

Explanatory Note for SEAI's LA-CAP Dashboard

*Supporting **Local Authorities** in the development of their **Climate Action Plans** through the launch and engagement-led development of an energy and investment dashboard*

Ver 2.0 (01-November-2023)

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1 Introduction

1.1 Local Authority Climate Action Plans (LA-CAPs)

Under the *Climate Action and Low Carbon Development (Amendment) Act 2021*, local authorities (LAs) are required to prepare local authority climate action plans (LA-CAPs) that speak to local mitigation and adaptation measures, and update these plans once every five years. These LA-CAPs are additional to the local authority renewable energy strategies (LARES).

LA-CAPs must support the national action plan, while being consistent with the national long-term strategy and the national adaptation framework:

- Climate Action Plan 2021 - [link](#)
- Long-term Strategy on Greenhouse Gas Emissions Reduction - [link](#)
- National Adaptation Framework (NAF) - [link](#)

To support LAs in researching and developing their LA-CAPs, the **Sustainable Energy Authority of Ireland** (SEAI) has prepared a dashboard to help visualise and summarise key energy-related data, broken down to the LA-level. The LA-CAP dashboard will allow local authorities and the public to explore different types of energy related data – wind capacity, number of home energy upgrades, BERs, etc – in an intuitive visual way, while allowing for the downloading of data in a spreadsheet.

1.2 Overview of LA-CAP Dashboard

SEAI has no direct role or mandate in setting the content or structure of individual local authority climate action plans. The LA-CAP dashboard is simply a tool developed by SEAI to make key energy data available to local authorities, for consideration in planning and informing their action plans.

SEAI hopes that increasing the visibility and transparency of energy-related data across neighbouring LAs will lead to greater consistency and coherency across local authority climate action plans being proposed in the same general region.

The current release of SEAI's LA-CAP dashboard provides local authority level summaries in the following areas:

1. **Home Energy Upgrades**
2. **Domestic BER**
3. **Domestic Renewables**
4. **Heat Demand**
5. **Electric Vehicles**
6. **Wind Farms**
7. **Solar Farms**

The dashboard allows LAs to explore these energy topics in an intuitive visual way and download the data for their own analysis. This explanatory note aims to explain the operation of the dashboard and draw attention to any relevant technical details and caveats that may assist with the interpretation of this data.

➔ SEAI's local authority climate action plan (LA-CAP) dashboard can be accessed [here](#)

SEAI intends to revise and extend each release of the LA-CAP dashboard, to accommodate requests and suggestions from the local authorities and other users, as best it can, with the data it has available. It will do this through direct consultation, and through collecting questions, data requests, or suggestions to epssu@seai.ie

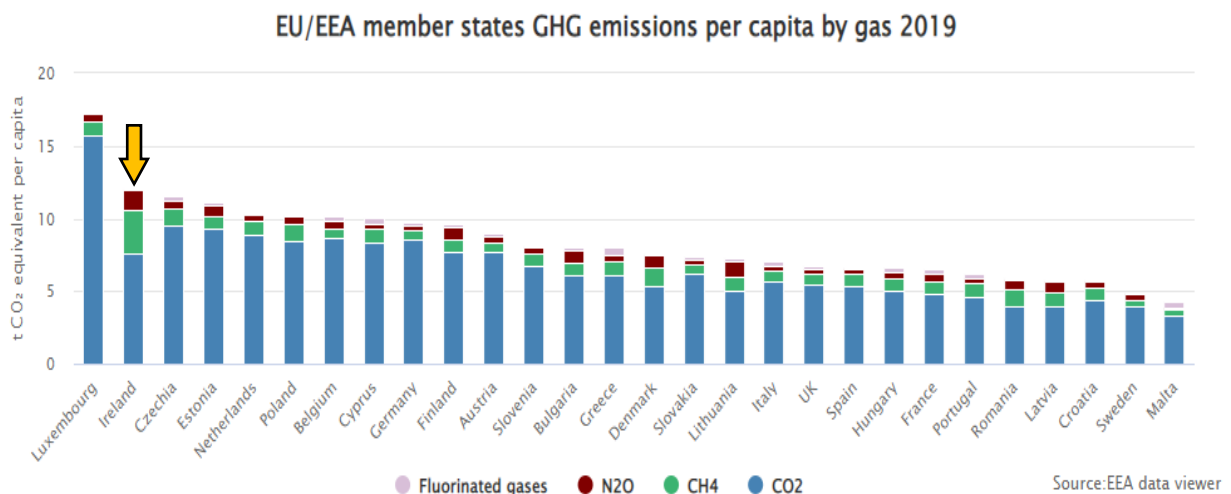
1.3 Selected Overview of Climate Ambitions and Targets

More than 150 countries, accounting for over 90% of global greenhouse gas (GHG) emissions pledged a net zero ambition in the [COP26 outcomes](#). Specific programmes include reversing forestry loss and degradation by 2030, speeding up the switch to electric vehicles, and reducing methane emissions. In 2022, COP27 will submit further stronger emission reduction targets, aiming to limit global warming to 1.5°C.

