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Energy and Climate: Implications for Development Plans

24th September 2021

Alex Hamilton, Senior Engineer

3 Counties Energy Agency

- Regional Energy Agency: South East
- Not for Profit, Social Enterprise
- Product Independent
- Trusted Intermediary
- **Alex Hamilton:** Senior Energy Engineer
  - Specialise in Local Authority Energy Management
  - SEAI appointed consultant to the public sector since 2013
    - Partnership Support Manager for South East LA's
  - Chairperson - Association of Irish Energy Agencies (AIEA)

Climate Change

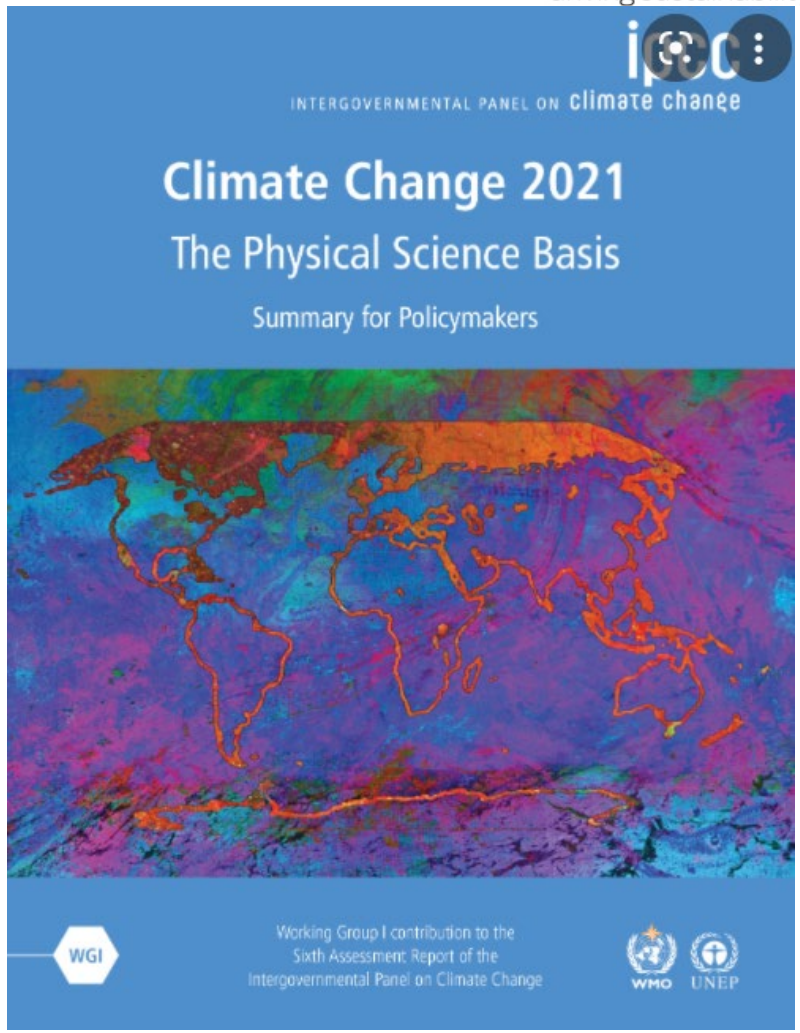
Climate Change IRELAND

Climate Change Ireland

- Global sea levels rose 3mm per year (1980 – 2010, Met.ie data)
- Irelands major cities are coastal
- Map depicting Ireland in 2100 (90 years time) if climate action is not taken
- This is a problem that affects us!

Time for Action is NOW

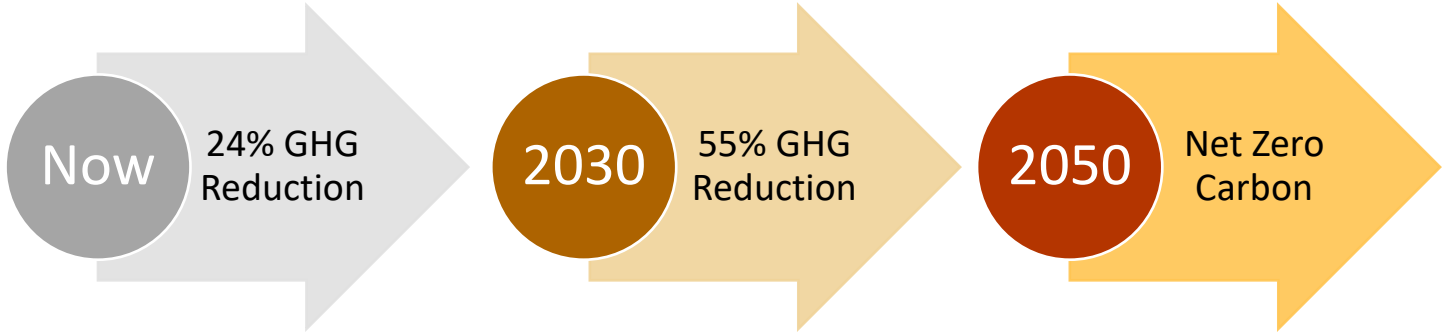
- IPCC Report
- *'Code Red for Humanity'*
- 30-year impact on what we do now – changes now will not be felt for decades to come
- **Challenging politically!**

