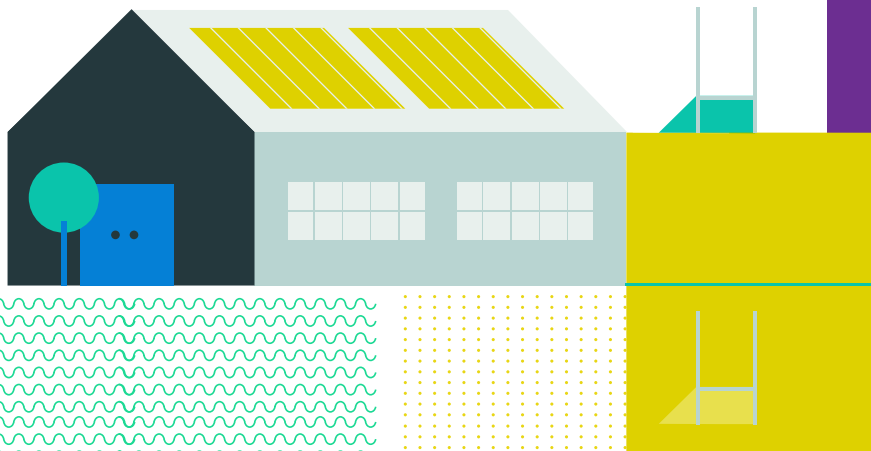
4. **Community Support:** A sentence to note the level of community support for the project and comment on progress to date.

5. **Commitments:** A list of your SEC's key commitments, relating to the following topics:

    - **Partnerships and engagement** - within your group; with the SEC Network and SEAI; with the public and other stakeholders locally, regionally and nationally.
    - **Achievement of targets** - improving energy efficiency; increasing renewable energy or reducing carbon emissions.
    - **Integrated planning and reporting** - recording and reporting on progress regularly and adopt an integrated, long-term planning approach.
    - **Achievement of vision and goals**
    - **Creating impact** - promote the project and sustainable energy.

"All the change that's going to happen in our transition to a sustainable energy culture is going to come about because of the actions of individuals working together within their own communities, within their own schools, within their own businesses."

JULIE O'NEILL,
SEAI CHAIRPERSON



2.3 Creating an Energy Master Plan

An essential aspect of becoming an SEC is the creation of an Energy Master Plan. At a simple level, the Energy Master Plan allows a community to understand their energy demand and supply.

Typically, the first year of your Partnership with SEAI will be based around the development of your plan.
So, what is an Energy Master Plan and what is it for?

Your Energy Master Plan should be developed to do the following:

1. Quantify the current energy status of your SEC - a baseline of electrical, thermal and transport energy demand.

2. Identify any existing renewable energy sources embedded within the SEC.

3. Create a Register of Opportunities - a list of potential projects for energy efficiency and renewable energy.

4. Select suitable projects for the first three years of your SEC. Set energy reduction targets against the baseline figures.

5. Allow periodic updating of the SEC energy status in order to track progress against your targets.

Some important points to note:

- No two Energy Master Plans will be identical, but there will be many common features. Each SEC is expected to design and develop their own plan in line with the aims of their Community Charter. The templates are a good starting point.
- You can design your plan to suit your capacity. Some plans will be more detailed than others. Please note that every community is encouraged to look at efficiency first and foremost. Efficiency work is low risk and has high payback.
- The Energy Master Plan is a live record of energy status and progress against targets. It will evolve as your SEC progresses.

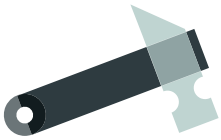
Make no mistake, your plan is in itself an energy project. It will be the foundation for other applications and projects.

2.3.1 PROFESSIONAL SERVICES

You need to consider if your Energy Master Plan will require professional input, e.g. for energy audits. You don't need detailed cost information at application stage, but you should include an estimate if you expect it to occur. These services should be appropriate to the funding level being sought. While most of the funding request should be allocated to data collection, you can use some funding (c.20%) to get professional help on wider community engagement. Examples of such services include, but are not limited to the following:

- BER ratings for households
- Energy Audits for community enterprise centres
- Detailed desk study analysis on the area

2.3.2 DESIGN



Your SEC team should review your Community Charter and decide what the Energy Master Plan is going to include. Be mindful of your capacity and reach. At this stage provide a high-level outline of the areas, organisations and facilities you wish to include in the plan.

- Project locations and scale:
  - Number of domestic households: Example data - type, year of construction, estimated energy spend
  - Businesses: Private or Community, size, energy spend
  - Public Sector: Public body, type of facility, size, energy spend

- Current state of SEC activity:
  - Steering committee
  - Participation agreements with local stakeholders
  - Ongoing energy projects

"Got to meet new people from new SECs, share ideas and encourage others to reach out for support and emphasize that they are not alone."