As part of its [Green Deal](#), the European Council has committed Europe to carbon neutrality by 2050, and published a [Fit for 55 Package](#) that aims to reduce GHG emissions by 55% by 2030 (from 1990 levels). This package includes an EU-wide target of 40% for renewable energy share, and 49% renewable energy for residential use, as well as an annually increasing share of renewable energy in heating and cooling (1.1% per year, in absolute terms).

The Irish Government has committed to a 51% reduction in carbon emissions by 2030 (from 2018 levels), and to a net-zero target by 2050. The [Climate Action Plan](#) includes many actions and supports to achieve these targets, and these are updated annually to keep the plan dynamic and current.

For international reference, Ireland’s 2019 per capita GHG emissions were the 2nd largest in the EU, with the highest per capita methane emissions, due to its large agricultural sector.

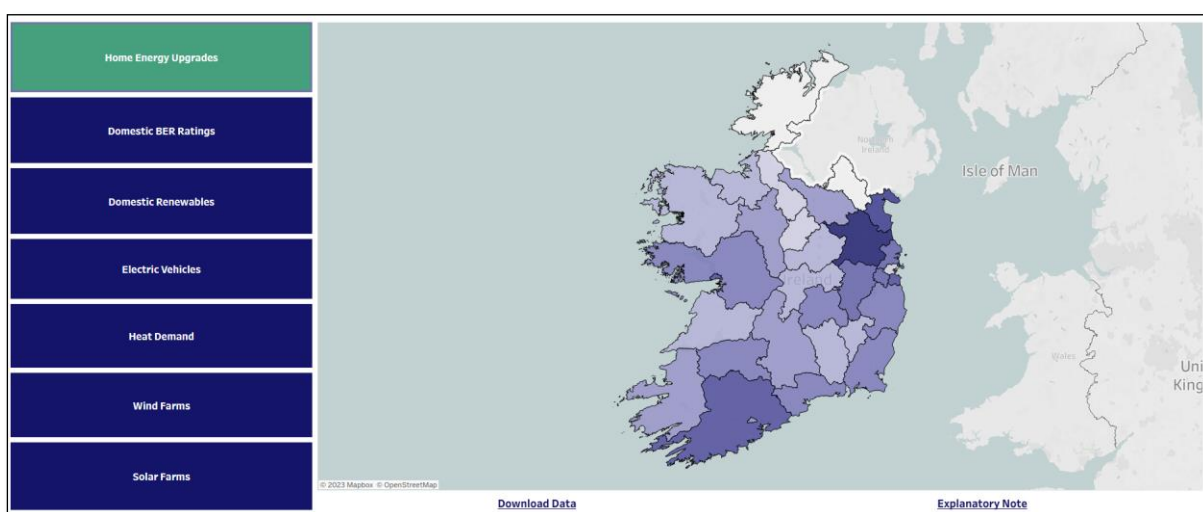


2 Interacting with the LA-CAP Dashboard

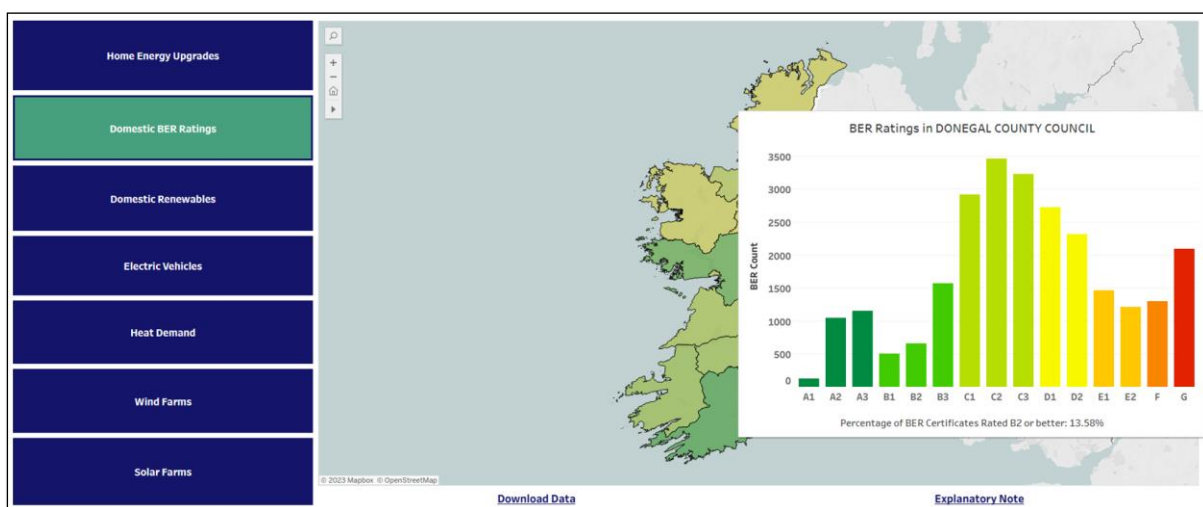
➔ SEAI’s local authority climate action plan (LA-CAP) dashboard can be accessed [here](#)

On the left of the dashboard, you can choose the energy topic that you want to explore. Clicking one of these topic “buttons” updates the map on the right of the dashboard. Please note that it might take a few seconds for the data to upload, especially the first time you use the dashboard.