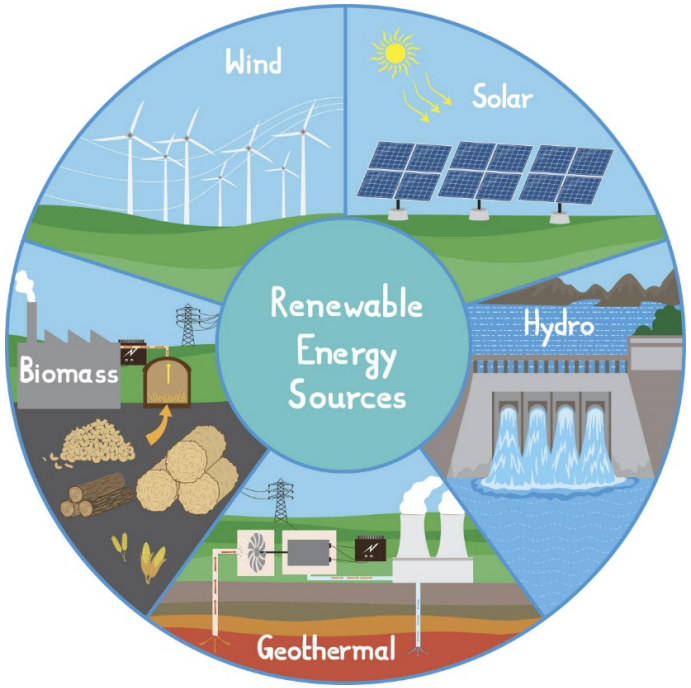


EU-Wide Targets

- 2019 data – 24% GHG emissions (compared to 1990 levels)
- 55% GHG emissions by 2030
- Net Zero Carbon by 2050

- 20% RES by 2020 (reached 16%)
- 40% RES by 2030





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EU Policy: Energy Efficiency Directive (EED)

32.5% Energy Efficiency Target by 2030

- Binding EU Energy Efficiency target & Indicative national Contributions
- 32.5% = 119Mtoe
- Energy Efficiency 1st Principle
- Stronger Exemplary Role of the Public Sector
- Focus of alleviating energy poverty

Ireland to contribute = 1.2Mtoe

- 265,000 cars in one year
- 20million trees growing for 10 years

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- Reduce the external dependency on energy
- 40% renewables in the energy mix

Cleaning our energy system

Reducing greenhouse gas emissions by at least 55% by 2030 requires higher shares of renewable energy and greater energy efficiency.

National Policy – transition to 2030-2050

2020

- 20% Greenhouse Gas emissions
+ 20% renewable energy
+ 20 energy efficiency

Public sector 'exemplar'
33% energy efficiency improvement

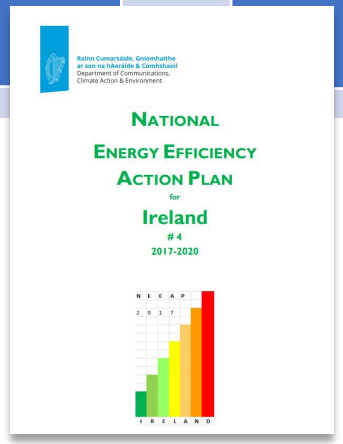
2030

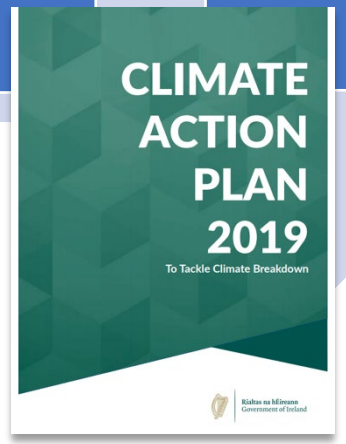
- 40% GHG emissions (55% proposed)
+ 32% renewable energy
+ 32.5% energy efficiency

50% energy efficiency improvement
50% absolute GHG reduction *
All public buildings B rated
Benchmarking buildings