ANONYMOUS RESPONDENT, SEAI SEC NATIONAL EVENT SURVEY 2017

2.3.3 DATA COLLECTION

Your design will set out the data you wish to collect. Each SEC should consider the scale of Energy Master Plan that they feel they can support and carry out an initial investigation of energy spend with the various users in their communities. You should consider how you will collect the data (e.g. desk top exercise using Census, SEAI databases, previous surveys, direct online survey or measurement).

A suggested approach to this is illustrated in Figure 4 below, in which the SEC delegates a team or person to gather energy spend data in three sectors. This pre-application investigation does not require a detailed energy survey, but simply an estimate of amount of money spent on energy over the course of the year.

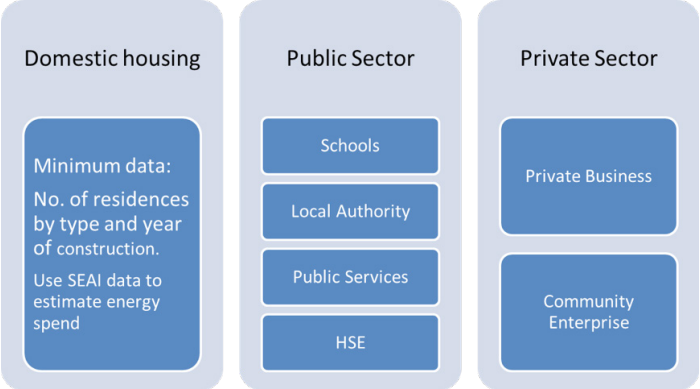
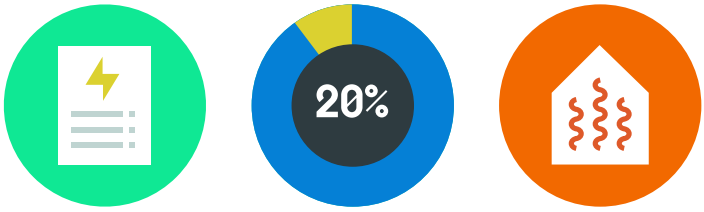


Figure 4: Pre-application investigation of energy spend

Appendix 4.6 offers some simple proxies to estimate energy based spend. However, direct data from businesses and public sector facilities would be beneficial, especially if they are likely to represent significant energy spend. If you choose to collect direct data, this element of work may be the more significant aspect of the application. However, in many cases SECs will have existing relationships with some of the higher energy users which will help. Existing reports for public sector energy use are also a good source of information.



2.3.4 DATA ORGANISATION & ANALYSIS

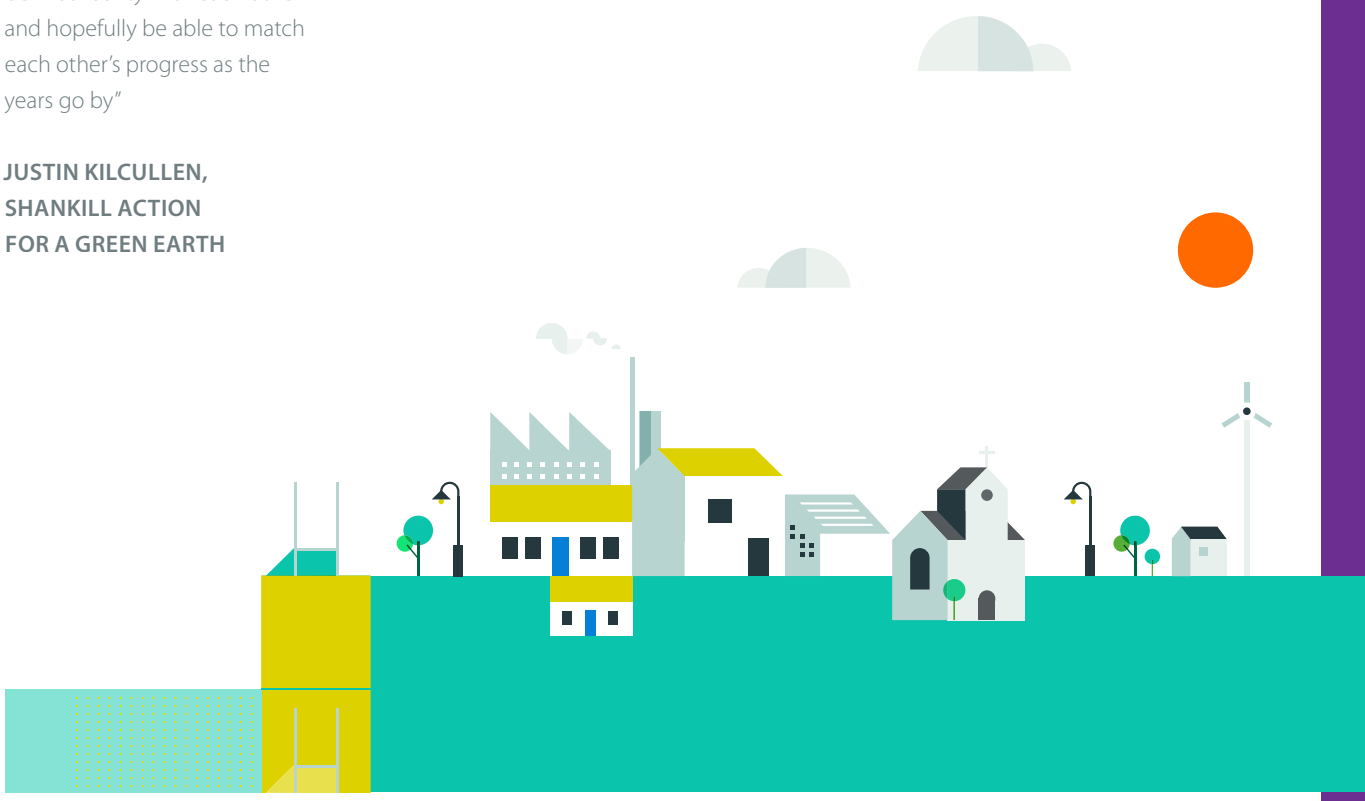
The data collection is likely to yield a significant amount of information. Excel spreadsheets are used to collate, organise and display data in multiple ways. Some guidelines on how to set out this information can be found in the Energy Master Plan Data Collection template. Analysis will require some level of energy knowledge. The analysis should identify where the most significant energy saving opportunities are.

