

PROPOSAL FOR DECARBONISATION ZONE

Carlow County Council

MDR1669
Proposal for Decarbonisation
Zone
F01
5th May 2021

REPORT

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Contents

| | | |
|----------|---|-----------|
| 1 | INTRODUCTION..... | 1 |
| 1.1 | Background..... | 1 |
| 1.2 | What is a Decarbonisation Zone?..... | 1 |
| 1.3 | Methodology | 2 |
| 2 | POTENTIAL DECARBONISATION ZONES | 4 |
| 2.1 | Criteria for Decarbonisation Zones | 4 |
| 2.2 | Demographic Pattern | 4 |
| 2.3 | Profile of Urban Areas with DZ Potential..... | 7 |
| 2.4 | Carlow Town..... | 8 |
| 2.5 | Tullow | 12 |
| 2.6 | Muinebheag / Bagenalstown | 15 |
| 2.7 | Other potential areas..... | 18 |
| 2.8 | Preferred area for DZ | 19 |
| 2.8.1 | Rationale for selection..... | 19 |
| 2.8.2 | Scope of the DZ boundary around Carlow Town..... | 19 |
| 3 | PROPOSED DECARBONISATION ZONE AND ACTIONS..... | 21 |
| 3.1 | Overview of opportunity areas..... | 21 |
| 3.2 | Community Engagement & Behavioural Change | 21 |
| 3.3 | Buildings and Energy Efficiency | 23 |
| 3.4 | Transport..... | 23 |
| 3.5 | Green Spaces..... | 25 |
| 3.6 | Biodiversity | 25 |
| 3.7 | Resource Efficiency and Waste Management..... | 26 |
| 3.8 | Regeneration | 26 |
| 3.9 | Infrastructure and Public Works..... | 27 |
| 3.10 | Summary Table..... | 28 |

Tables

| | | |
|-----------|---|----|
| Table 2-1 | County Carlow Population Summary | 5 |
| Table 2-2 | Profile of Towns and Villages | 5 |
| Table 2-3 | Electoral Divisions by Electoral Area | 7 |
| Table 2-4 | Electric Vehicle Charging Points in County Carlow | 8 |
| Table 2-5 | Summary of Carlow Town | 9 |
| Table 2-6 | Summary of Tullow..... | 12 |
| Table 2-7 | Summary of Muinebheag/Bagenalstown..... | 15 |
| Table 3-1 | Summary of Actions for Key Partners | 29 |

Figures

| | | |
|------------|--|----|
| Figure 1-1 | Map of Towns and Settlements in County Carlow..... | 3 |
| Figure 2-1 | Map of District Electoral Divisions in County Carlow | 6 |
| Figure 2-2 | Map of Carlow Town | 11 |
| Figure 2-3 | Map of Tullow | 14 |
| Figure 2-4 | Map of Muinebheag / Bagenalstown..... | 17 |
| Figure 3-1 | Map of Recommended Decarbonisation Zone – Carlow Town..... | 22 |

Appendices

Appendix 1 – Expressions of Interest Received

1 INTRODUCTION

1.1 Background

The All of Government Climate Action Plan, 2019 sets out an ambitious whole-of-society approach designed to enable Ireland to achieve an average 7% per annum reduction in overall greenhouse gas emissions from 2021 to 2030 (a 51% reduction over the decade). Action 165 of the Plan sets Local Authorities the challenge of initially identifying and developing one Decarbonisation Zone in each local authority in Ireland, as a 'living laboratory' for demonstrating climate innovation and reducing greenhouse gas emissions. This requires consideration of not just energy, but transport, spatial planning, the natural environment, and community engagement.

The criteria for selecting a Decarbonisation Zone has been set out by the Department of Housing, Local Government and Heritage (DHLGH), and guidance on how to develop a Decarbonisation Zone has been issued by the Climate Action Regional Office (CARO). All local authorities are required to submit a Decarbonisation Zone proposal, identifying the location and key measures proposed before 30th April 2021.

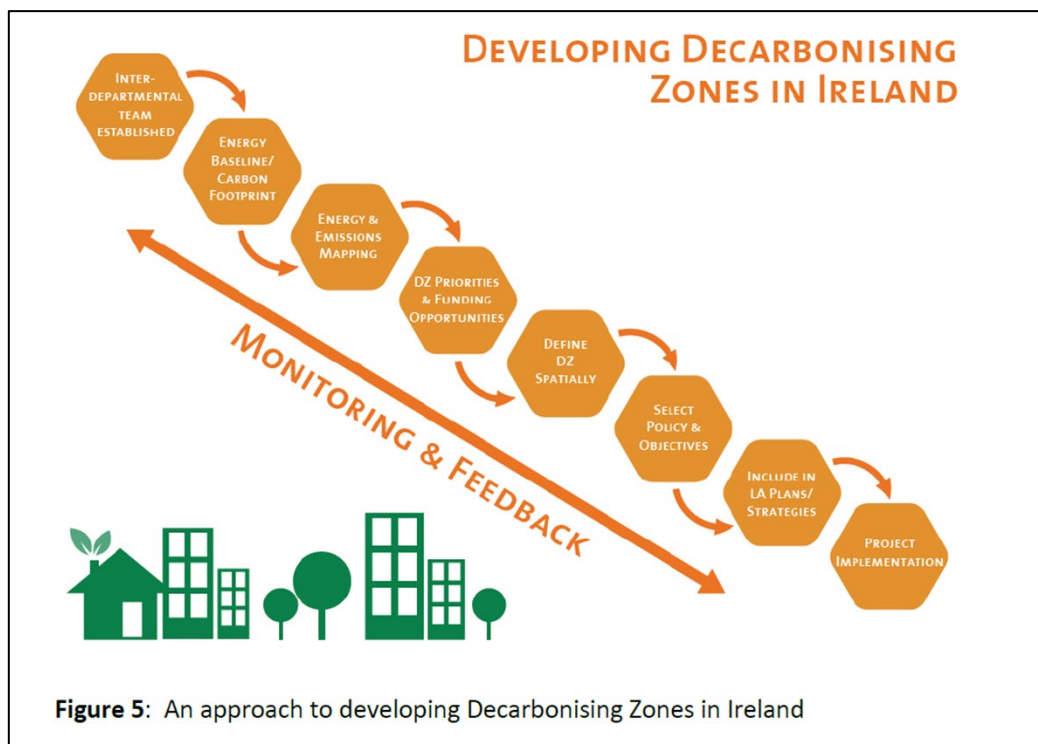
In order to identify the optimum location to be selected as a potential Decarbonisation Zone by Carlow County Council, RPS has conducted a desktop study, analysis and prepared this scoping report, taking into consideration the criteria laid out in Circular Letter LGSM01-2021 from the Department of Housing, Local Government and Heritage.

1.2 What is a Decarbonisation Zone?

A Decarbonisation Zone is a spatial area identified by the local authority, in which a range of climate mitigation measures can co-exist to address local low carbon energy, greenhouse gas emissions and climate needs in order to contribute to national climate action targets.

The range of policies and projects developed should be specific to the energy and climate characteristics of the spatial area covered by the Decarbonisation Zone. This can include a range of technologies and measures addressing areas such as electricity sourcing, heat management, reducing needs for travel and shifting travel modes towards active and public transport, enhanced building energy efficiency, carbon sequestration, and energy storage and management systems.

A Decarbonisation Zone should also address the wider co-benefits of air quality, improved health, biodiversity, embodied carbon, agricultural practices, sustainable land management, lower noise levels, waste, water, circular economy etc., and should integrate with smart data and 'smart cities' initiatives (as relevant). A Decarbonising Zone can also explore the co-benefits of climate adaptation and examine a range of local measures such as climate proofing, afforestation, green and blue infrastructure, reducing heat island effects, citizen awareness and behavioural change.