2050

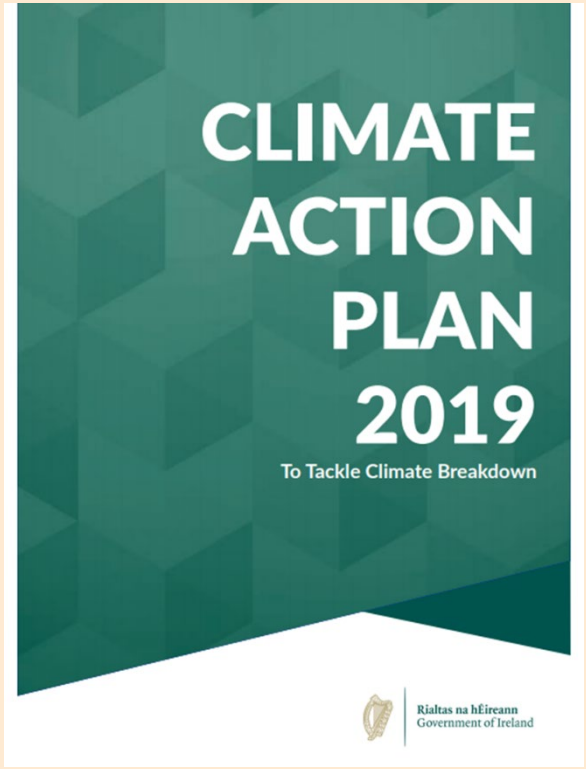
Net Zero greenhouse gas emissions

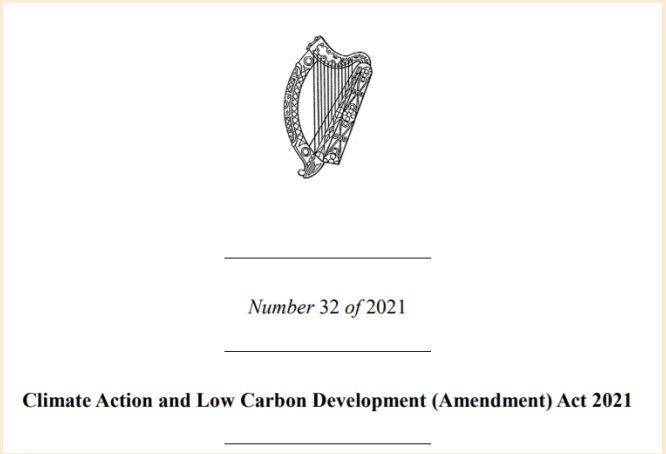




* (2020 programme for government, 30% in the 2019 Climate Action Plan)

National 2030 Targets





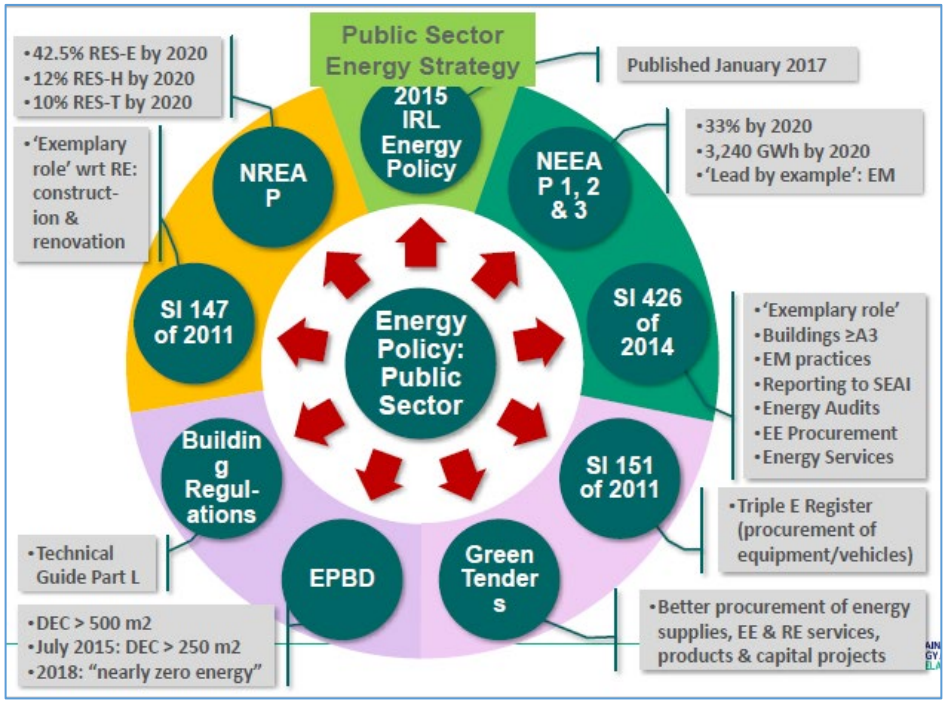
Number 32 *of* 2021

Climate Action and Low Carbon Development (Amendment) Act 2021

- **Climate Action Plan 2019**
- 30% carbon reduction
- 7% annual carbon 2021-2030
- 500,000 homes B2
- 600,000 heat pumps
- ban fossil fuel boilers etc

EU & National Policy - Public Sector Obligations

- Energy Performance Officers
- Monitoring & Reporting to SEAI
- Publish Annual Energy Data
- Display Energy Certificates
- Green Public Procurement
- Energy Audits
- Upgrade public buildings to '***B***' energy rating
- Decarbonisation by 2030



Decarbonisation Zones

Action 165: Extend flagship low-carbon projects to other towns and villages			
Steps Necessary for Delivery	**Timeline by Quarter**	**Lead**	**Other Key Stakeholders**
Each local authority will identify and develop plans for one "Decarbonising Zone"	Q4 2019	DHPLG	SEAI, LAs
Develop a category of low carbon town projects for future calls under the Climate Action Fund	Q3 2020	DCCAE	
Develop Portlaoise as a low carbon town using suite of initiatives and a range of technologies deployed to serve as demonstrator for other towns	Q4 2020	Laois CC	SEAI, CARO, Downtown Portlaoise, ESB Networks, Midland Energy Agency, TII, DCCAE
Carry out a mid-project review of the Portlaoise project and identify practical actions for other towns	Q4 2020	DHPLG	

What are Decarbonising Zones?