2.3.5 REGISTER OF OPPORTUNITIES (ROO)

All energy efficiency and renewable energy projects identified in the data analysis. The Register of Opportunities is likely to include a wide range of potential projects from awareness campaigns to renewable energy generation. You can then apply ranking criteria for project selection. This may be based on cost, kWh saved, CO_2 reductions, target demographics, social impact, etc.

"Well I'm here today to learn - to learn from others, to learn from the experts and to meet people, because there aren't too many communities doing this kind of work and it's good that those of us who are get to know each other. We can support each other, be in solidarity with each other and hopefully be able to match each other's progress as the years go by"

JUSTIN KILCULLEN, SHANKILL ACTION FOR A GREEN EARTH



3. DO

Once you have made an informed decision on the best energy project for your community, you can identify grants or supports to help you achieve it. We will guide SECs if they choose to apply for any SEAI grants.

3.1 Competency Development

The core competencies are skills necessary for community energy projects to succeed. As the community develops in the SEC Partnership, knowledge and ability grows in these core areas.

There are seven core competencies as illustrated below, but we have also made it possible for communities to access funding to develop an additional competency. The idea is that you can identify where your strengths lie, and where SEAI can assist. The seven core competencies are:

1. Energy champion
2. Integrated planning
3. Strategic financing
4. Energy efficiency
5. Renewable energy
6. Sustainable transport
7. Smart energy/smart grid

The Competencies Evaluation tool helps to plot your progress towards achieving these and guide the direction of your project.

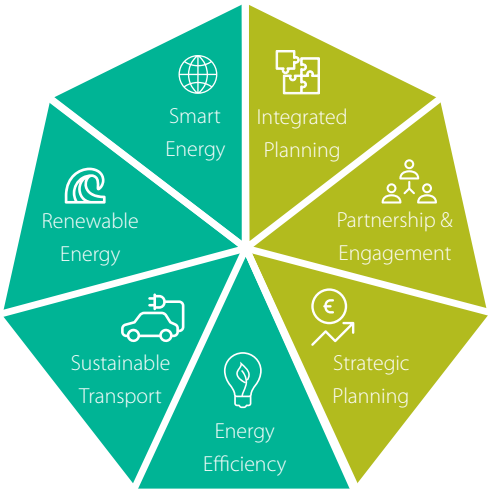


Figure 5: Competency Compass

The first three competencies are considered fundamental to the establishment and sustainability of each SEC. The remaining four competencies relate to the different types of projects that your SEC is undertaking.

3.2 Finance and Delivery Supports

There are three levels of support in line with the SEC Learn, Plan and Do process as set out in Figure 5 below. Within this, there are specific finance and delivery supports which are available to SECs at the 'Do' step.

SEC Journey

Step	Support	Tools
Learn	SEAI community webpages Mentoring Event information	SEC Network Application Form SEC Handbook Home Energy Saving Guide booklet Information pack Posters and leaflets
Plan	Partnership Agreement Mentoring Energy Master Plan (EMP) funding Event guidance Technical Panel resourses	Community Charter Competency Evaluation (baseline) Register of Opportunities Event pack
Do	Better Energy Communities grants SEC grant Project management fees Other relevant grants	Core Competencies Development Funding Case Studies Workshops SEC Pilot Grant Funding Resources

Figure 6: Supports and Tools on the SEC Journey

3.3 SEC Pilot Grant

The SEC Pilot Grant was introduced to support communities in the Do step of the SEC Journey. It is designed to support small to medium scale energy projects, and is better suited to SECs than the current Better Energy Communities programme. Up to €3 million was made available to communities in the SEC network and a maximum of €200,000 grant funding is available per application.