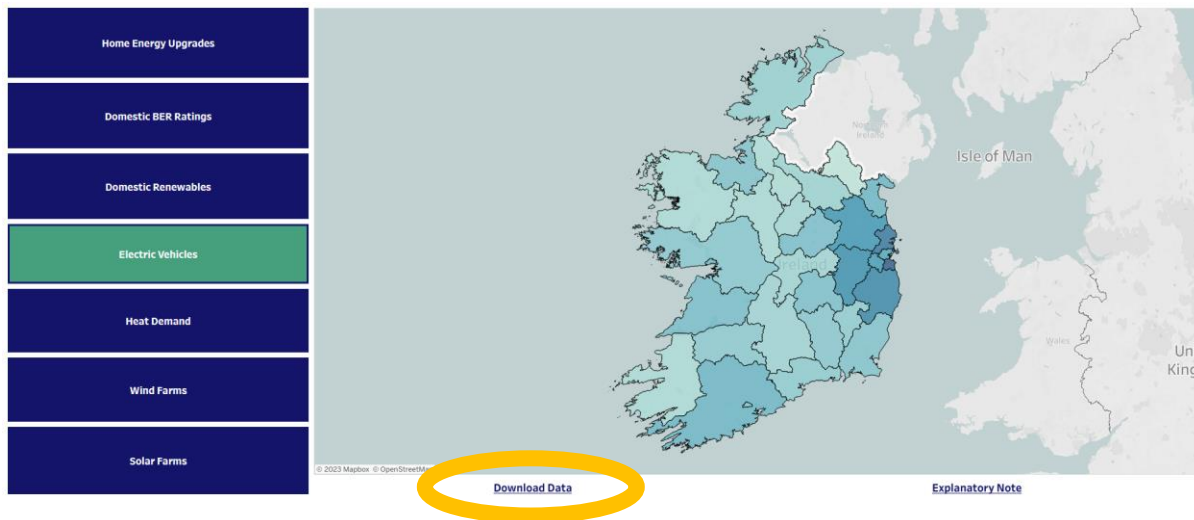
The **colour density** of the local authority map-areas scale with some representative value related to the topic. In the case of the *wind energy* example below, the darker the shade of green, the more connected wind power capacity exists in that LA. The details of the colour density for each energy topic are further described in Sections 3-8 of this note



Hovering your cursor above a particular LA map area activates a **data window**, which provides further details on the local authority level. In the case of the *Domestic BER Ratings* example below, data window shows the distribution of BER ratings across residential buildings in *Donegal County Council*, and the percentage of BERs rated B2 or better.



Clicking the **download data** button, below the map area, downloads and opens a spreadsheet. This spreadsheet includes multiple worksheets or “tabs” – one for each energy topic – that includes all relevant data used to determine the colour density of the maps, information in the data windows, etc.



The dashboard is designed to be explored, so please feel free to investigate the different map layers, data windows, and download the supporting data for your own analysis.

Sections 3-8 in this explanatory note provide more detail on each energy topic in the dashboard, under the following headings:

- **Background** (with links to relevant SEAI, EPA, and CSO publications)
- **What the Dashboard Shows** (explaining the colour density, data window, and download)
- **Technical Details of Data Collection & Presentation**
- **Possible Considerations and Uses for LA-CAPs**

3 Home Energy Upgrades

A Background

A home energy upgrade is any measure taken by a homeowner to improve the energy efficiency of their home, from simple measures like installing heating controls to more complex measures like external wall insulation. Whatever home energy upgrade being undertaken, homeowners can avail of financial assistance to carry out these works through one of SEAI's several grant schemes.

- **Individual Energy Upgrade Grants:** formerly the *Better Energy Homes* grant scheme, this scheme is for homeowners and private landlords who choose to manage their own home energy upgrades. This gives them the flexibility to take a step-by-step approach, carrying out different upgrades over time to suit their budgets. With this grant route, homeowners select a SEAI registered contractor and apply for a grant which is paid directly to the homeowner once the works have been completed.
- **Fully Funded Energy Upgrades:** formerly the *Warmer Homes Scheme*, this scheme is for homeowners who receive certain welfare payments. Eligible applicants will have their home assessed by an SEAI surveyor who will make recommendations for certain energy upgrade measures. SEAI appoint a contractor to carry out the upgrade works, and the cost of the upgrades are fully funded by SEAI.
- **One-Stop-Shop Service:** this scheme offers homeowners all the services required for a complete home energy upgrade. A registered one-stop-shop operator manages the entire process, from initial home assessment through to the final BER assessment. Through this scheme, homeowners can avail of up to 50% of the cost of the works.
- **Community Energy Grants:** each year SEAI supports multiple community projects across Ireland. These projects are aimed at delivering energy savings to homeowners, community groups, private sector organisations and public sector bodies, and the community energy grant scheme is in place to provide financial assistance to these projects.