- Defined area - Addressing local low carbon energy, greenhouse gas emission reduction and climate needs

- Outcomes capable of achieving 2030 Targets - **average 7% per annum** reduction in overall greenhouse gas emissions from 2021 to 2030 (a 51% reduction over the decade)

- Test-bed for how **the entire county decarbonises…**

Spatial Planning & Climate Action – Mitigation & Adaptation

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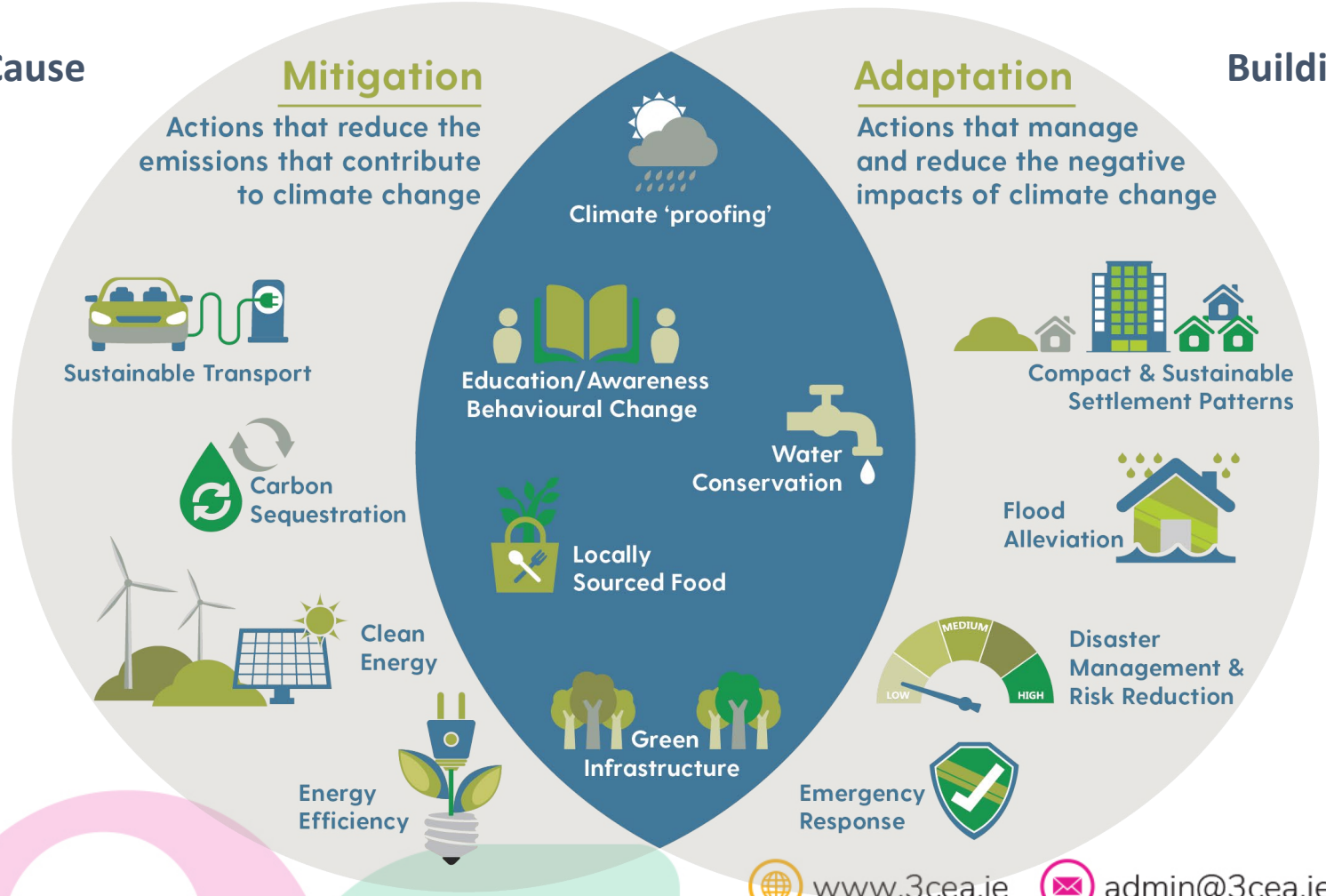
Tackling the Cause

Building Resilience



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Sustainable Energy & Climate Action Plans (SECAPs)

- Mitigation Plan:
  - Baseline CO2 Emission Inventory
  - Emissions target: 40% reduction by 2030
  - Actions to reduce emissions contribution to climate change

- Adaptation Plan:
  - Effects of climate change
  - Actions to manage and reduce negative impacts of climate change

- Climate Adaptation Plan adopted in September 2019
- County Climate Action Plan 2021/22

- This should feed into the Development Plan in terms of **localised data & Actions** to meet National policy targets