Source: CARO Position Paper on Decarbonising Zones¹

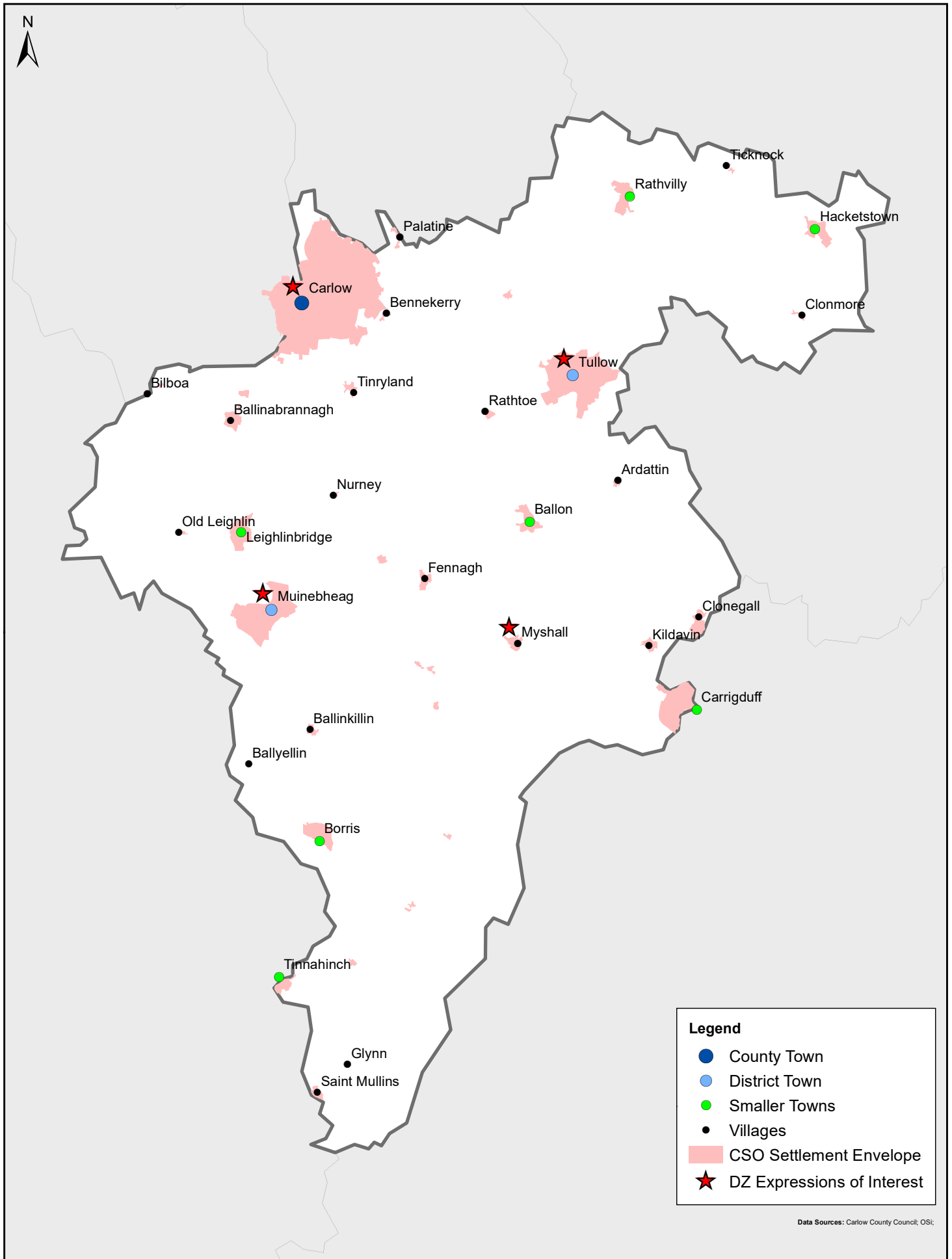
1.3 Methodology

Taking into consideration the criteria laid out in Circular Letter LGSM01-2021, the desktop study, analysis and preparation of the scoping report has been carried out by:

1. Conducting a county-wide overview including data collection and mapping analysis.
2. Reviewing all activities and projects underway across the county based on information already available in the public domain, taking into account available information on:
 - a. Geographic scale
 - b. Population
 - c. Enterprise and Employment (including large energy users)
 - d. Potential synergies - e.g. with public sector companies, educational bodies, community associations/initiatives, etc.
 - e. Geographic features - e.g. areas with natural features, greenway/blueway proposals, climate adaptation challenges, etc.
 - f. Spatial planning - e.g. areas designated for regeneration or expansion
 - g. Transport - opportunities for active travel projects
 - h. Community initiatives and networks
3. Taking a closer look at the preferred zone and identify any potential projects, partners, initiatives and opportunities to develop.
4. Compiling a summary report containing the recommendation for the Carlow County Council Decarbonisation Zone and outline the Key Measures to be implemented.

Figure 1.1 overleaf presents an overview of the county, highlighting the towns and villages.

¹https://www.codema.ie/images/uploads/docs/Developing_Decarbonising_Zones_in_Ireland_A_Briefing_Paper_for_the_Local_Authority_Sector.pdf (accessed 16/04/2021)



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Fig. 1-1 County Carlow, Urban and Rural Areas

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Carlow Decarbonisation Zone

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2 POTENTIAL DECARBONISATION ZONES

2.1 Criteria for Decarbonisation Zones

The criteria for selecting a Decarbonisation Zone has been set out by the Department of Housing, Local Government and Heritage (DHLGH), and guidance on how to develop a Decarbonisation Zone has been issued by the Climate Action Regional Office (CARO).

The briefing paper on Decarbonisation Zones prepared by CARO in conjunction with Codema, the Dublin Energy Agency, highlights emerging learnings and perspectives of the sector in developing decarbonising zones.

In order to be considered as a potential Decarbonisation Zone, a zone should meet certain criteria in order to achieve effective learnings from the exercise. The Decarbonisation Zone should cover:

- (i) An urban area or agglomeration with a population not less than 5000 persons, or
- (ii) A rural area with an area of not less than 4km².

The area selected will provide Carlow County Council with a very important test-bed which will allow the council to understand the scale of the challenge in decarbonising the economy and wider society and map out the various key stakeholders and enablers.

When identifying a potential Decarbonisation Zone, local spatial and energy-related characteristics will determine whether certain low-carbon solutions are technically feasible, such as density of development, grid availability, population density, available suitable space for new infrastructure, and available natural resources. There are also social and economic characteristics that can be overlaid with the technical data, to identify areas where policies will have most success or impact, such as areas at risk of energy poverty, areas with high traffic, and areas of new development.

The Decarbonisation Zone identified should, subsequent to initial baseline analysis and stakeholder mapping, set the chosen zone on a path to achieving the greenhouse gas emissions reductions required by Government by 2030, and, learning from that experience, to advance a wider roll-out of the Decarbonisation Zone concept across a wider local authority system, in line with evolving climate policy and legislative requirements.

Each Decarbonisation Zone proposal should be accompanied by a broad outline of the main projects that could be implementable in the zone plus an indication as to potential outcomes deliverable in terms of reductions in carbon emissions. These outcomes must be capable of meeting the Government's targets for carbon emissions reductions, an average 7% per annum reduction in overall greenhouse gas emissions from 2021 to 2030 (a 51% reduction over the decade).

2.2 Demographic Pattern

County Carlow's population in the 2016 Census stood at 56,932, an increase of 2,263 (4.1%) persons on the recorded 2011 Census (54,612). Over the ten-year period 2006-2016, the population of County Carlow grew by approximately 13.1%. Of the 56,932 people living in County Carlow, 28,004 reside in urban areas, while 28,928 people make up County Carlow's rural population, see Table 2-1.

Table 2-1 County Carlow Population Summary

| Year Population | | Area | Population |
|-----------------|--------|------------------------|------------|
| 1996 | 41,616 | Total (Town and Rural) | 56,932 |
| 2002 | 46,014 | Aggregate Town Area | 28,004 |
| 2006 | 50,349 | Aggregate Rural Area | 28,928 |
| 2011 | 54,612 | | |
| 2016 | 56,932 | | |

Spatial population patterns within County Carlow appear to be strongly influenced by proximity to the Greater Dublin Area. Population growth rates were highest in the areas most accessible to Dublin such as towns and villages in the north of the county, namely Tullow, Palatine and Rathvilly. This is also true for settlements along the M9 in the west and northwest of the county, including Ballinabrannagh, Kernanstown and Leighlinbridge.

Table 2-2 Profile of Towns and Villages

| Category | Towns/Villages |
|----------------|--|
| County Town | Carlow |
| District Towns | Tullow, Muinebheag |
| Smaller Towns | Borris, Hacketstown, Rathvilly, Ballon, Leighlinbridge, Carrigduff, Tinnahinch |
| Villages | Tinryland, Bennekerry/Kernanstown, Palatine, Clonbeg, Grange, Kildavin, Fenagh, Myshall, Rathoe, Ballinabrannagh/Raheendoran, Old Leighlin, Ballinkillen, Ardattin, Nursey, Ballymurphy, Clonmore. |

The outskirts of Carlow Town have also experienced a recent increase in population, along with evidence of a demographic recovery towards the town centre. In contrast, population levels appear more stagnant in rural Carlow, and areas of decline persist in parts of the south. Population decline was greatest in Tinryland and across rural parts of County Carlow generally. Above-average levels of decline were experienced in Rathanna and Killedmond – between Borris and Mount Leinster. Decline also occurred, although to a lesser extent, in Graiguenamanagh and St Mullin's and in the rural areas surrounding Hacketstown and Bagenalstown.