B What the Dashboard Shows

The **colour density** of the map-areas in the *Home Energy Upgrades* dashboard scale with *the ratio of property upgrades to the number of homes constructed before 2011*. **Note that a “property upgrade” in this context refers to grant and rather than a unique dwelling.** Several homes avail of multiple grants through the individual energy grant scheme. The darker a LA map area appears, the higher the proportion of property upgrades to pre-2011 homes in that local authority.

Hovering the cursor above a particular LA map area activates a **data window**, which details the total number of property upgrades per grant scheme, as well as a pie-chart of the total funding per grant scheme in the local authority.

Clicking the **download data** button below the map area downloads and opens a spreadsheet with a *Home Energy Upgrades* worksheet. This worksheet provides the number home energy upgrades and the total funding per grant scheme, as well as the property upgrade ratio that determines the map colour density.

C Technical Details of Data Collection & Presentation

- The Home Energy Upgrade data in the dashboard is sourced from SEAI's various grant scheme databases, which have been collated and aggregated by SEAI's National Retrofit team.
- **Data in the dashboard only reflects all grants issued from 2015 onwards, thus the home energy upgrade dashboard is not a complete history of grant numbers or funding amounts.** Please contact SEAI at epsu@seai.ie to request additional information on grants from 2009 onwards.
- The property upgrade ratio uses the number of homes built before 2011 as this is generally the cut-off date for grant scheme eligibility (with certain exceptions e.g. renewable technologies).
- The number of residential properties built before 2011 is calculated using data from the 2022 Census of Population.

D Possible Considerations and Uses for LA-CAPs

Local authorities might use the *Home Energy Upgrade* data in the LA-CAP dashboard, and the following possible considerations, to inform their local mitigation and adaptation measures:

Local authorities might use the *Home Energy Upgrade* data in the LA-CAP dashboard, and the following possible considerations, to inform their local mitigation and adaptation measures:

- Understanding the number of properties in their region that have received SEAI upgrades.
- Understanding the uptake of the different types of SEAI grants in their region.
- National targets of 500,000 home retrofits to a B2 standard by 2030 - [link](#)
- Locally promoting the uptake of SEAI's home energy upgrade schemes - [link](#)
- Raising community awareness of energy saving potential at home - [link](#)
- Identifying and supporting local registered energy professionals - [link](#)

4 Domestic BER (Building Energy Ratings)

A Background

A building energy rating (BER) is an estimate of the energy performance of a domestic dwelling, based on assessment of its structure and features. BER assessments include the energy used for heating, cooling, ventilation, and lighting, but not for cooking, food refrigeration or entertainment. The most efficient dwellings are rated A1 – these are rated as consuming less than 25kWh, per meter-squared of floor-space, per year, i.e. $\leq 25 \text{ kWh/m}^2/\text{y}$. The least efficient dwellings have energy consumptions greater $450 \text{ kWh/m}^2/\text{y}$. BERs are important indicators of how well homes are insulated. Typically, the higher the rating, the less heat a house loses, and so the less energy is needed to keep it at a comfortable temperature. Since 2019, the minimum standard for a new dwelling is typically A2. Not every residential building has a BER certificate. BER certificates are only required for new builds, at the sale or rent of a property (barring some exemptions, e.g. protected structures), and may also be generated for upgrade assessments. A BER certificate can be obtained from a qualified assessor at any time, but older housing stock may not have a certificate. The Climate Action Plan targets a retrofitting 500,000 homes to B2 BER cost optimal equivalent or carbon equivalent, by 2030. For more details, please see:

- SEAI's *Understand a BER* page - [link](#)
- SEAI's *A Guide to Building Energy Rating for Homeowners* PDF – [link](#)
- SEAI's BER map - [link](#)
- Government's *Climate Action Plan 2021 - Securing Our Future* page – [link](#)
- CSO's *Domestic Building Energy Ratings* page - [link](#)

B What the Dashboard Shows

The **colour density** of the map-areas in the *BER* dashboard scale with *the percentage of dwelling BERs rated B2 or better in that LA*. The darker a LA map area appears, the more dwellings with a rating of B2 or higher, as a percentage of the total number of residences, in that local authority.

Hovering the cursor above a particular LA map area activates a **data window**, which shows a bar-chart distribution of BERs across dwellings in the local authority, and the percentage of residences with BERs rated B2 or better.

Clicking the **download data** button below the map area downloads and opens a spreadsheet with an *BER* worksheet. This worksheet provides the number of BERs per rating (existing, final and provisional), the number of residences, and the BER coverage ratio (the number of BERs in a local authority area compared to the total number of residences)

C Technical Details of Data Collection & Presentation

- The BER data in the dashboard is sourced from SEAI's *National BER Register* - [link](#)
- Non-domestic BERs are not included in the dashboard's data.
- BERs are attributed to specific local authorities using the address of the dwelling, based on county, locality, or principal post town, for Dublin, Cork, and Galway.
- The dashboard includes existing, final, and provisional BERs. Provisional BERs are created for “off the plan” new builds and are reassessed when construction is complete.