The objectives of the SEC pilot grant are to:

a. Develop community skills to manage capital projects and empower communities to lead small to medium scale project in your own communities. There must be at least one SEC included in the partnership of the application. The maximum grant available is €200,000.

b. Build on the SEC Programme 3 Step Process of Learn - Plan - Do, with this grant offering an excellent Do step opportunity.

c. Build and maintain energy awareness and knowledge locally. This will be achieved by assessing projects by their ability to showcase the benefits of energy projects to the wider community. This is also a key scoring category of the grant evaluation process and projects that do not include any awareness raising are unlikely to be successful.

d. Provide funding for small scale demonstration projects to showcase innovative energy solutions. This includes single building projects that are accessible to the public and preferably owned by not for profit organisations e.g. Community owned buildings, community centres, family resource centres, churches or schools.

SEAI Programme Executive, Gillian Gannon discussing network feedback with communities at the 2017 SEC national event.

3.4 SEC Reporting Requirements

SECs are required to prepare three different report types annually, as outlined below. For further information and assistance on reporting, please contact your SEC mentor or seai@sec.ie.

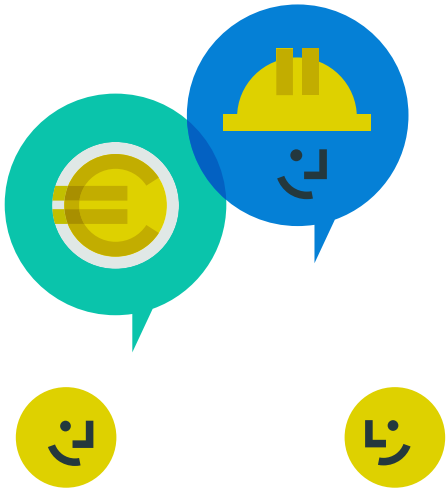
- **SEC Interim Report:** SECs will be required to complete a brief progress report at a minimum bi-annually, where they will provide a progress update in addition to outlining any challenges and needs they are facing. At least once a year, this report will also include an evaluation against the Competencies Compass. The Community Mentor will review and input to the reports completed by the SEC before submitting to SEAI.

- **Annual Impact Assessment:** In the final report for each year, the SEC will be required to give more in-depth data regarding project costs and energy savings achieved.

- **Request for Payment:** This will be a simple form for the SEC to fill out based on their project payment milestones and will be accompanied by a progress report.

"We've looked at it from a policy perspective from the measures that are incorporated into each of the models and the Irish SEC model is doing really, really well compared against best practice."

DR ORLA NIC SUIBHNE, ERRIS SEC



4. APPENDICES

4.1 FAQs for SECs

STEP 1 - LEARN

Q1. What is the difference between the BEC programme and the SEC programme?
The Better Energy Communities (BEC) programme is Ireland's national retrofit initiative, aimed at upgrading building stock and facilities to high standards of energy efficiency and renewable energy usage, thereby reducing fossil fuel usage, energy costs and greenhouse gas emissions. This is a capital grant programme and is awarded on a competitive basis once a year.

The SEC programme is not a capital grant programme, but supplies other supports such as a mentor, access to a technical panel, and a framework in which to scope and improve your communities' energy use. After joining the network, the next step in your group's SEC journey is to apply to enter a three-year partnership agreement with SEAI. Over this timeframe, your group can access SEAI technical supports to help you to identify a plan, implement a tailored programme of activities for your community, monitor the programme's progress, and review accordingly. You may also apply for dedicated SEAI funding, such as BEC funding, to help your group to achieve its SEC ambitions.

Q2. What help will our mentor provide?
The mentor will provide guidance and support as you develop your goals, scope and partnership. He/she will hold regional meetings where you can network directly with other communities in your region.

Q3. What should our goals be?
Each community will have different goals. Joining the network allows you to connect with other similar communities, access case studies, and get a general idea of what will be suitable for your community. We encourage communities to start with energy efficiency first, as this is low risk with immediate benefits. Start on a level you are comfortable with, and develop as you learn the process, the challenges and opportunities in your own community.

Q4. How do I get other stakeholders/ committee members involved?
You may already have a set steering committee established, or you may be just starting out. We recommend that you get as many steering committee members as is feasible, so that the work does not fall on one or two people. Some communities have approached credit union managers, local businesses, GAA coaches or the local school principle to become committee members, with the aim of including their buildings in the Energy Master Plan. Use the network to reach out to other communities for their approach. Each community is different, so you will know the best people to get on board and at what level.