County Carlow is divided into 3 Municipal Districts: Carlow, Tullow, and Muinebheag. Each Municipal District is further divided into District Electoral Divisions (DEDs): 6 in Carlow (7 seats), 24 in Tullow (6 seats), and 24 in Muinebheag (6 seats) as outlined in Table 2-3 below.

Figure 2.1 overleaf presents all District Electoral Divisions (DEDs) in County Carlow.



Data Sources: Carlow County Council, OSI;

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Fig 2-1 Carlow District Electoral Divisions

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Table 2-3 Electoral Divisions by Electoral Area

| Local Electoral Area | District Electoral Divisions | Seats |
|----------------------|--|-------|
| Carlow | Ballinacarrig, Burton Hall, Carlow Rural, Carlow Urban, Graigue Urban and Johnstown. | 7 |
| Muinebheag | Agha, Ballyellin, Ballymoon, Ballymurphy, Borris, Clogrenan, Coonogue, Corries, Fennagh, Garryhill, Glynn, Killedmond, Kyle, Leighlinbridge, Marley, Muinebheag Rural, Muinebheag Urban, Nurney, Oldleighlin, Rathanna, Rathornan, Ridge, Sliguff and Tinnahinch. | 5 |
| Tullow | Ballintemple, Ballon, Clonegall, Clonmore, Cranemore, Grangeford, Hacketstown, Haroldstown, Kellistown, Kilbride, Killerrig, Kineagh, Myshall, Rahill, Rathrush, Rathvilly, Shangarry, Tankardstown, Templepeter, Tiknock, Tullow Rural, Tullow Urban, Tullowbeg and Williamstown. | 6 |

The employment profile of County Carlow includes 21,800 resident workers with 16,009 local jobs in located in Carlow (68.5% living and working in Carlow, 31.5% living outside the county and commuting in). Approximately 28.9% of resident workers (6,290 people) are external commuters.

Carlow Town is a strategic economic base for the county with a wide range of businesses and commercial uses throughout the town of local and national origin. The economic profile of Muinebheag Municipal District is characterised by a strong agricultural sector, which is driving economic activities in food processing and transport, along with manufacturing industries, almost all of which are small and medium scale. Tullow Municipal District has a mixed economic profile with agriculture remaining a locally important employment activity.

2.3 Profile of Urban Areas with DZ Potential

The Issues Paper for the Carlow County Development Plan 2022-2028 outlines Carlow Town as a key settlement to be recognised for significant growth within the county given its strategic designation. Other settlements such as Tullow and Muinebheag (both District Towns) will also be considered for growth given their size, location and nature, and the enhanced role of these settlements supporting their immediate hinterlands.

This scoping report will examine Carlow Town, Tullow, and Muinebheag as potential candidates for the Decarbonisation Zone. Carlow and Tullow both meet the population criteria for urban areas outlined by the DHLGH. The town of Muinebheag will also be examined given its position as a District Town, and the third largest settlement in the county. Carlow Town acts as the principal driver of economic growth, employment generation, and service provision in the county, while the District Towns both have well-developed services and community facilities with capacity to accommodate additional growth.

Each of the towns being considered in this report are situated within different Municipal Districts in County Carlow – Carlow, Tullow, and Muinebheag. Each town will be examined under the headings specified in the criteria for selecting a Decarbonisation Zone set out by the Department of Housing, Local Government and Heritage, and guidance on how to develop a Decarbonisation Zone issued by the Climate Action Regional Office.

All three urban areas considered have Electric Vehicle charging points installed (see Table 2-4), so heading in the right direction in terms of decarbonisation.

Table 2-4 Electric Vehicle Charging Points in County Carlow

| Town | Code | No. points | Type | KW | Cost/kWh (€) | Location |
|--------------|--------|------------|-----------|------|--------------|---|
| Carlow | C659V | 2 | Type 2 | 22KW | 0.268 | Public Car Park, Kennedy Street, Carlow |
| | | | Type 2 | 22KW | 0.268 | |
| | C6DSK | 2 | Type 2 | 22KW | 0.268 | Town Hall Car Park, Off Barrow Track, Carlow |
| | | | Type 2 | 22KW | 0.268 | |
| | C8MVM | 2 | Type 2 | 22KW | 0.268 | Hanover Bus Car Park, Barrack Street, Carlow |
| | | | Type 2 | 22KW | 0.268 | |
| | TEV034 | 2 | Type 2 | 22KW | 0.268 | Tesco Carlow, Fairgreen Shopping Centre, Carlow |
| | | | Type 2 | 22KW | 0.268 | |
| | C8EE3 | 2 | Type 2 | 22KW | 0.268 | Irish Rail, Railway Road, Carlow Town, Carlow |
| | | | Type 2 | 22KW | 0.268 | |
| Tullow | C8XB5 | 2 | CHAdEMO | 50KW | 0.305 | Four Lakes Retail Park, Dublin Road, Carlow |
| | | | Combo CCS | 50KW | 0.305 | |
| | | | AC43 | 43KW | 0.305 | |
| | TEV016 | 2 | Type 2 | 22KW | 0.268 | Inner Relief Road, Tullow |
| | | | Type 2 | 22KW | 0.268 | |
| | | | Type 2 | 22KW | 0.268 | |
| Bagenalstown | C8C50 | 2 | Type 2 | 22KW | 0.268 | The Parade, Bagenalstown |
| | | | Type 2 | 22KW | 0.268 | |

2.4 Carlow Town

As the County Town, Carlow is the principal driver of economic growth, employment generation, and service provision in the county. Carlow has a population of 20,511 people per the 2016 census, approximately 40% of the total county population.

Carlow serves as the main transport hub in the county - Carlow Railway Station is a scheduled stop along the Dublin Heuston to Waterford line, and the Waterford to Clonmel to Limerick Junction line which also has connections to Dublin, Cork, Limerick and Galway.

Carlow currently has 2 SEAI Sustainable Energy Communities: Carlow County SDG SEC and Carlow College St. Patrick's and Adjacent Schools. Carlow County SDG SEC's community interests include behavioural change/energy education, energy efficiency & financial savings, fuel poverty, sustainable/low carbon community, renewable energy and/or community energy generation and sustainable transport. The main community interests of Carlow College St. Patrick's and Adjacent Schools include behavioural change/energy education and energy efficiency & financial savings.

Carlow has the highest density of educational facilities in the county, including all of the county's third level institutions. The primary schools located in Carlow include Bishop Foley Memorial School, Carlow Educate Together, Gaelscoil Eoghain Uí Thuairisc, Holy Family Boys National School, Holy Family Girls National School, Scoil Naisiunta Ceatharlach, Scoil Naomh Muire Gan Smal, Scoil Naomh Fhiach, Scoil Naisiunta Iosef Naofa, and St Laserians Special School. The post-primary schools in Carlow include St Mary's Academy CBS, St. Leo's College, Presentation College, Tyndall College, and Gaelcholáiste Cheatharlach.

IT Carlow, Carlow College (St. Patrick's), and Carlow Institute of Further Education and Training offer third level education in Carlow. IT Carlow have already outlined a number of potential decarbonising initiatives that would contribute to this Decarbonisation Zone project. Teagasc Agricultural Research Centre at