Sustainable Energy Communities

A community working together to develop a sustainable energy system…

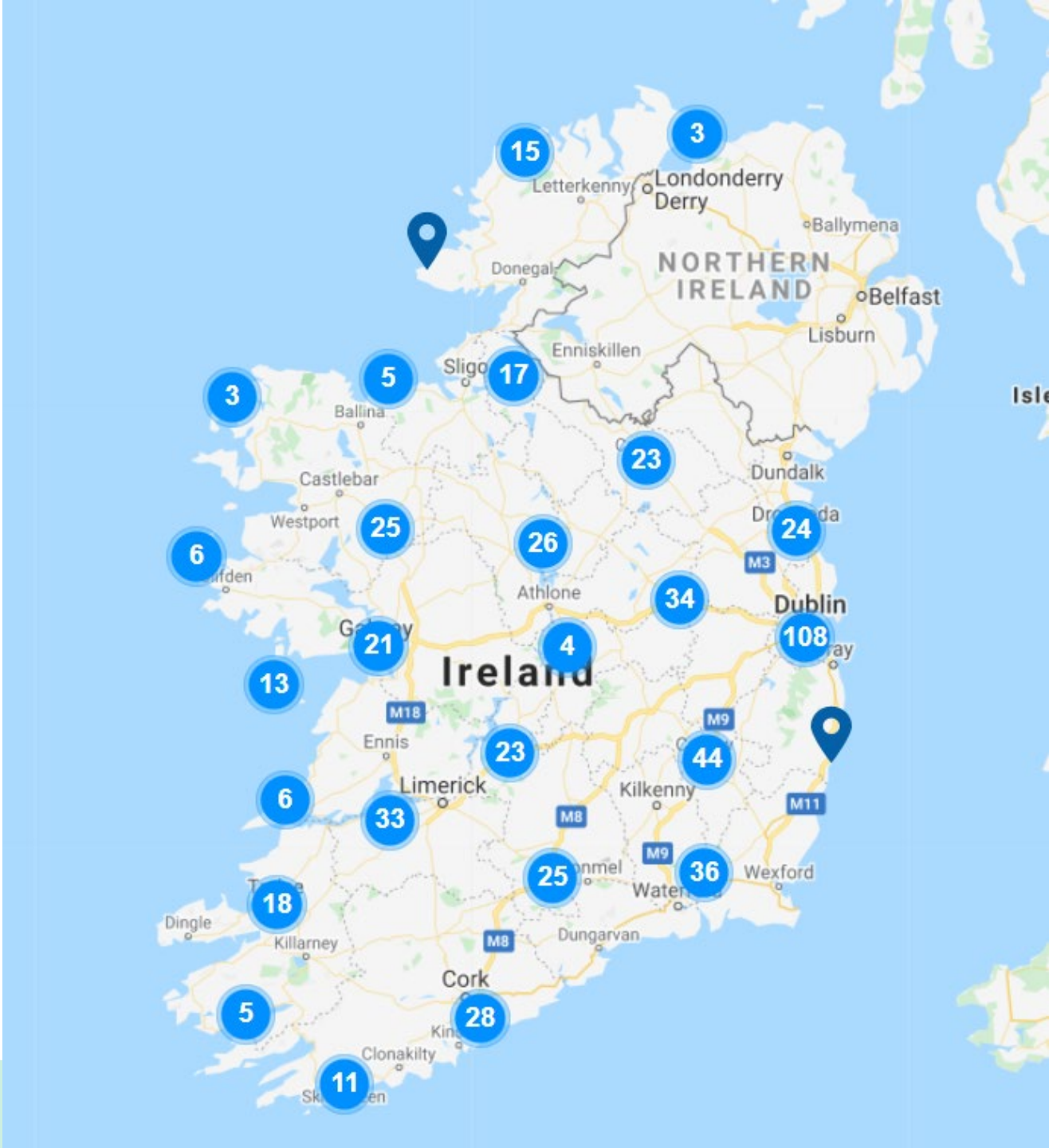
Achieved through:

- energy efficiency
- renewable energy where feasible
- Adopting smart energy solutions

SEC MAP

373 Network Members Nationally

- Communities can, will and ARE contributing & collaborating in local development of low energy and carbon communities