- A BER certificate is valid for up to 10 years, unless the owner makes changes that will impact the dwelling's energy performance, e.g., a new house extension or a new heating system for example.
- Expired BERs are not included in the dashboard's data
- The percentage of residential properties with a current or provisional BER certificate is calculated from the current and planned housing stock in *GeoDirectory* - [link](#)

D Possible Considerations and Uses for LA-CAPs

Local authorities might use the *BER* data in the LA-CAP dashboard, and the following possible considerations, to inform their local mitigation and adaptation measures:

- Identifying the number and types of housing stock that are available for upgrades and retrofits.
- Combining LA-level data with more granular data from SEAI's BER Map - [link](#)
- Locally promoting the uptake of SEAI's home energy upgrade schemes - [link](#)
- Identifying and supporting local BER assessors - [link](#)
- Identifying and supporting local registered energy professionals - [link](#)

5 Domestic Renewables

A Background

Ireland's Climate Action Plan has a target of installing 400,000 heat pumps in existing homes, and 280,000 in new homes. Additionally, under EU regulations (S.I. No. 183 of 2019), renewable energy technologies must now make a significant contribution to the energy requirements of any newly constructed dwelling. These domestic renewable technologies refer to either heat pumps or solar photovoltaic (PV) panels.

A heat pump draws heat from a low temperature source, such as external air or ground, and uses it to heat the interior of a building. While the primary energy source of a heat pump is electricity, a heat pump will typically produce three to four units of heat for every unit of electricity consumed, making it one of the most efficient heating systems available to homeowners.

Solar PV panels installed on a rooftop convert solar radiation into electrical current, which can then be used as an energy source in the home. While solar PV cannot be used to heat a home to the same extent as a heat pump, they do reduce a homeowner's demand for grid-sourced electricity and therefore offer significant reductions in energy bills.

B What the Dashboard Shows

The **colour density** of the map-areas in the *Domestic Renewables* dashboard scale with *the proportion of BER records with an installation of either renewable technology in that LA*. The darker a LA map area appears, the more BER records with *either* a heat pump or solar PV installation in that local authority.

Hovering the cursor above a particular LA map area activates a **data window**, which shows a bar-chart of the number of heat pumps and solar PV installations across assessed dwellings in the local authority, as well as the associated proportions.

Clicking the **download data** button below the map area downloads and opens a spreadsheet with a *Domestic Renewables* worksheet. This worksheet provides the number of BER assessments reporting a heat pump or solar PV installation at the **electoral division level**.

C Technical Details of Data Collection & Presentation

- The Domestic Renewables data in the dashboard is sourced from SEAI's *National BER Register* - [link](#)
- Dwellings with heat pump installations are identified as those where the main fuel source for space heating is electricity, and where the efficiency of the heating system is greater than 100%.
- Numbers of heat pumps and solar PV installations account only for homes with BER certificates, thus these figures represent an *assumed minimum number of installations* rather than a complete total.

D Possible Considerations and Uses for LA-CAPs

Local authorities might use the *Domestic Renewables* data in the LA-CAP dashboard, and the following possible considerations, to inform their local mitigation and adaptation measures:

Local authorities might use the *Domestic Renewables* data in the LA-CAP dashboard, and the following possible considerations, to inform their local mitigation and adaptation measures:

- Understanding uptake of domestic heat pumps and solar PV in their region.
- National targets of 400,000 heat pumps in existing dwellings, and 280,000 in new dwellings by 2030 - [link](#)
- Requirement for renewable energy to contribute significantly to the energy use of new dwellings - [link](#)
- Locally promoting the uptake of SEAI's home energy upgrade schemes for heat pumps and solar PV - [link](#)
- Raising community awareness of energy saving potential at home through renewable technologies - [link](#)
- Identifying and supporting local registered energy professionals - [link](#)

6 Heat Demand

A Background

Demand for energy can be broadly broken down into heat, transport, and electricity use. Use of energy for “heat” covers everything from household water and space heating, to cooking, to the very high temperatures used in industrial processes. There are several ways to decarbonise the energy needed for heat, with preferred solutions depending on the nature of the heat being used. Better insulation of offices and homes leads to reduced heat loss, lowering building heat demand. Additionally, the carbon footprint of homes and offices can be significantly reduced by replacing gas, oil, or solid-fuel boilers with heat-pumps, which use an increasingly decarbonised national electricity supply to heat homes. The climate action plan has a target of installing 400,000 heat pumps in existing homes, and 280,000 in new homes. The use of zero or low carbon fuels, such as hydrogen or biomethane, can reduce the carbon footprint of high temperature industrial processes. The climate action plan also calls for a target of 2.7 TWh of district heating energy demand by 2030. For more details, please see:

- SEAI’s *National Heat Study* page – [link](#)
- SEAI’s *Heat Demand* map - [link](#)
- SEAI’s *Geothermal* map - [link](#)
- Government’s *Climate Action: Energy Efficiency in Buildings* page - [link](#)

B What the Dashboard Shows

The **colour density** of LA map-areas in the *heat demand* dashboard scale with *the per capita residential heat demand in each LA*. The darker a LA map area appears, the higher the residential heat demand per capita

Hovering the cursor above a particular LA map area activates a **data window**, which shows the total heat demand for the LA, broken down across residential, commercial, industry, and public sector use, as well as the per capita residential heat demand.