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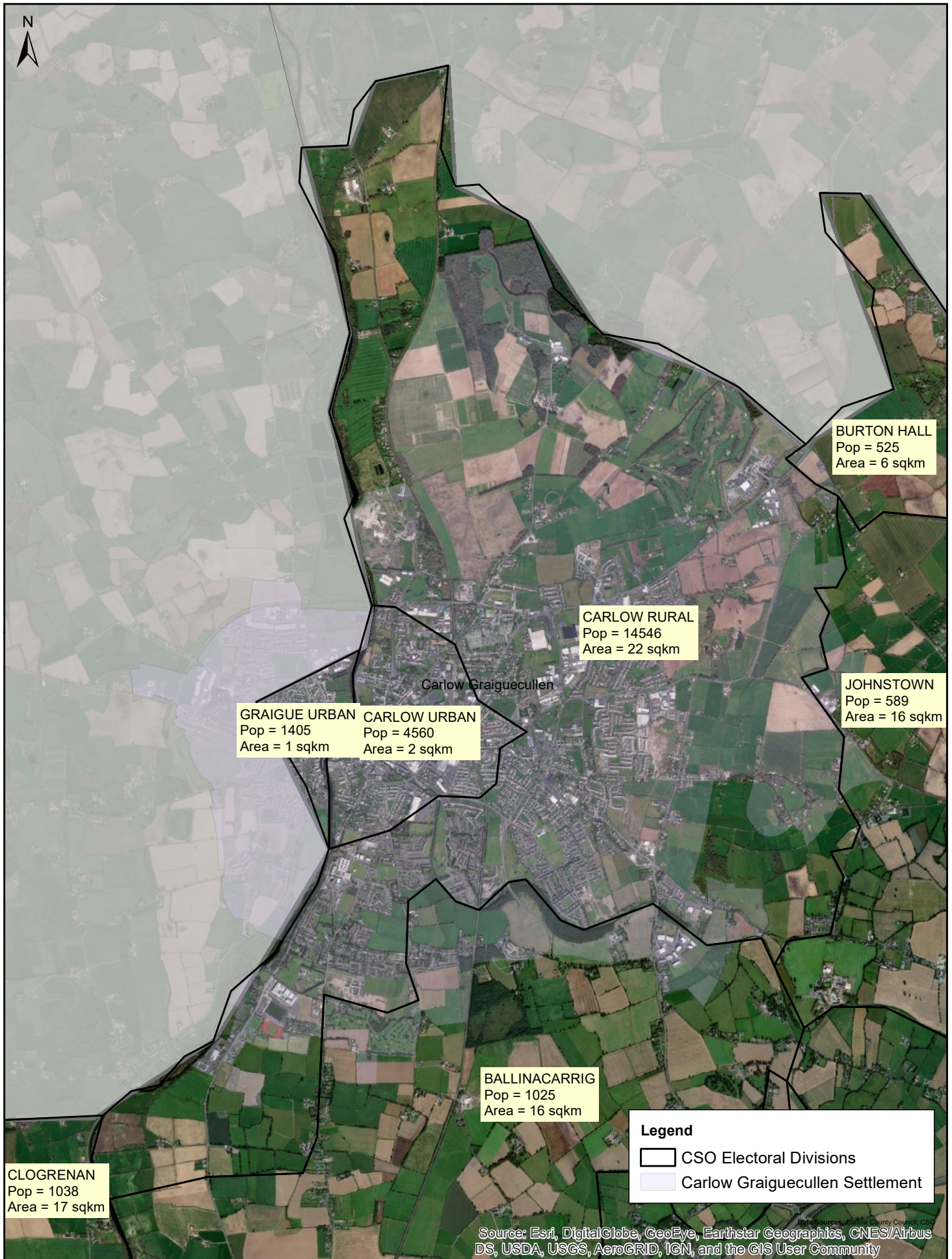
Oakpark employs a range of principal investigators and technical staff, along with facilitating post doctorate, postgraduate and undergraduate placements.

Table 2-5 Summary of Carlow Town

| | |
|-----------------------------|---|
| Population | 20,511 |
| Area | 24.05 sq. km |
| District Electoral Division | Carlow Urban, Graigue Urban, Carlow Rural |
| Main Employers | IT Carlow, Teagasc Agricultural Research Centre, Fairgreen Shopping Centre, Carlow Shopping Centre, Carlow Retail Park |
| Education | 10 primary schools - Bishop Foley Memorial School, Carlow Educate Together, Gaelscoil Eoghain Uí Thuairisc, Holy Family Boys National School, Holy Family Girls National School, Scoil Naisiunta Ceatharlach, Scoil Naomh Muire Gan Smal, Scoil Naomh Fhiach, Scoil Naisiunta Iosef Naofa, St. Lasarians Special School 6 post-primary school: St Mary's Academy CBS, St. Leo's College, Presentation College, Tyndall College, and Gaelcholáiste Cheatharlach Third level: IT Carlow, Carlow College (St. Patrick's), Carlow Institute of Further Education and Training |
| Municipal facilities | Carlow County Council Carlow Central Library Carlow Garda Station |
| Transport | Bus Eireann Carlow Railway Station: Dublin Heuston to Waterford line; Waterford - Clonmel - Limerick Junction line (Connections with Dublin, Cork, Limerick and Galway) TFI Local Link Regular Rural Bus Service TFI Door-to-Door Bus Service |
| Tourism | Cultural Quarter in Carlow Town in an area around the George Bernard Shaw Theatre, Visual Art Gallery, County Museum and Carlow Cathedral. |
| Amenity | Carlow Town Park, Barrow Track. Football Clubs, GAA Clubs, Tennis Club, Athletics Club, Rugby Club. |
| Local Authority Housing | 903 units owned by Carlow County Council |
| Environment | Air quality monitoring: Carlow Town station updates every 2-5 minutes with the calculated Air Quality Index for Health (AQIH) |

| | |
|---|--|
| | River Barrow and River Nore SAC (Site code: 002162) |
| Sustainable Energy Communities | Carlow County SDG SEC Carlow College St Patrick's and Adjacent Schools. |
| Other Energy or Sustainability Initiatives Underway | County Carlow Environmental Network Carlow Comhairle na nÓg IT Carlow Green Campus Committee County Carlow Chamber Sustainable Business Council |

Figure 2.2 overleaf present an aerial view of Carlow town and hinterland, including DEDs.



Title

Fig. 2-2 Carlow Town and Environs

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2.5 Tullow

Tullow is an important urban settlement in County Carlow, with a population as per 2016 census of 5,446, including the Tullow Urban, Tullow Rural and Tullowbeg DEDs. The population of Tullow represents approximately 9.5% of the county population.

Tullow is an important urban centre located on the River Slaney in the north east of the County amid a rich, fertile agricultural hinterland. The town provides a range of residential, community, commercial and employment functions.

As a District Town, Tullow is recognised as an important driver for local economies, including a large rural hinterland, and provides a complementary role in tandem with gateway towns. The Carlow County Development Plan 2022-2028 aims to target various sectors in District Towns for development, namely Engineering, AgriFood, Tourism, Convenience retailing, Distilling and Manufacturing.

Tullow is situated along the River Slaney, a designated Special Area of Conservation. It is a requirement under the EU Habitats and Birds Directives to protect EU Designated Sites. Tullow has a high amenity and attractive green setting, especially to the south east of the bridge, with areas of important natural heritage encompassing wetlands, grassed areas and wildlife corridors.

The Tullow Local Area Plan promotes the development of a green infrastructure network for Tullow and its environs where walking, cycling, recreation and nature/ biodiversity are integrated and can complement the future sustainable development of the area. A Habitat Survey and Biodiversity Report was commissioned by the Tullow Tidy Towns Committee and the Develop Tullow Association Ltd. for Tullow and completed in August 2015.

Relevant actions already carried out in Tullow include:

- Flood Relief Alleviation Scheme (2011)
- Habitat Survey and Biodiversity Report (2015)
- Rainwater Harvesting Project (2016)
- Social Housing Investment Programme – Retrofitting (2016)
- Leak Reduction Programme (2020)
- White Goods Collection Day (2021)
- eCar Standard Charging Points
- Mulching of all public grass cutting

Tullow is home to 1 SEAI Sustainable Energy Community – Tullow & South Leinster Tennis & Sports Club. The main community interests of this SEC are energy efficiency and financial savings, sustainable/low carbon community, and renewable energy and/or community energy generation.

Table 2-6 Summary of Tullow

| | |
|-----------------------------|--|
| Population | 5,446 |
| Area | 29.08 sq. km |
| District Electoral Division | Tullow Urban, Tullow Rural, Tullowbeg |
| Main Employers | Burnside Autocyl Ltd., Mount Wolseley Resort, Tellab, Doyle's Hire and Sales, Supervalu, Tesco, ALDO, LIDL |

| | |
|---|---|
| Education | 3 primary schools (St. Columba's, Scoil Phadraig Naofa, and Scoil Naisunta Mhuire Lourdes) |
| | 1 post primary school (Tullow Community School) |
| | St. Anne's College of Further Education (part of Tullow Community School) |
| Municipal facilities | Tullow Library |
| | Tullow Museum |
| | Town Park |
| | Garda Station |
| Transport | Private bus service (JJ Kavanagh & Sons) Route 874 serves Tullow between Carlow and Hacketstown |
| | Bus Eireann route 132 - limited service between Tullow and Dublin |
| | TFI Local Link Regular Rural Bus Service – Route 800 Carlow to Arklow. Tullow is a scheduled stop on this route |
| | TFI Local Link Door-to-Door Bus Service Route 484: Bunclody to Tullow and Carlow (limited). |
| | No train service – nearest is Carlow |
| Tourism | Protected buildings: Courthouse, Museum, both churches and St. Austin's Abbey. LAP notes potential for future development such as a trail showing the historic buildings and how they relate to the town's history. |
| Amenity | GAA Club, Soccer Club, Rowing Club |
| Local Authority Housing | 557 units owned by Carlow County Council |
| Environment | River Slaney Valley SAC (site code 781) |
| | 20 designated areas of archaeological potential within Tullow's zoning boundary recorded on the OPW's Sites and Monuments Record |
| Sustainable Energy Communities | Tullow & South Leinster Tennis & Sports Club |
| Other Energy or Sustainability Initiatives Underway | Develop Tullow Association CLG |
| | DTA Tidy Towns and Climate Action Committee |
| | Tullow Sustainable Energy Network |
| | Tullow Water Conservation Group |

Figure 2.3 overleaf present an aerial view of Tullow town and hinterland, including DEDs.