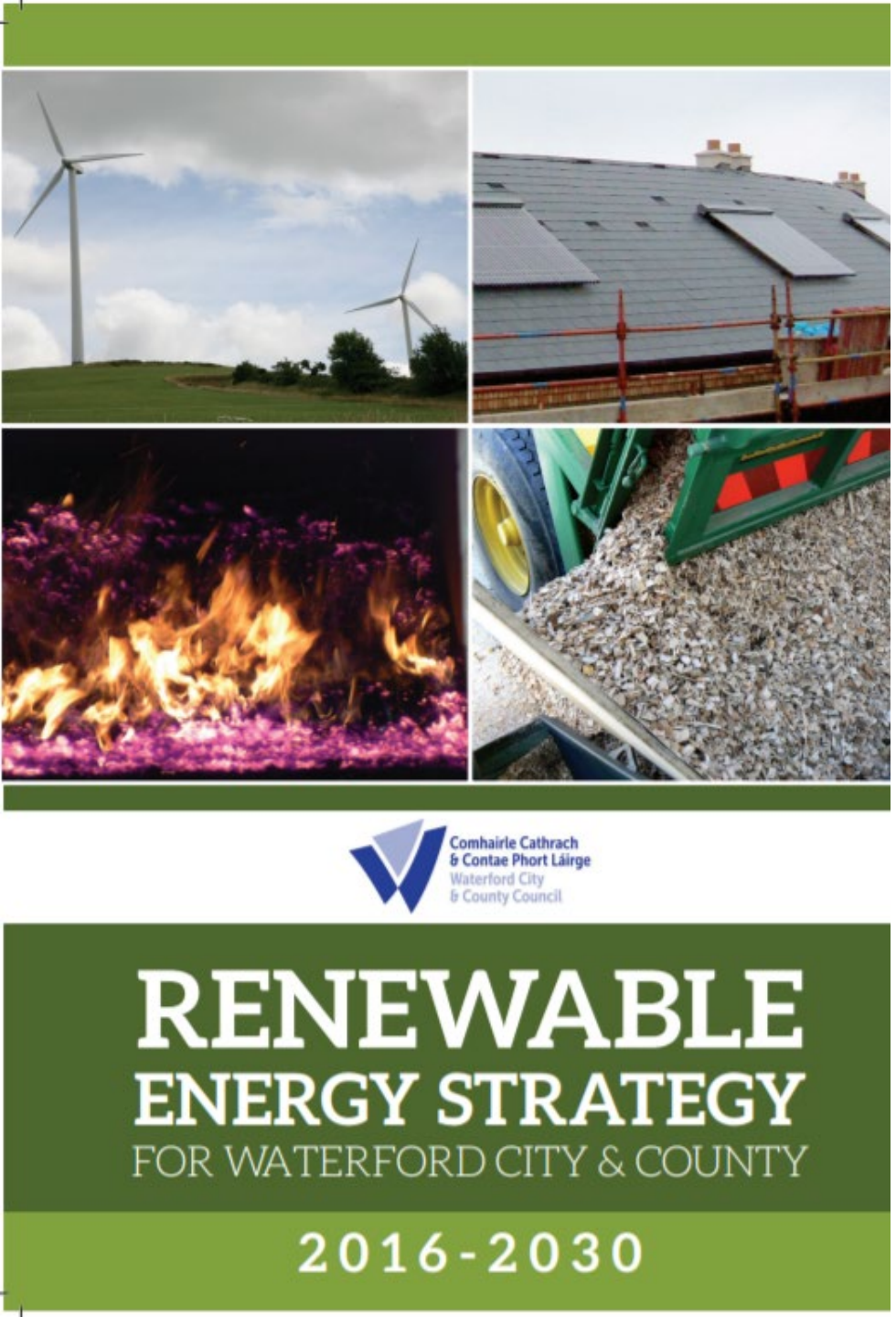


A Councillor's perspective

"One step in achieving national climate action targets is for local communities to understand their baseline energy consumption and how that consumption can be lowered and perhaps how electricity can be generated locally.

...Sustainable Energy Community model gives local communities a template to calculate their baseline energy consumption and using the Register of Opportunities shows local people how to save energy and consider generating energy locally. Being actively involved in your local Sustainable Energy Community is a must for every Elected Member".

Member Carlow County Council



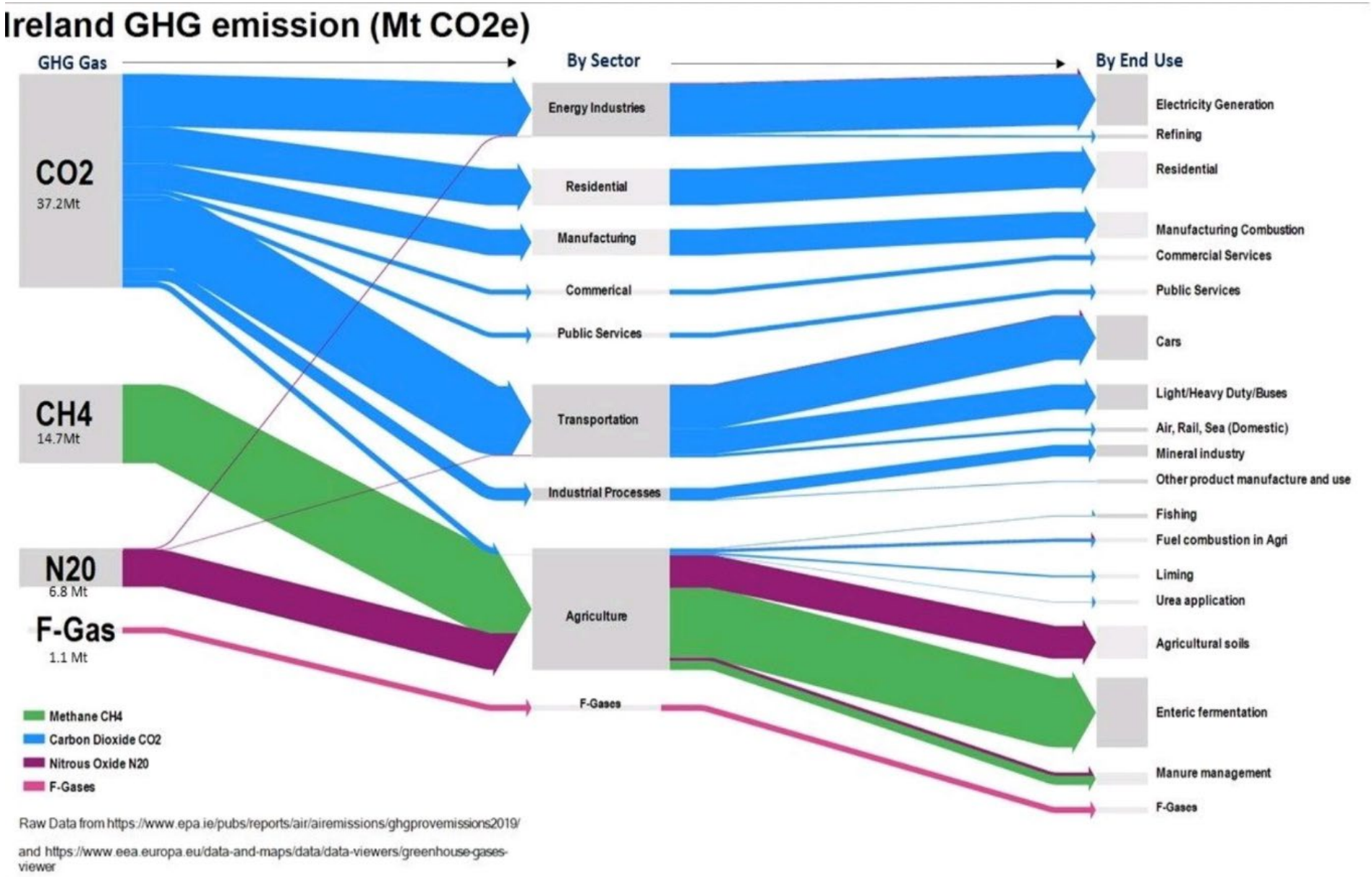
Energy in Development Plans

- Development plans need to be ***compatible with national and regional planning strategies to support overall Government policy***