Q5. How do I get members of the wider community to sign up?
This can be a challenge for many SECs, and while there is no right or wrong answer, some ideas have worked well for other communities:

- Use SEAI leaflets to leave in the local shop or if you're calling to people's houses
- Hold a public meeting about what you hope to achieve as an SEC and how it will benefit the community
- Hold an Energy Clinic or Energy Workshop (with the help of SEAI) to get people interested in energy
- Use social media and advertise in local venues or newspapers
- Spread the word through your friends and family
- Engage with other communities
- Ask your mentor for advice

STEP 2 - PLAN

Q6. What are the eligible costs for our Energy Master Plan?
Funding is available to support the development of the Community Energy Master Plan. Only external labour costs (e.g. consultant costs) are funded under the programme. Internal labour costs (e.g. own employees / steering group time) are not an eligible cost. Your SEC Mentor is there to support your progress through the SEC Journey but cannot be part of the professional services procured through your SEC application.

The professional services required to develop the Community Energy Master Plan will vary across the SECs for a variety of reasons and available resources. It is essential that the SEC is fully involved in the Energy Master Plan process. Applications for funding to outsource the entirety of the Energy Master Plan will not be successful.

Q7. What's in the letter of offer?
A letter of offer is a financial contract that enables SEAI to legally grant funds to the community. It contains information about the grant amounts approved, project start and end dates, and terms and conditions. Once this is signed and returned, the SEC can commence their Energy Master Plan.

Q8. What are "public procurement rules"?
When using public money to attain a service under €25k, you must get at least three written quotes for the piece of work. Please see the procurement guide for further information.

Q9. What is a register of opportunities?
This is where you identify what projects could be done in a community. At first, all possible projects can be included. Then, with your external consultant, these can be put in order of most economical and possible within the community. Often a typical cost and a timeframe for the savings to come back to the community is included. For example, you may have a project to upgrade the lighting in all of the shops in the town. This type of project typically returns savings within one year, so it is likely that you might start with that project. On the other hand, a solar photovoltaic project might take 15 years to return savings so that would be later on the register of opportunities.

Q10. What is the technical panel?
The technical panel is a group of companies that were successful in applying to provide technical services to SECs on behalf of SEAI. It is expected that half of this support can be provided on site and half from their own location/desk. SEAI tendered this service in 2016 and the panel are in place for up to 3 years at which point, if required, we can tender again.

Q11. What are the reporting requirements?
There are 4 milestone payments available per year. This is to help you with cash flow. It also helps us manage our budget but if you only want to draw down funding once per year that is fine with us. Once your work plan is agreed and you receive a letter of offer from SEAI, you can start your community energy activities.

GENERAL

Q12. What if I no longer wish to participate in the programme?
No problem. You can stay as a part of the network and observe from afar, or choose to be off the mailing list. Please email sec@seai.ie if you wish to do so.

Q13. What if we don't want to go through the BEC programme?
In addition to the new SEC Pilot Grant, there are other options through which you can access funding, depending on the objectives and needs of your community. There are some SEAI grants and programmes, such as Warmer Homes or SEAI Schools, which your community could avail of. There are plenty of SEAI and non-SEAI options laid out in the financial resources toolkit.

Q14. GDPR requirements from communities – what is required in the EMPs?
The EU's General Data Protection Regulation (GDPR) came into effect on May 25th 2018 and this introduced changes to how companies and community organisations hold and manage personal data. Data controllers are any organisation (including community organisations) who hold personal data of individuals. All those responsible for the running of community organisations should inform themselves about how the GDPR applies to them and ensure they comply with these obligations. A lot of Energy Master Plans will contain information on residential properties. We ask that, when the Energy Master Plan is provided to SEAI, it is an anonymised copy – this means that all personal data which could identify individuals is removed. SEAI would like to see the energy-related data, such as BERs, relevant energy information on housing stock etc. We do not need to see information such as names and addresses and so these should be withheld from us but maintained for your own records as data controllers. For more information on GDPR and communities, go to https://www.wheel.ie/news/gdpr-dont-let-your-organisation-be-left-behind

Q15. What if we want to join up with another community?
This is a good time to use your network. The network map will show you the location and details of other communities to get in touch with. You can also contact your mentor, who can put you in touch with the appropriate communities.

Q16. Why am I not receiving the newsletters?
In some cases, communities were receiving newsletters directly to their junk mail box. If you have signed up to the network and are not receiving them at all, send us an email at sec@seai.ie.

4.2 Glossary of energy terminology

A

Appliance: a device that operates by electricity. Examples are lights, electric heaters, immersion heaters, washing machines and toasters.

B

Better Energy Programme: the Better Energy Programme is administered by the Sustainable Energy Authority of Ireland (SEAI). Its aim is to improve the quality of our homes and buildings. As part of this, SEAI offers different levels of grants and supports for homeowners and communities, depending on their ability to pay. To find out what supports are available for you visit www.seai.ie/grants.