Clicking the **download data** button below the map area downloads and opens a spreadsheet with a *heat demand* worksheet. This worksheet provides the heat demand for residential, commercial, industry, and public sector use, as well as the LA population from the 2016 CO census.

C Technical Details

- SEAI’s *National Heat Study* provides a comprehensive review of heat demand in Ireland - [link](#)
- Heat demand data in the dashboard is sourced from SEAI’s *Heat Demand Map* - [link](#)
- Heat demand is assigned to specific local authorities based on the local of the small area population statistics (SAPS) defined by the CSO.
- As per the methodology used in SEAI’s Heat Study, electrical appliances used to provide heat are counted under heat demand.
- “Heat demand” is defined as the *energy used* for heating and cooling not temperature changes that arise from heating

D Possible Considerations and Uses for LA-CAPs

Local authorities might use the *heat demand* data in the LA-CAP dashboard, and the following possible considerations, to inform their local mitigation and adaptation measures:

- Key actions for sustainable heat as identified in SEAI's National Heat Study - [link](#)
- Promoting the uptake of SEAI's home energy upgrade schemes - [link](#)
- Promoting awareness of heat pumps and available supports - [link](#)
- Raising community awareness of energy saving potential at home - [link](#)
- Highlighting and encouraging simple energy saving tips with local residences and business - [link](#)
- Identifying potential for district heating, including "anchor loads" from hospitals, factories, offices, etc.
- Identifying geothermal resources and opportunities to use them – [link](#)
- Identifying potential for large scale heat sources, such as solar thermal farms to drive district heating

7 Electric Vehicles

A Background

The transport sector accounts for a large portion of Ireland’s energy related CO₂ emissions. In 2020, transport emissions were 11.2 MtCO₂ (Million Tonnes of Carbon Dioxide). Private vehicles accounted for 4.7 MtCO₂ of these emissions, despite COVID travel restrictions in that period. Electric vehicles (EVs) are a low or potentially zero carbon alternative to traditional fossil-fuel vehicles and offer a means of reducing diesel and petrol use, and so lowering CO₂ emissions. The national Climate Action Plan targets 845,000 private car EVs and 95,000 light commercial EVs on the road by 2030. To achieve these targets, a very significant fraction of all new vehicle licenses (approx. 120,000 per year) will need to be “pure” battery electric vehicles (BEV) or plug-in hybrids (PHEV). By 2030 all new and second-hand imported private cars will need to be EVs. For more details, please see:

- SEAI’s *Electric Vehicle* web-page - [link](#)
- SEAI’s 2021 *Energy in Ireland, Section 7.2* PDF – [link](#)
- EPA’s *Opportunities to Decarbonise the Irish Transport Sector, Section 3* PDF - [link](#)
- CSO’s *National Travel Survey 2019, Electric Vehicles* page - [link](#)

B What the Dashboard Shows

The **colour density** of LA map-areas in the *electric vehicle* dashboard scale with *the number of charger grants awarded by SEAI, as a proportion of the total private vehicles registered in that LA* (based on 2020 data). The darker a LA map area appears, the higher the number of charger grants as a proportion of total vehicles.

Hovering the cursor above a particular LA map area activates a **data window**, which shows the number of grants issued for domestic chargers, privately owned vehicles, and commercial vehicles, and a pie-chart that shows the Euro amount of these grants.

Clicking the **download data** button below the map area downloads and opens a spreadsheet with an *Electric Vehicles* worksheet. This worksheet provides the number of grants and their Euro amount, as well as a count of the total vehicles, in **each electoral division**.

C Technical Details of Data Collection & Presentation

- The electric vehicle data in the dashboard is *currently* sourced solely from SEAI grant databases
- While most battery electric vehicles (BEVs) are new and receive an SEAI grant, an increasing share of plug-in hybrid electric vehicles (PHEVs) are pre-owned imports from the UK. Table TEM27 from the CSO provides “New and used private cars licensed for the first time by licensing authority, fuel type and month” - [link](#)
- Data on vehicle grants (number and euro amounts) are based on SEAI investments from 2012-to-date; Data on charger grants (number and euro amounts) are based on SEAI investments from 2018-to-date
- Privately owned vehicles data per LA are sourced from the CSO’s 2020 transport omnibus - [link](#)
- The number of grants and their euro amounts are given for battery electric vehicles (BEVs) and Plug-in Electric Hybrid Vehicles (PHEVs) until 2021, and BEVs only from the start of 2022