Title

Fig 2-3 Tullow and Environs

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2.6 Muinebheag / Bagenalstown

Muinebheag is an important urban settlement in County Carlow, with a population as per 2016 census of 2,752 people. The population of Muinebheag represents approximately 5% of the county population. Muinebheag is a designated District Town in County Carlow, and acts as an important driver for local economies, including a large rural hinterland, and provides a complementary role in tandem with gateway towns.

The main economic sectors in Muinebheag include the manufacturing and service industries. This is highlighted by a recent investment in Walsh Whiskey and Carlow Brewing Company and the location of companies such as Autolaunch and the Burnside Group. In relation to District Towns, the County Development Plan will aim to target sectors such as Engineering, AgriFood, Tourism, Convenience retailing, Distilling and Manufacturing.

Muinebheag is home to 3 primary schools: Queen of Universe, St. Bridget's Monastery, and St. Mary's, along with 2 post primary schools: Presentation De La Salle and Coláiste Aindriú. The nearest third level institutions are in Carlow town.

Transport in the town includes Bagenalstown railway station, which is a scheduled stop along the Dublin to Waterford line. The TFI Local Link – Route 481 provides a scheduled bus service from Carlow South to Carlow Town, which includes a stop in Muinebheag. The TFI Local Link Door-to-Door Bus Service Routes 481, 482, and 486 provide a limited service between Muinebheag and Carlow town.

Tourism in Muinebheag is focused around the town's location beside the River Barrow and its historical development. As a result, the town has a rich natural and built heritage which provide valuable recreational and tourism assets for the town. A potential Greenway project is currently being examined for Bagenalstown through Borris to Palace East in Wexford. The Barrow Blueway project was proposed for County Carlow in the past, which would include Muinebheag, but the project was not granted planning permission in County Carlow.

Muinebheag is home to 2 SEAI Sustainable Energy Communities: Bagenalstown Parish and Ballinkillen Lorum Community Centre Club. Bagenalstown Parish SEC is focused on behavioural change, energy education, energy efficiency and financial savings, while Ballinkillen Lorum Community Centre Club is focused on energy efficiency and financial savings, namely a more reasonable heating and electricity supply for their community centre.

Table 2-7 Summary of Muinebheag/Bagenalstown

| | |
|-----------------------------|---|
| Population | 2,752 |
| Area | 2.89 sq. km |
| District Electoral Division | Muinebheag Urban |
| Main Employers | <p>Manufacturing sector – recent investment in Walsh Whiskey and Carlow Brewing Company</p> <p>Services sector - companies such as Autolaunch and the Burnside Group.</p> <p>Convenience retail sector and services in town centre – ALDI, SuperValu, SPAR.</p> |
| Education | 3 primary schools (Queen of Universe, St. Bridget's Monastery, and St. Mary's) |

| | |
|---|---|
| | 2 post primary schools (Presentation De La Salle and Coláiste Aindriú) |
| | Nearest third level institutions located in Carlow town. |
| Municipal facilities | Muinebheag Library Garda Station |
| Transport | Bagenalstown railway station - scheduled stop along the Dublin to Waterford line TFI Local Link – Route 481 Carlow South to Carlow Town TFI Local Link Door-to-Door Bus Service Routes 481, 482, and 486 (limited) |
| Tourism | Attractions focused around the town's location beside the River Barrow and its historical development. As a result, the town has a rich natural and built heritage - valuable recreational and tourism assets for the town. |
| Amenity | Potential Greenway being examined in Bagenalstown through Borris to Palace East in Wexford. Barrow Blueway proposed in the past but not granted planning permission in Carlow. Muinebheag Park, Barrow Walkways, Bagenalstown Swimming Pool, Bagenalstown Cricket Club, Bagenalstown AFC, Bagenalstown Pitch & Putt, Barrow Valley Riding Club. |
| Local Authority Housing | 405 units owned by Carlow County Council |
| Environment | River Slaney Valley SAC (site code 781) |
| Sustainable Energy Communities | Bagenalstown Parish Ballinkillen Lorum Community Centre Club. |
| Other Energy or Sustainability Initiatives Underway | Bagenalstown Tidy Towns |



Title
Fig. 2-4 Muinebheag (Bagenalstown) and Environs

Project
Carlow Decarbonisation Zone



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2.7 Other potential areas

A county-wide overview was conducted in order to identify any areas in County Carlow that could be considered for Decarbonisation Zone potential, both urban and rural. For example Myshall is a village and rural area that has expressed interest in becoming a Decarbonisation Zone.

Many parts of County Carlow could conceivably be identified to satisfy the qualification criteria set out in Section 2.1. In examining options, we sought to identify areas with significant potential for carbon emissions reduction, community engagement, and the chance to replicate the decarbonisation effort in other locations.

Given the rural nature and low population density across the majority of the county, we did not identify a particular rural area with strong potential to meet the aims of the Decarbonisation Zone initiative, i.e. to set the county on a path to achieving the emissions reductions required by Government by 2030. Smaller, more rural areas of the county would not be able to facilitate meeting these decarbonisation targets as they have a lower energy demand than more urban, densely populated areas.

While it is currently not feasible to consider a rural area as County Carlow's first Decarbonisation Zone, these areas will benefit from a wider roll-out of the Decarbonisation Zone concept across the county in the future.

2.8 Preferred area for DZ

2.8.1 Rationale for selection

Carlow, Tullow, and Muinebheag are all important urban settlements within County Carlow, each providing necessary residential, community, commercial and employment functions. The County Development Plan for County Carlow (2015-2021) and Local Area Plans for Tullow and Muinebheag (2017-2023) outline the path forward for sustainable development for these urban settlements, with environmental issues and green infrastructure playing a major role in the future development of the county. The Decarbonisation Zone initiative will contribute to this development and provide a blueprint for implementing similar decarbonising measures in surrounding areas of County Carlow.

The Climate Action Plan 2019 highlights the leadership role to be played by the public sector, including local authorities, and the importance of citizen engagement and community leadership. The guidelines set out by the government highlight the need for the Decarbonisation Zone to set the chosen area on a path to achieving the greenhouse gas emissions reductions required by Government by 2030, and, learning from that experience, to advance a wider roll-out of the Decarbonisation Zone concept across a wider local authority system, in line with evolving climate policy and legislative requirements.

These outcomes must be capable of meeting the Government's targets for carbon emissions reductions, an average 7% per annum reduction in overall greenhouse gas emissions from 2021 to 2030 (a 51% reduction over the decade). While the Decarbonisation Zone would no doubt be successful in a smaller town such as Tullow or Muinebheag, smaller towns have less scope to set County Carlow on a path to achieving the greenhouse gas emissions reductions required by Government by 2030.

Carlow town is home to approximately 42% of the County Carlow's total population and consumes the most energy in the county. In order to achieve Government's target of a 7% per annum reduction in overall greenhouse gas emissions from 2021 to 2030, the Decarbonisation Zone concept should, based on all available data, be implemented in Carlow town and then rolled out on a county-wide level. As a centre of education, including third level colleges, the potential to engage with the student body and amplify the decarbonisation message across the county is strong. The potential to engage with large employers in both public and private sector, means an initiative in Carlow town can also reach a wider workforce. By selecting Carlow town, the county-wide dissemination and learning throughout the county will be strongest.

Tullow would be an excellent candidate for an expansion of the Decarbonisation Zone concept due to its existing infrastructure and community-led sustainability projects. This report recommends implementing the Decarbonisation Zone concept in Carlow Town, and then expanding the project to include Tullow and Muinebheag as soon as feasible.

2.8.2 Scope of the DZ boundary around Carlow Town.

A number of options were considered with respect to Carlow Town:

Focus on Carlow Urban DEDs only: this would be possible, but would lose the benefits of having IT Carlow and Teagasc and other big employers inside the DZ. That may detract from the opportunity to build successful partnerships and disseminate the benefit (knowledge transfer, engagement with students, workers) around the County. Suburban residential areas will also have a lot to contribute in relation to carbon emission reduction, and such areas are typically found in Carlow Rural DED.