Bioenergy: the general term for energy derived from solid, liquid and gaseous biomass.

Biofuel: biofuels are liquid or gaseous fuels for transport produced from biomass.

Biomass: the biodegradable fraction of products, waste and residues from biological origin from agriculture (including vegetal and animal substances), forestry and related industries including fisheries and aquaculture, as well as the biodegradable fraction of industrial and municipal waste.

C

Carbon: a molecule present in all living things and fossil fuels.

Carbon dioxide: a colourless odourless incombustible gas present in the atmosphere and formed during respiration, decomposition and combustion of organic compounds. It is used in carbonated drinks, fire extinguishers, and as dry ice for refrigeration. Its chemical formula is CO2. It is one of the primary greenhouse gases.

Carbon footprint: a carbon footprint is a measure of the impact our activities have on the environment, and in particular climate change. It relates to the amount of greenhouse gases produced in our day-to-day lives through burning fossil fuels for electricity, heating, transportation etc.

CHP: Combined Heat and Power: CHP is the simultaneous production of usable heat and electricity from an integrated thermo-dynamic process.

D

Deep Retrofit: defined by SEAI as 'an investment in energy efficiency which saves the homeowner 40% or more on energy bills'. It is generally considered to refer to the application of an extensive package of building energy efficiency improvements that have a high upfront cost, but can lead to significant energy savings. Examples include external insulation, installation of heat pumps, and installation of triple glazed windows.

Distribution System: the system which consists of electric lines, electric plant, transformers and switchgear and which is dedicated to delivering electric energy to an end-user. We recognize the distribution system in our everyday lives from the poles and wires close to our homes.

District heating: refers to heating systems that produce heat energy centrally and supply that energy through a distribution network to more than one end user located in a different buildings or facilities.

E

Eco-driving: eco-driving is a driving style that reduces fuel consumption, greenhouse gas emissions, noise pollution and accident rates. It involves using smart, smooth and safe driving techniques that lead to an average fuel saving of 5-10%.

Electric current: a flow of electrons moving along a wire or conductor.

Electrical energy: the ability of the electric current to do work. It is measured in kilowatt hours (kWh).

Energy demand: the total amount of energy required by users at any one time.

Energy infrastructure: refers to the equipment or 'hardware' needed to convey energy from points of origin to points of use.

Energy Management System: sometimes known as Home Energy Management Systems (HEMS) or Building Energy Management Systems (BEMS). This is where consumers use computer and communications technology to help them manage their energy use, often remotely through applications on their mobile phone or other smart devices.

Energy poverty: an inability to heat or power a home to an adequate degree.

Energy system: the sectors, processes, technologies and consumers of energy.

EV: Electric Vehicle. EVs are vehicles which use one or more battery powered electric motors for propulsion.

Export: the term given to the provision of electricity to the grid. Consumers with their own microgeneration expect to make enough electricity to meet their own needs, and possibly have a surplus that they can sell or export to the grid for others to use. Traditionally consumers did not make their own electricity and they "imported" their electricity requirements from the grid.

F

Fossil fuels: energy resources that are dug, drilled or pumped out of the ground having being created by nature's actions over millions of years on the remains of dead plants and animals. These include coal, natural gas, peat and oil.

Frequency Load Control: this is a circuit fitted to electrical appliances that senses grid conditions by monitoring the frequency of the system and provides an automatic demand response when needed. It relies on the fact that a disturbance of the 50-Hz frequency is a universal indicator of serious imbalance between supply and demand that, if not tackled, leads to a blackout. The controller computer chip can be installed in household appliances and turns them off for a few minutes or even a few seconds to allow the grid to stabilize.

G

Generator: a machine that produces electricity.

Greenhouse gases (GHGs): refer to a wide range of gases that contribute to climate change. These include carbon dioxide, methane and nitrous oxide.

Grid: this is the term given to the interconnected electricity system. It involves electricity generators, the transmission infrastructure, the distribution infrastructure and electrical equipment in each of the consumer's premises. Put simply – "from the wind turbine to the toaster".

H

Hydro power: running water provides the power to drive turbines which generate energy. This power results in electricity being produced.

Hydrocarbons: fossil fuels which consist primarily of carbon and hydrogen, such as oil, coal, peat and gas, are often referred to as hydrocarbons.

I

Import: the term given to the consumption, by consumers, of electricity from the grid. In effect, the electricity is "imported" from the grid. For consumers with their own microgeneration they expect to make enough electricity to meet their own needs, and maybe have a surplus that they can sell or export to the grid for others to use.

K

kW: Kilowatt or 1000 watts (see Watts).

L

Load: electric utility term for the infrastructure that uses the power the utility distributes -- such as homes, businesses, industry, and in-the-field equipment -- thus, locating a power generation or storage device near the load, which means putting it close to where the power will be used.