- ***provision of infrastructure*** for transport, ***energy,*** communications, water services and waste management facilities by relevant agencies

- location of development and transport systems to ***reduce energy demand*** and ***address both the causes and effects of climate change*** such as flood risk

Emissions Baseline – 2019 – 61.7mt CO2



Raw Data from https://www.epa.ie/pubs/reports/air/airemissions/ghgprovemissions2019/

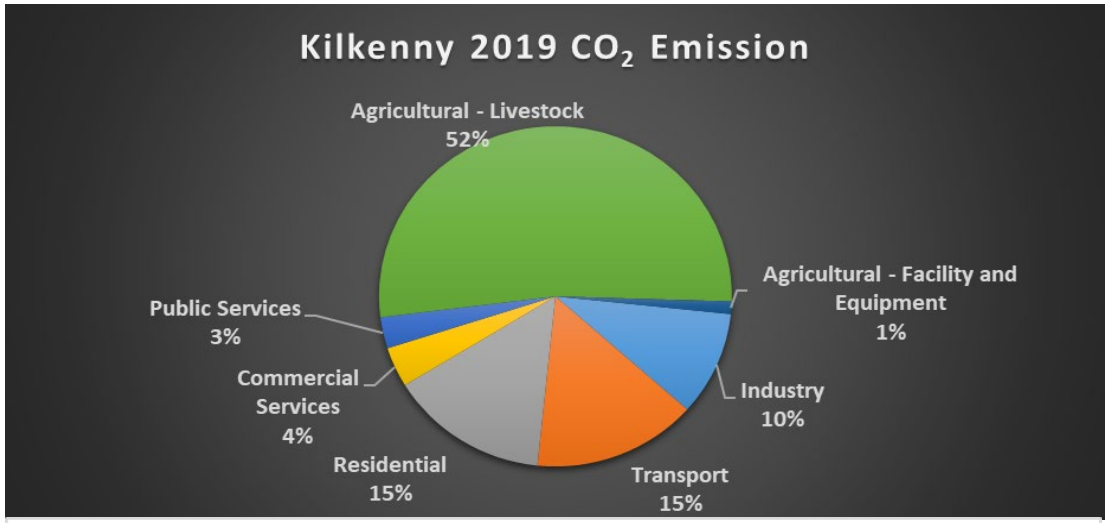
and https://www.eea.europa.eu/data-and-maps/data/data-viewers/greenhouse-gases-viewer

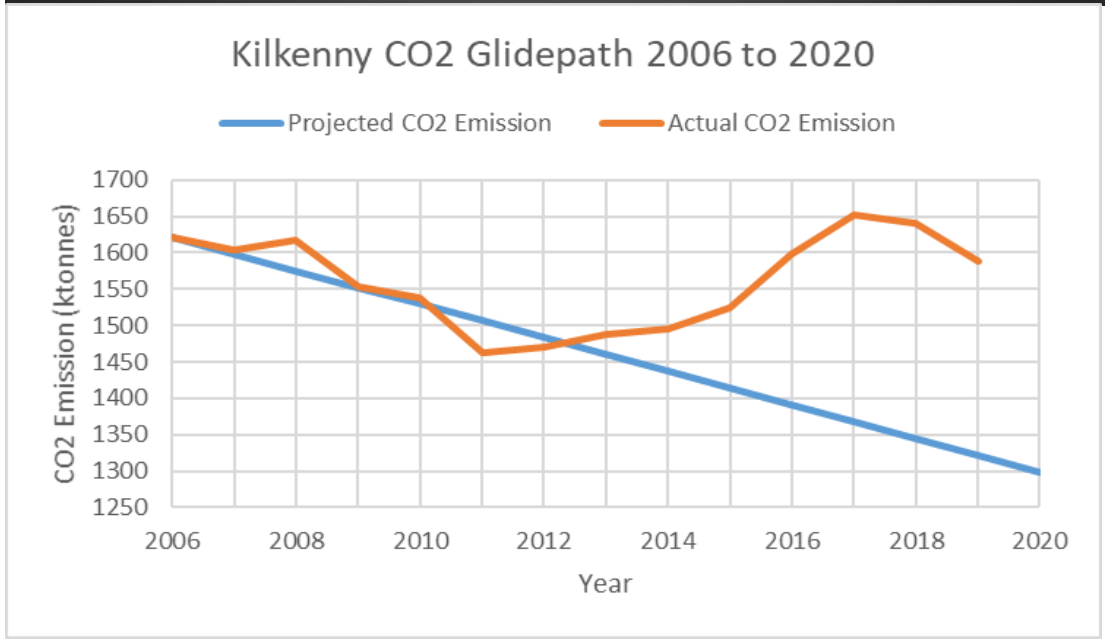
Local Energy in Development Plans

- 3cea publishes data on energy use and CO_2 emissions through the **South East Regional Energy And Climate Observatory** established in 2015. www.energyhub.ie

- Emissions are reported every 2 years to the EU Covenant of Mayors

- Developing a Sustainable Energy & Climate Plan 2021 & 2025 **(SECAP)** which will assist the County of Kilkenny to achieve and comply with their obligations set out in the **Climate Action and Low Carbon Development Act 2021**





Energy in Development Plans

Gap to target – **what projects** and **where** that can close the gap: e.g.