Include the entire Carlow Municipal District: this approach would bring a combination of urban focus and rural focus to the DZ. It would add 32 sqkm but just 2,100 additional population approx.. In Figure 2.3 one can see the 'urban settlement' shading for Carlow Graiguecullen (as per CSO urban classification). It corresponds fairly closely with the first three DEDs (Carlow Urban, Graigue Urban and Carlow Rural) albeit the norther portion of Carlow Rural is not shaded. By contrast, the three additional DEDs Ballincarrig, Johnstown and Burton Hall that make up the balance of the Municipal District are almost fully rural in nature. Including them would enable a focus on agricultural sector decarbonisation. This would require specific

actions and engagement different in nature to the town itself. Including the full Municipal District would change the scope and focus of the DZ and require more resources. The risk of 'overstretching' and failing to gain traction needs to be borne in mind.

The recommended approach is to include **Carlow Urban DED, Carlow Rural DED and the Graigue Urban DED**. At just over 20,000 population, this represents approximately 42% of the population base of the county in an area of 24 square kilometres. This area is sufficiently focussed for a coherent DZ programme that can engage with key centres of learning, employment and recreation whose reach is county-wide.

Carlow County Council will also co-operate with **Laois County Council** in relation to the suburban areas of Graiguecullen, County Laois; this area will also benefit from the decarbonisation initiatives.

3 PROPOSED DECARBONISATION ZONE AND ACTIONS

3.1 Overview of opportunity areas

The briefing paper on Decarbonisation Zones prepared by CARO highlights emerging learnings and perspectives of the sector in developing decarbonising zones. Decarbonisation Zones do not just refer to low-carbon and renewable energy generation (electricity and heat) technologies but should also consider other areas where decarbonisation initiatives could be implemented.

There is a wide variety of decarbonisation opportunities available in Carlow Town that include the following areas:

- Community Engagement and Behavioural Change
- Buildings and Energy Efficiency
- Transport
- Green Spaces
- Biodiversity
- Resource Efficiency and Waste Management
- Regeneration
- Infrastructure and Public Works

Figure 3.1 overleaf presents the geographical area of the Decarbonisation Zone.

3.2 Community Engagement & Behavioural Change

The support and engagement of the community in Carlow Town will play a central role in the Decarbonisation Zone initiative across a variety of sectors. A motivated and enthusiastic community can enable carbon reduction by changing attitudes and behaviours. Lifestyle changes in how we travel, what we consume and how we use energy will be effective.

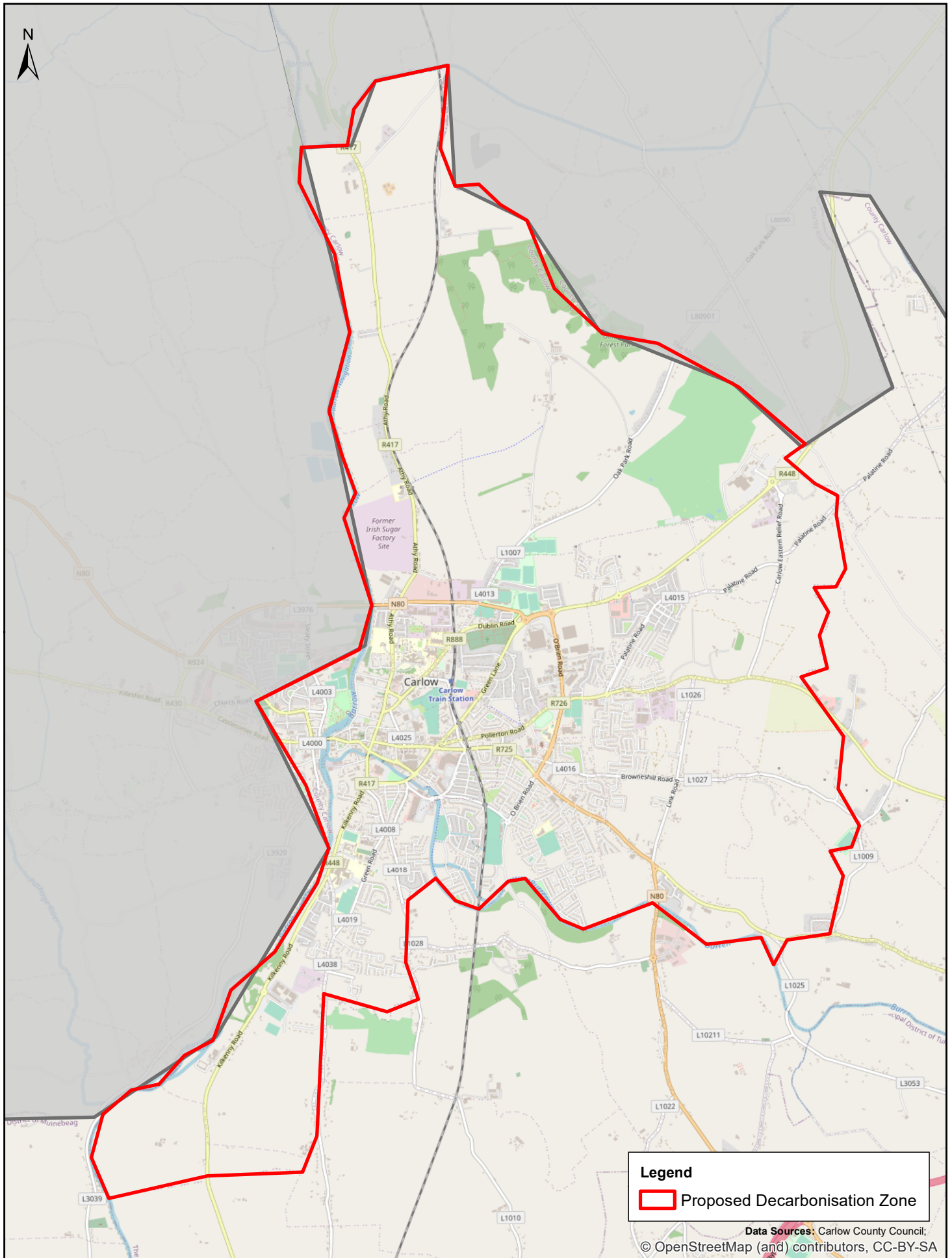
Working with local community organisations and stakeholders will play a key role to promote the Decarbonisation Zone initiative and encourage the wider community to implement green behaviour changes in households and businesses. Two Sustainable Energy Communities (Carlow County SDG and St. Patrick's College and adjacent schools) are already underway in the DZ area. These can develop further and be joined by other SECs and other representative groups, for example residents' groups, sports clubs and so on.



Carlow County Council will continue to establish community engagement initiatives to promote sustainability. Upcoming examples include recycling and gardening workshops, National Spring Clean, and 'Bag it or Bin it' campaign.

As a centre of learning, research and dissemination, IT Carlow and St Patrick's College can both amplify the climate change initiatives and spread good practices throughout the region. Schools and colleges can also consider implementing projects around walking, cycling, and encourage sustainable dietary initiatives where possible such as 'Meatless Mondays' and education about local produce and the carbon footprint of food.

A communications plan that includes smart technology and social media as well as working with community networks will be effective in engaging the all age groups.

Action Comm_1 – Develop a Community Engagement Plan for the DZ Area



| | | | | | | | | | | | |
|----------------------|--|-----------------------------|---|---------------|---|---|--------------|---------------------|----------------|------------------|-----------------|
| Title | Fig. 3-1 Recommended Decarbonisation Zone for Carlow Town | Project |  West Pier Business Campus, Dun Laoghaire, Co Dublin, Ireland. Tel: +353 (0) 1 488 2900 Email: ireland@rpsgroup.com Web Page: rpsgroup.com/ireland | Issue Details | | | | | | | |
| | | Carlow Decarbonisation Zone | | Client |  CARLOW COUNTY COUNCIL | <table><tr><td>Drawn By: IP</td><td>Project No. MDR1669</td></tr><tr><td>Checked By: CB</td><td>Date: 02/04/2021</td></tr><tr><td>Approved By: CB</td><td>File Ref: MDR1669Arc025D02</td></tr><tr><td>Scale: 1:40,000 @ A4</td><td></td></tr></table> <p>NOTE:</p> <p>1. This drawing is the property of RPS Group Ltd. It is a confidential document and must not be copied, used, or its contents divulged without prior written consent.</p> <p>2. Ordnance Survey Ireland Licence EN 0005021 ©Copyright Government of Ireland.</p> | Drawn By: IP | Project No. MDR1669 | Checked By: CB | Date: 02/04/2021 | Approved By: CB |
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3.3 Buildings and Energy Efficiency

Implementing measures to limit energy demand and increase energy efficiency in buildings is one of the main actions that must be taken in order to achieve the targets set out by Government. Carlow Town presents several opportunities for this across various sectors.