Low carbon: in the context of this document, low carbon refers to an energy type, an energy system, the use of energy and/or an activity that gives rise to zero or low emissions of carbon dioxide.

M

Microgeneration: is the small scale generation of zero or low-carbon heat and power by electricity consumers to meet at least some of their own needs. This generally means that the scale of generation is of the order of 6-10kW maximum.

Motor: a machine that converts electrical energy into mechanical energy.

MPRN: Meter Point Reference Number. Your MPRN is the unique identifying number for the meter at your property.

MW: Megawatt (1,000,000 watts). One megawatt would be needed to light 10,000 one-hundred-watt light bulbs. If those bulbs were powered for 1 hour, 1MWh of electrical power would be used.

O

Off Peak: this refers to when our electric use/demand is at a minimum, usually late at night. This is the valley of the load curve.

Outage: a power outage (also known as a power cut, power failure, power loss, or blackout) is a short- or long-term loss of the electric power to an area.

P

Peak Demand: if our electricity use is charted out, our everyday use/demand has a curve shape to it. This curve is known in the utility industry as the load curve. The peak of this curve will occur when the most electricity is demanded, usually midday to early evening. During this time the demand is highest (peak demand) and some of it is provided by "peaking" generators that are more expensive to operate - and so the price of electricity is highest at these times.

PV: Photovoltaic panels. This is solar power technology that turns sunlight directly into electricity. Most people will be familiar with the small PV panels that appear on some "solar powered" road signs or lights and also on smaller items such as calculators and watches.

R

Renewable: something that is not depleted through constant use or can be replenished within a relatively short period of time (generally taken to be a human lifespan).

Renewable Energy (RE): energy resources that are naturally replenishing. Renewable energy resources include biomass, hydro, geothermal, solar, wind, ocean thermal, wave action, and tidal action. Renewable energy is often referred to as 'renewables'.

S

Smart Grid: the title given to an electricity grid enabled with computer technology and two-way digital communications networking. The term encompasses the ever widening range of utility applications that enhance and automate the monitoring and control of electrical distribution networks for added reliability, efficiency and cost effective operations.

Smart meter: an advanced utility meter for electricity, natural gas or water that includes two-way communications technology. In an electricity smart meter, it has the ability to identify

consumption in more detail than a conventional meter and communicates that information, via some network, back to the utility companies for monitoring and billing purposes.

Sustainable Energy: the harnessing and use of those energy sources:

- that are not substantially depleted by continued use
- the use of which does not entail the emission of pollutants or other hazards to the environment on a substantial scale
- the use of which does not involve the perpetuation of substantial health hazards or social injustices

Sustainable energy encompasses both energy efficiency and renewable energy, but is a broader concept than both.

Sustainable Energy Communities (SEC): the SEC concept originated in 2007 with Dundalk 2020, part of the EU HOLISTIC project, led by SEAI and Louth Co Council. SEAI have now established the SEC Network, a support network designed to enable a better understanding of how communities use energy and to identify opportunities to save energy across all sectors. The network's core purpose is to build energy capacity and competencies in communities across Ireland. Communities can also sign up to a three year partnership agreement to access mentoring, technical and financial supports.

T

Tariff: the pricing scheme used to bill customers for electricity use.

Transition Towns: an international network of local groups focused on building energy security and tackling climate change was pioneered in Kinsale and Devon in 2006. It advocates a community-led response to climate change and fossil fuel dependency. There are several hundred transition towns now, including nine in Ireland.

Transmission System: the system of high voltage lines, large pylons, large transformer stations etc. used for conveying electricity from a generating station to the distribution system (and to some large customers).

Turbine: rotors or blades that spin when driven by steam, gas, water or wind.

U

Unit: consumption of electricity is measured in units. A unit of electricity is a kilo-Watt-hour, denoted as kWh. So 1kWh is one unit.

Utility: a large firm that owns and/or operates facilities used for generation and transmission or distribution of electricity, gas or water to the general public.

W

Watt (W): a Watt is the standard unit of electrical power. 1,000 Watts is called a kilowatt (kW). A traditional incandescent light bulb might be rated at 40 Watts.

Watt hour (Wh): 1 watt hour is the amount of electrical energy consumed by a 1-watt load over a period of one hour. For example, a 100 watt light bulb (a 100-watt load) uses 100 watt-hours of energy every hour. Rather confusingly, watt-hours are sometimes used to describe "power." This is incorrect. Watt hours are a measure of energy transferred, i.e., the product of power (W) x time (hours).