- Light commercial vehicles are defined as [category N1](#) only (i.e. maximum mass < 3.5 tonnes)

D Possible Considerations and Uses for LA-CAPs

Local authorities might use the *electric vehicles* data in the LA-CAP dashboard, and the following possible considerations, to inform their local mitigation and adaptation measures:

- By 2023, where possible, all conventional vehicles purchased by the State will be BEVs
- Ireland has committed to the sale of no new non-zero-emission cars and vans by 2035
- Provision of public recharging facilities
- Identifying and addressing “dead zones” in the geographic distribution of EV charging points
- Investigating local taxation and parking incentives for EVs
- Controls on vehicle pollution in existing and planned “green zones”
- Co-ordination with green routes, micro-mobility solutions, and public transport, including parking and storage facilities, and *BusConnects* - [link](#)
- Ensuring new housing and commercial sites and developments are “EV ready”
- Raising local awareness of incentives for EVs – [link](#)

8 Wind Farms

A Background

Electricity generated from renewable energy sources is a very effective manner of decarbonising a variety of energy end uses. Renewable electricity supply can directly replace electricity from fossil fuels without requiring changes to the supply chain or end use technology. Irelands abundant renewable energy resources can be further leveraged through electrification of sectoral end-use, using EVs, heat pumps, and other technologies.

Electricity generated from wind turbines is the leading source of carbon-free electricity in Ireland, and the fastest growing source of electricity in Ireland. In 2020, Ireland had a total installed wind capacity of 4.3 GW. This installed capacity generated 11.6 TWh of electricity, which was 36% of Ireland's total electricity generation that year. In 2020, wind generated more electricity than was needed by the entire residential sector in Ireland. The steady increase in wind generation, and its successful integration into the national grid, have been the primary driver behind reductions in Ireland's carbon intensity of electricity over the last decade. The government's *Climate Action Plan* includes a commitment to the installation of at least a further 4 GW of onshore wind generation, and 5 GW of offshore wind generation by 2030. It also calls for 30 GW of offshore wind generation by 2050. Electricity from wind generation is a key driver of the Ireland's target of achieving 80% of electricity generation from renewable sources by 2030.

The cumulative maximum export capacity (**MEC**) of a renewable source can be used to compare deployment of a specific technology across counties, but it is not a good comparison *across* technologies. 1 MW of MEC from Wind, Hydro, and Solar PV technologies will generate significantly different amounts of electricity. Wind farms in Ireland typically have an average pre-curtailment capacity factor of around 30% - the electricity they generate is approximately 30% of their MEC value. For more details, please see:

- Government's *Climate Action Plan 2021 - Securing Our Future* page – [link](#)
- Government's *Renewable Energy* page (wind, micro-generation, and renewable supports) – [link](#)
- Government's *Renewable Energy Feed-in Tariff (REFIT) Scheme* page – [link](#)
- SEAI's *Wind Energy* page - [link](#)
- SEAI's *Wind Atlas* map - [link](#)
- SEAI's *Community Energy Resource Toolkit for Onshore Wind* PDF - [link](#)
- Teagasc's *Wind Energy* page - [link](#)
- NUI-Maynooth's *All Island Research Observatory (AIRO)* – [link](#)

B What the Dashboard Shows

The **colour density** of LA map-areas in the *wind generation* dashboard scale with *the currently connected wind generation capacity in that local authority*. The darker a LA map area appears, the more connected wind capacity exists in that LA.

Hovering the cursor above a particular LA map area activates a **data window**, which shows the number of wind farms in the local authority (currently connected and planned), and the maximum export capacity of those wind farms (currently connected and planned).

Clicking the **download data** button below the map area downloads and opens a spreadsheet with a *wind energy* worksheet. This worksheet provides the name, reference number, maximum export capacity, and status (connected, contracted, or planned) of all grid-connected wind farms in the country.

C Technical Details of Data Collection & Presentation

- The names and maximum export capacity of wind farms in the dashboard are sourced from *Eirgrid* (TSO – 110 kV and above) and *ESB-Networks* (DSO)
- The quoted maximum export capacity (MEC) is the maximum capacity contracted to the grid
- The quoted planned capacity is a combination of wind farms contracted to Eirgrid, or ESB-Networks, or those successful in the RESS-1 auction – [link](#)
- The electricity generated by a wind farm is not the same as the maximum export capacity from that wind farm.
- In 2020, the average electricity generated from wind farms was 31.3% of the quoted MEC

D Possible Considerations and Uses for LA-CAPs

Local authorities might use the *wind generation* data in the LA-CAP dashboard, and the following possible considerations, to inform their local mitigation and adaptation measures:

- Government’s *Framework for Offshore Electricity Transmission System* - [link](#)
- SEAI’s *Methodology for Local Authority Renewable Energy Strategies* - [link](#)
- Highlighting and accessing *Community Benefit Funds* - [link](#)
- Opportunities to support grid connections through the planning process
- Prioritising, or protecting, key areas for wind generation sites
- Supporting and promoting SEAI *Sustainable Energy Community* projects - [link](#)