Public Sector organisations will all have to meet de-carbonisation targets by 2030, requiring retrofitting buildings with energy efficiency measures and using new low-carbon technology:

- Council Offices and facilities are currently being retrofitted in line with Government targets. Carlow's county hall, library and museum are also due to be upgraded. A retrofit of Local Authority Housing owned by Carlow County Council must also take place.
- Carlow IT are planning an energy retrofit of campus buildings which could potentially be adopted by other third level colleges. Primary and post-primary schools will also engage in energy improvements.
- Hospitals and Health Centres have high energy demand, so a retrofit of HSE buildings to increase energy efficiency would have a large impact.

Local businesses and the wider community can also work to implement energy saving initiatives in buildings across the area. Business and industry will be encouraged to improve energy efficiency and adopt low carbon technology for heating. A programme to bring companies within the DZ together to pledge concerted efforts on decarbonisation will be developed, in partnership with local business groups such as the Carlow Chamber of Commerce.

In the residential sector, investment in home insulation, smart energy controls and renewable energy sources will be required. A switch from fossil fuels to electric heat pumps will form part of the decarbonisation plan. This programme will tie-in with national initiatives led by SEAI, but will also engage with local homeowners.

The feasibility of a District Heating network – for example to make use of waste industrial heat, and to develop synergy between larger heat users in the zone – will be explored.

Community engagement and behavioural change campaigns as part of the DZ programme will be central to reducing energy use in the built environment.

The Renewable Energy Strategy for County Carlow, which will form part of the Development Plan 2022-2028, will identify opportunities for greater implementation of renewable technologies such as solar, wind and bioenergy at both small and large scale.

| |
|---|
| Action Ener_1 – Public Sector Buildings DeCarbonisation Plan |
| Action Ener_2 – Business and Industry Carbon Reduction Programme |
| Action Ener_3 – Residential Energy and Insulation Retrofit Programme |
| Action Ener_4 – District Heating feasibility study |

3.4 Transport

As part of the Decarbonisation Zone, initiatives surrounding sustainable, low-carbon transport will play a crucial role. There are three dimensions to the DZ plan:

1. Achieving greater use of active travel (walking, cycling) thereby reducing car journeys.
2. Introducing public transport services to further reduce car journeys.
3. Making a shift towards EVs and other low-carbon vehicles.

Carlow County Council plan to implement a bus service in Carlow and in line with decarbonisation goals, these new vehicles are proposed to be electric (or alternative form of low-carbon fuel). The Council is also

planning to adopt a low-carbon vehicle fleet for its own vehicle fleet. The DZ project can examine opportunities to enhance public transport links to reduce car journeys from other parts of the county. Plans for a link road are underway which will reduce congestion in town centre, and encourage a further shift towards active travel modes, which in turn will improve local air quality. Improving facilities for EVs, in conjunction with EV service providers, will also form part of the plan.

The existing Active Travel Programme will also enhance cycling and walking facilities in Carlow Town. This will be developed in conjunction with the 'Safe Routes to School' programme developed by the National Transport Authority. A series of Active Travel schemes have been approved for grant funding from National Transport Authority, with a total investment of €2.4 million across the entire county. Schemes that are related to the Decarbonisation Zone are as follows.

| Approved Active Travel Schemes relating to the DZ Area |
|---|
| <ul style="list-style-type: none"> • River Burren Walking & Cycle Track • Hanover to Tyndall Pedestrian and Cycle Scheme • Green Lane/Railway Road Junction Improvement Scheme • Tullow Road Pedestrian and Cycle Scheme, Carlow • Dublin Road Pedestrian and Cycle Scheme, Carlow • Staplestown Rd/Pollerton Rd Permeability Link, Carlow • River Barrow Walk Permeability Link, Carlow • Transport Studies / Mobility Plans - including Carlow Town • Light Segregation Cycle Schemes • Low Cost Junction Tightening/Pedestrian Crossing Schemes • Low-Cost Permeability Measures • Safe Routes to Schools Programme - Support Infrastructure |

Around the world, smart technologies such as smart-phone apps and online mapping tools are opening up new opportunities for people to use active travel modes – for example bike share and walking paths – and to make more use of public transport. Schemes to share bicycles and cars can reduce overall dependency on individual private car ownership. Carlow can also avail of these new opportunities and use smart technology to make the town and hinterland more accessible and less congested.

Carlow IT will explore modal shift initiatives and reconsider parking policies, low carbon transport innovations to reduce car dependency e.g. bike hire facilities.

Primary and post-primary schools will also play a large role in reducing traffic by implementing green travel initiatives in conjunction with Carlow County Council. Active travel infrastructure will support the clusters of schools in the town to encourage safe walking and cycling.

Local employers and the wider community in Carlow Town will also play a role in decarbonising transport in the area by promoting lower-carbon transport initiatives among employees and the community where possible (walking, cycling, public transport, carpooling).

Community engagement and behavioural change campaigns as part of the DZ programme will be central to reducing transport-related carbon emissions.

| |
|--|
| Action Tran_1 – Active Travel Programme for walking and cycling |
| Action Tran_2 – Carlow Public Transport Project |
| Action Tran_3 – Schools and Colleges Active Travel Programme |
| Action Tran_4 – Business and Industry Mobility Programme |
| Action Tran_4 – Smart Technology Innovation |
| Action Tran_5 – EV Charging Point Programme |
| Action Tran_6 – Low Carbon Fleet for Carlow County Council |

3.5 Green Spaces

Green spaces will also play a large role in the Decarbonisation Zone project by providing carbon sequestration and reducing heat island effects. Integrating these with active travel can also support transport proposals.

Carlow County Council will examine the potential for enhancing existing municipal green spaces and implementing actions to enhance carbon sequestration and heat reduction in urban centre, such as planting trees along streets. A proposal underway to turn Hanover Park into a bike park with new facilities which will also contribute to this. A potential revisit of the Barrow Blueway project would also have a great impact in this area if feasible.

Carlow IT, along with other third level colleges could examine the potential for enhancing existing green spaces on campus and creating new spaces where possible to increase levels of carbon sequestration on campus. Opportunities on primary and post-primary school grounds will also be considered. Similarly, other landowners such as business and sports clubs can also be involved.

By developing a Green/Blue Infrastructure Plan for the town, the potential can be fully developed along with stakeholders in the community.

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| Action Gree_1 – Develop a Green/Blue Infrastructure Plan for Carlow |
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3.6 Biodiversity

Conserving and promoting biodiversity will also play a large role in this project, which will include objectives from the National Biodiversity Action Plan.

Carlow County Council will examine potential areas to create biodiversity gardens, stemming from the success of the Barrack Street Biodiversity Garden in Carlow Town. The proposed development of Hanover Park will also have a strong biodiversity component. The Council aims to implement an invasive species policy, hedge cutting policy, and other biodiversity projects in line with the National Biodiversity Action Plan which will also contribute to the Decarbonisation Zone. Opportunities to plant more hedges, for example on the fringe of residential areas, will be developed.

There is also potential to carry out a Biodiversity Action Plan for third-level campuses at IT Carlow and St Patrick's College which would map habitats and implement measures to manage and develop these areas. Again, other second and third level educational institutions in Carlow Town could consider similar projects.

Creating a Biodiversity Map resource, built on citizen led information – for example using smart-phone apps to collect and share information - will be a goal of the DZ project. When resources are mapped, ways to improve interconnection between biodiversity resources in the town will also be explored.

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| Action Biod_1 – Create a Biodiversity Map for Carlow |
| Action Biod_2 – Develop a Biodiversity Strategy for Carlow. |

3.7 Resource Efficiency and Waste Management

Sustainable management of waste is also important to consider and should include objectives from the National Waste Action Plan for a Circular Economy.

Carlow County Council will develop circular economy programmes to link decarbonisation with waste new prevention, minimisation and recycling initiatives. The Council will also implement actions in the Litter Management Plan 2021 -2023 which was recently adopted. Addressing littering and illegal burning of waste will enhance the physical environment and improve air quality.

Third level colleges (IT Carlow and St. Patrick’s College) could potentially conduct research into the main areas of waste on the campus (food, plastic packaging, etc.) and devise a plan to reduce waste and overconsumption where possible. An Taisce Green Schools also have opportunities for projects relating to litter and waste which could be undertaken by primary and post-primary schools in the area.

Waste reduction initiatives will be rolled out across the local community, with a potential collaboration between businesses and the Local Enterprise Office and Carlow Chamber of Commerce. Local waste collection companies will also play a central role.

Engaging with the social sector – for example initiatives with local charity shops and creating schemes for repair and reuse of furniture and appliances – is another action area that will reduce overall resource consumption.

Action Circ_1 – Develop a Circular Economy Forum

3.8 Regeneration

Regeneration of various areas within Carlow Town will also contribute to the Decarbonisation Zone initiative and increase community engagement. Creating a vibrant and attractive town core will support the efficient land use and compact growth that is at the heart of Project Ireland 2040. Refurbishing vacant or underutilised properties is more carbon efficient than building new ones. By attracting more residents and more trade to the town centre, the opportunity for a low carbon lifestyle increases.