- Number of homes that need retrofitted
- Number of electric vehicles needed on the road
- MW of renewable energy – wind turbines PV farms etc.

	Turbine/ area/ plant	MW	Production (GWh)
Wind	1 Turbine	4.2	10.49
Solar	20 acres	4.88	5.557344
Solar	80 acres	19.52	22.229376
Solar	220 acres	53.68	61.130784
BioGas	2MW-Gas	2	16.1184

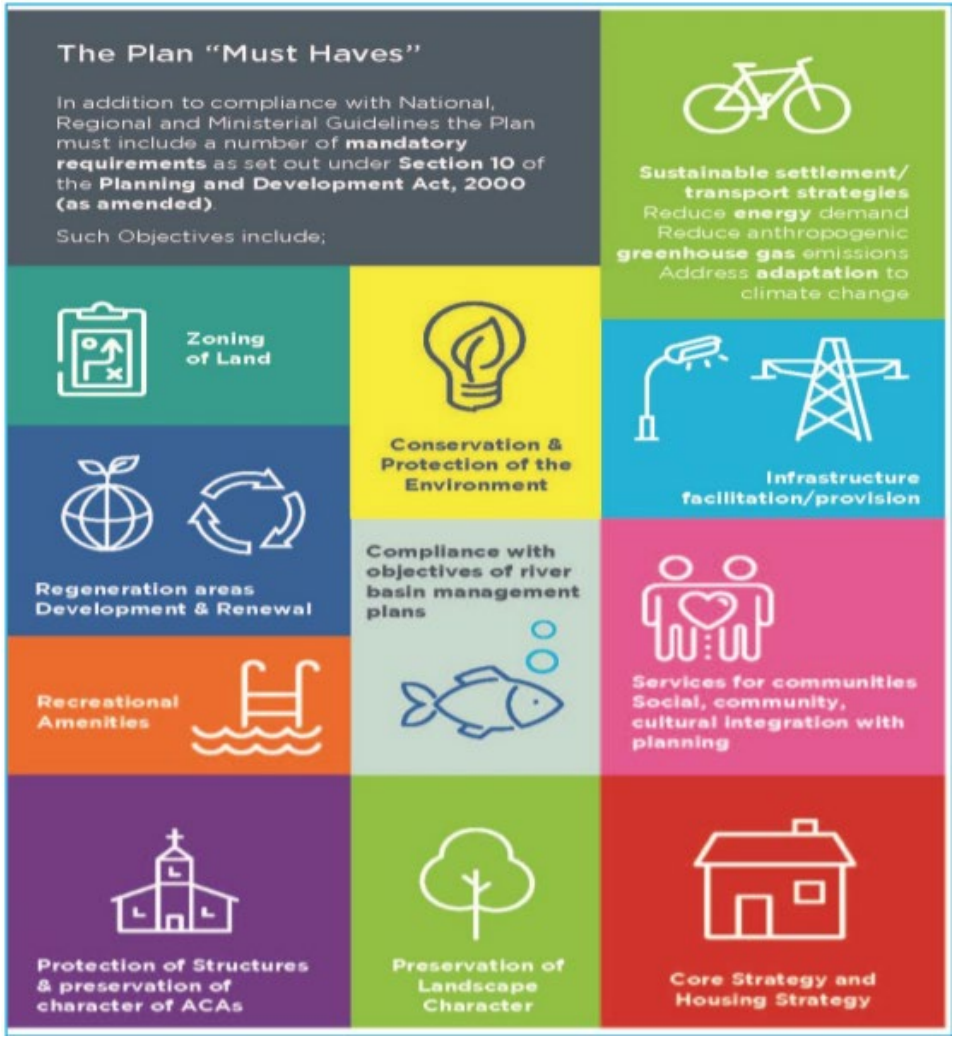
Make the plan **tangible** and **achievable**. The development plan must lead in achieving 2030 & 2050 targets – **Lead By Example!**

70% energy demand	2017	2030	Gap to 2030 target	Additional Energy Production (GWh)	no. Extra 4.2MW Wind Turbine	no. 20 acres solar sites	no. 80 acres solar sites	no. 220 acres solar sites	no. 2MW-biogas plant
Energy demand (GWh)	2,663	2,257	- 406						
Share RES	9%	70%	61%						
RES (GWh)	234	1580	1346						
Elec - Wind (MW)	76		200	500	48				
Elec - Solar Elec (MW)	0		303	250		45	11	4	
Thermal - Solar Thermal (MW)	2		21	37					
Thermal - Biogas (MWth)	0.06		69	560					35

Energy in Development Plans: Objectives

Ensure these measures are clearly identified…

- Designated Renewable Energy zones
- Designated Decarbonisation Zones
- Localised Data on energy consumption & carbon emissions
- Objectives for how reductions can be achieved…



Elected Representatives & The Plan…

- You now know what should be in plans!
- You have a key role in leading your communities and raising awareness of both challenges & opportunities
- You need to set the budgets (emissions/renewable energy sources) in the LA's to help deliver the Plans
- You must make plans clear on implementation – not just aspiration…

Time for Action is NOW

Thank You!

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