4.3 List of useful acronyms

AMR Advanced Meter Reading
BEC Better Energy Communities
BEH Better Energy Homes
BER Building Energy Rating
CRAG Carbon Rationing Action Group
EEOS Energy Efficiency Obligation Scheme
EMP Energy Master Plan
FIT Feed in Tariff
ILDN Irish Local Development Network
LARES Local Area Renewable Energy Strategy
LCDC Local Community Development Committee
LDC Local Development Company
LZC Low and Zero Carbon
MW Mega Watt
R&D Research and Development
RE Renewable Energy
REDZ Rural Economic Development Zones
REFIT Renewable Energy Feed in Tariff
SEAI Sustainable Energy Authority of Ireland
SEC Sustainable Energy Community
SME Small and Medium Sized Enterprise

4.5 Resources listings

The following is a list of further resources that you can download from www.seai.ie/sechandbook

LEARN

- Case studies
- Previous newsletters
- Network application form
- SEC Information slide deck, flyer and poster

PLAN

- Community charter
- Community charter guidelines
- Competencies assessment
- Competency assessment example
- Energy Master Plan funding application form
- Sample Energy Master Plan data collection fields
- Sample Register of Opportunities

DO

- Funding resource toolkit
- Guidelines on the Technical Panel
- Guidelines for SEC Pilot Grant application

4.4 Community Charter template

[Insert Your SEC Name Here]

Our Vision...
[insert text]

We will do this by...
[insert text]

We will work together...
[insert text]

We commit to:
- [insert text]
-
-
-
-
-
-

This is a screenshot of the template we have made for you to customise. The Template can be found at the following link: www.seai.ie/sechandbook

The template is created in A3 format to allow sufficient space for content and signatures.

It is not necessary to use the headings we have provided for you – please edit as required.

Please include your own SEC logo / imagery if you want to personalise the visual look.

You may edit this commitment statement to suit the text of the Charter above.

We the undersigned are fully supportive of the vision, aims and commitments outlined above. We sign this Community Charter on behalf of:

[Insert name of your SEC here]		**[Insert Date here]**	
Signature:	Position / Title:	Signature:	Position / Title:

You may add or remove lines for signatures. It is not necessary to fill in all of the lines created however it is recommended to have the Steering Committee sign your Charter along with any other key partners.

The section for SEAI's counter-signature is fixed and should not be edited.

SEAI Commit to supporting your SEC for the duration of this three-year Partnership Agreement to help you deliver your sustainable energy ambitions.

Signature:	Print Name:	Position / Title:	Date:

seai SUSTAINABLE ENERGY AUTHORITY OF IRELAND
Sustainable Energy Communities Network

4.6 Estimating Your Energy Spend

The following proxies are aids to help you establish an approximate level of energy spend for your SEC as part of your Energy Master Plan funding application. Your mentor will also be able to assist you in identifying a basis for estimating your energy spend.

1. Residential: In 2016, the average Irish dwelling consumed approximately 18,524 kWh of energy, 58% of which was direct heating fuel (primarily oil and gas) and 25% of which was electricity.[1]

Based on current energy prices this equates to a typical electricity spend of €1006.48[2] and a typical gas spend of €780.80[3] per year for a 3-bedroom house. Tables 1 and 2 in SEAI's Your Guide to Building Energy Rating also provide indicative BER rating grades for typical homes based on age and heating type and associated annual running costs for space and water heating based these bands.

2. Transport: The average Irish private motorist usually drives the following amount on an annual basis:

- 17,000 kilometres (10,500 miles) on average for petrol vehicles.
- 24,000 kilometres (15,000 miles) on average for diesel vehicles.

Using average real-world consumption values for economical driving at current average fuel prices this equates to an annual spend of €1,525 per car for petrol vehicles or €1,680 for diesel.[4]

3. Business:

- Small business - low volume: up to €10,200 annually on gas / €5,100 on electricity.
- Medium business - medium volume: up to €36,000 annually on gas / €21,000 on electricity.
- Large business - high volume: about €36,000 or more annually on gas / €21,000 or more on electricity.

[1] Source: https://www.seai.ie/resources/publications/Energy-in-the-Residential-Sector-2018-Final.pdf
[2] Source: https://switcher.ie/gas-electricity/guides/energy-bills/what-is-the-average-gas-and-electricity-bill-in-ireland/
[3] Source: https://switcher.ie/gas-electricity/guides/energy-bills/what-is-the-average-gas-and-electricity-bill-in-ireland/
[4] Source: http://www.theicct.org/real-world-fuel-consumption-popular-european-passenger-car-models

4.7 Estimating Your Time Inputs

Included here is a sample table to assist you in estimating the time required to carry out community engagement and your Energy Master Plan (Year 1) activities.

WORK DONE ALREADY			
SEC Network and Development	Number of people involved	Average hours per person	Total hours
Community engagement and meetings			
Research and consultation			
Total Hours			

PROPOSED ACTIVITIES FOR EMP			
Energy Master Plan Activities	Number of people involved	Average hours per person	Total hours
Survey of energy users (house calls, Chamber of Commerce engagement etc)			
Energy Use Data Collection			
Review of energy data			
Communicating of results to community			
Identification of solutions			
Total Hours			
Total value (*€21.90 per hour)