9 Solar Farms

A Background

Solar-PV (photovoltaic) panels generate electricity from sunlight. They differ from “solar thermal” systems that capture heat from the sun, for space- and water-heating. Globally, Solar-PV is the fastest growing and cheapest source of electricity generation. In 2020, 138 GW of new Solar-PV installations were installed globally. The electrical power that can be generated from a Solar-PV system is defined by its capacity, and measured in units of power, typically kilowatts (kW) or megawatts (MW). In August 2020, 63 solar projects, with a total capacity of 767 MW were approved in Ireland’s first Renewable Electricity Support Scheme (RESS) Auction. The second RESS Auction, including planning permission, is currently open (as per Q2-2022). The 2021 Climate Action Plan includes an objective for 1.5 to 2.5 GW of Solar-PV in Ireland by 2030.

1 MW of maximum export capacity (MEC) from Wind, Hydro, and Solar PV technologies will generate significantly different amounts of electricity. Solar farms in Ireland typically have an average capacity factor of 10% - they generate approximately 10% of their MEC value. This is about three times lower than that of a wind-farm – three times the solar MEC would need to be installed, compared to wind MEC, to generate the same amount of electricity. For more details, please see:

- SEAI’s *Solar Electricity Grant* page – [link](#)
- SEAI’s *Solar Energy* page – [link](#)
- First RESS Auction - [link](#)
- Second RESS Auction – [link](#)

B What the Dashboard Shows

The **colour density** of LA map-areas in the *solar energy* dashboard scale with *the planned solar farm power capacity in that local authority*. The darker a LA map area appears, the more planned solar farm power capacity that LA has.

Hovering the cursor above a particular LA map area activates a **data window**, which shows the number of solar farms in the local authority (currently connected and planned), and the maximum export capacity of those solar farms (currently connected and planned).

Clicking the **download data** button below the map area downloads and opens a spreadsheet with an *solar energy* worksheet. This worksheet provides the name, reference number, maximum export capacity, and status (connected, contracted, or planned) of all grid-connected solar farms in the country.

C Technical Details of Data Collection & Presentation

- The data in the dashboard includes only “grid connected” solar farms
- Generation from rooftop Solar-PV on domestic dwellings, and solar thermal systems for heating, are not counted in the current version of the dashboard

- Solar-PV provides direct current (DC), which must be converted to alternating current (AC) for connection to the grid. Excess DC capacity may be intentionally installed to optimise AC generation. Capacities listed in the dashboard are the Maximum AC Export Capacity.
- The electricity generated by a solar farm is not the same as the maximum export capacity from that solar farm
- The actual electricity generated from a solar farm depends not only on the maximum export capacity, but the length of the day, the weather, and the humidity of the air

D Possible Considerations and Uses for LA-CAPs

Local authorities might use the *solar energy* data in the LA-CAP dashboard, and the following possible considerations, to inform their local mitigation and adaptation measures:

- Supporting applications for the second RESS auction – [link](#)
- Supporting and promoting community Solar-PV energy – [link](#)
- Co-location of solar and wind farms
- Promoting micro-generation initiatives and support schemes - [link](#)
- Supporting and promoting smart metering - [link](#)

10 Other Useful Resources

A About SEAI

The SEAI is Ireland's national sustainable energy authority. We work with householders, businesses, communities and government to create a cleaner energy future.

Our vision is for Ireland's energy to be sustainable, secure, affordable, and clean. To achieve this, Ireland must use less energy, move to clean energy, and innovate to create new solutions to meet our energy needs. Leading the transition to smarter and more sustainable energy activities is central to what we do.

Please visit www.seai.ie for more details.

B Selected other relevant agencies and contacts

Environmental Protection Agency - <https://www.epa.ie/>

The EPA is an independent public body established under the Environmental Protection Agency Act, 1992. The EPA is responsible for protecting and improving the environment as a valuable asset for the people of Ireland. They are committed to protecting people and the environment from the harmful effects of radiation and pollution.

Commission for Regulation of Utilities – <https://www.cru.ie/>

The Commission for Regulation of Utilities (CRU) is Ireland's independent energy and water regulator. The CRU has a wide range of economic, customer protection and safety responsibilities in energy and water.

Central Statistics Office - <https://www.cso.ie/>

The Central Statistics Office (CSO) is Ireland's national statistical office, and its purpose is to impartially collect, analyse and make available statistics about Ireland's people, society, and economy. CSO official statistics inform decision making across a range of areas including construction, health, welfare, the environment, and the economy.

National Transport Authority - <https://www.nationaltransport.ie/>

The National Transport Authority (NTA) is a statutory non-commercial body, which operates under the aegis of the Department of Transport. Established in 2009, the NTA is responsible for developing and implementing strategies to provide high quality, accessible, sustainable transport across Ireland.

Economic & Social research Institute - <https://www.esri.ie/>

The ESRI is a limited company that produces independent, high-quality research with the objective of informing policies that support a healthy economy and promote social progress