A **Public Realm and Pedestrian Linkage Project in Carlow Town** proposal has been made to the Urban Regeneration Development Fund forming part of the Carlow Regeneration Vision and Implementation Strategy (RVIS) 2040.

The Proposal seeks to provide Carlow Town with plentiful, accessible and exciting public spaces that are filled with people all day and all year round, providing a fundamental element of urban life. The goal is to help more people spend more time outdoors, together. By improving the quality and enhancing the accessibility to public open spaces, it is sought to produce multifunctional benefits including health and wellbeing as well as sustainable transport, biodiversity and recreation.

It is proposed to significantly enhance the Town Centre of Carlow through interventions such as realigning the road at Potato Market, creating a new Pedestrian Link to Barrack Street as well as improving the pedestrian connections between the Town Centre and the Railway Station. A reimagined and redesigned Potato Market, when implemented with the Barrack Street pedestrian Link and Carlow College Link will be a ‘game changer’ for Carlow Town. This transformational Proposal will refocus and overhaul this crucial urban location within the Town Core, breathing new life into the space and surrounding businesses. The change will merge the 100,000 per week footfall of Fairgreen Shopping Centre and the 10,000 per week footfall of the Town Core to create an overall investment package that will drive regeneration.

Funding has been secured for phase 1 of the above project, including the development for outdoor markets in Carlow Town which presents an opportunity to promote local produce and public awareness of food miles and carbon footprints

With new public transport in place, and better active travel facilities, the potential exists to extend the radius of influence of the IT Carlow campus so that student housing could also aid in town regeneration and promote low-carbon transport.

Physical regeneration of older premises in the urban core will also enhance energy efficiency and reduce energy related emissions. A Neighbourhood Regeneration Plan for the town can identify areas where physical upgrade of buildings and streets can be focussed, for example to create vibrant residential neighbourhoods that can enjoy the newly upgraded public realm.

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| Action Regn_1 – Implement Carlow Regeneration Vision and Implementation Strategy |
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| Action Regn_2 – Develop a Neighbourhood Regeneration Plan (Housing and Business Retrofit and Renewal) |
|--|

3.9 Infrastructure and Public Works

The infrastructure that keeps Carlow running – for example water, wastewater, roads, footpaths, lighting and telecommunications – is also responsible for significant carbon emissions. There are a number of ways that carbon reduction can be achieved in the infrastructure and public works area.

- Potential collaboration between Carlow County Council and Irish Water to explore decarbonisation measures at the Mortarstown Municipal Wastewater Treatment Plant, such as expanding the Sludge Drying Reed Beds project, retrofitting more energy efficient plant, and introducing renewable energy supply – for example using solar PV or micro-wind generation.
- Applying Sustainable Urban Drainage Systems (SUDS) in all projects in order to minimise areas of hard paving, reduce rainfall run-off, and create more biodiversity enhancement from storm water management. A more nature-friendly approach will reduce the need for hard infrastructure and pumping, and thereby reduce carbon.
- Using the former landfill at Powerstown (outside of the DZ area but forming part of the overall infrastructure of the area) as a site for renewable energy generation using a solar PV installation.
- Continuing to switch public lighting to LED lamps, which reduces energy consumption and enables a reduction in light pollution. Further ways to minimise night time lighting (for example through dynamic dimming and smart controls) can assist in reducing energy consumption and align with the movement for darker skies.
- Examining the carbon efficiency of Carlow County Council public works projects (either direct labour or contracted projects) by drilling down into material efficiency, use of low carbon materials, and reducing carbon intensity of equipment and work methods.

Collaboration with other bodies such as the Office of Public Works, energy providers and telecommunications companies, to identify other opportunities to modernise infrastructure and reduce generation of greenhouse gases.

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| Action Infr_1 – Energy Efficiency/ Renewable Energy programme for Water and Wastewater |
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| Action Infr_2 – Powerstown Landfill Solar Energy Project |
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| Action Infr_3 – Public Lighting LED retrofit programme and Light Pollution plan. |
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| Action Infr_4 – Low carbon Public Works project |
|--|

3.10 Summary Table

A summary of the actions to be implemented as part of the Decarbonisation Zone in Carlow Town, allocated to the leading body or sector, is outlined in **Table 3.1** below.

The overall programme to develop the actions further, and to plan the necessary governance, monitoring and reporting for implementation, will be prepared over the course of 2021, leading to preparation of an implementation plan to be submitted to the Department of Housing, Local Government and Heritage before the end of 2021.

Table 3-1 Summary of Actions for Key Partners

| Key Partner | Buildings & Energy Efficiency | Transport | Green Spaces | Biodiversity | Waste Management | Regeneration | Community Engagement & Behaviour Change |
|-----------------------|---|--|--|---|---|--|--|
| Carlow County Council | Council Offices and facilities currently being retrofitted in line with Government targets. County hall, library and museum to be upgraded. | Bus Transport Service – current programme to implement bus service in Carlow, vehicles should be electric. | Examine potential for enhancing existing municipal green spaces and implement actions to enhance carbon sequestration and heat reduction in urban centre such as planting trees along streets. | Examine potential areas to create biodiversity gardens, stemming from success of the Barrack Street Biodiversity Garden in Carlow Town. | Explore collaboration with Irish Water to implement decarbonisation measures at Wastewater Treatment Plants, expand Sludge Drying Reed Beds project, etc. | Urban realm Improvements underway. URDF funding received for first phase of Public Realm and Pedestrian Linkage Project in Carlow Town | Continue to establish community engagement initiatives. Upcoming examples include recycling and gardening workshops, National Spring Clean, and 'Bag it or Bin it' campaign. |

| Key Partner | Buildings & Energy Efficiency | Transport | Green Spaces | Biodiversity | Waste Management | Regeneration | Community Engagement & Behaviour Change |
|-----------------------|--|--|---|---|---|--|---|
| Carlow County Council | Carlow County Council Vehicle Fleet – intention to switch fuel types to low-carbon alternatives. | Active Travel Programme actions to enhance cycling and walking facilities; Safe Routes to School programme (NTA) | Proposal underway to turn Hanover park into a bike park with new facilities | Include measures to manage biodiversity in the Hanover park development adjacent to River Burrin, along with other similar future developments. | Implement actions in Litter Management Plan 2021 -2023 adopted by Carlow County Council | Roof area in development for outdoor markets – potential opportunity to promote local produce and public awareness of food miles/carbon footprint. | Work with local community organisations to promote the Decarbonisation Zone initiative and encourage the wider community to implement green behaviour changes in households and businesses. |

| Key Partner | Buildings & Energy Efficiency | Transport | Green Spaces | Biodiversity | Waste Management | Regeneration | Infrastructure and Public Works |
|-----------------------|---|--|---|---|--|--|---|
| Carlow County Council | Retrofit of Local Authority Housing owned by Carlow County Council. | Link road to be completed which will reduce congestion in town centre. | Revisit Barrow Blueway project if feasible. | Implement invasive species policy, hedge cutting policy, and other biodiversity projects. All biodiversity projects should consider the All-Ireland Pollinator Plan, National Biodiversity Action Plan for 2017-2021, and EU Biodiversity Strategy for 2030 (to be published May 2021). | Address the practice of illegal burning of waste in the DZ area and implement measures to combat it. | Examine potential for regeneration and carbon sequestration opportunities in Carlow Rural. | Applying Sustainable Urban Drainage Systems (SUDS) in all projects. Continuing to switch public lighting to LED lamps, which reduced energy consumption and enables a reduction in light pollution Examining the carbon efficiency of Carlow County Council public works. Projects. |

REPORT

| Key Partner | Buildings & Energy Efficiency | Transport | Green Spaces | Biodiversity | Waste Management | Regeneration | Community Engagement & Behaviour Change |
|-------------|--|--|--|---|---|--|--|
| IT Carlow | Energy retrofit of campus buildings to meet Government Targets | Implement modal shift initiatives, reconsider parking policies as suggested. | Examine potential for enhancing existing green spaces on campus. | Potential for implementation of IT Carlow Green Campus projects (An Taisce) relating to biodiversity. | Conduct research into main areas of waste on IT Carlow campus (food, packaging, etc.) and devise a plan to reduce waste and overconsumption where possible. | Use public transport to extend the radius of influence of the campus so that student housing could also aid town regeneration. | As a centre of learning, research and dissemination, IT Carlow can amplify the climate change initiatives and spread good practices throughout the region. |
| | | Low carbon transport innovations to reduce car dependency e.g. bike hire facilities. | Tree planting where possible to increase levels of carbon sequestration on campus. | Carry out Biodiversity Action Plan for IT Carlow Campus to map habitats and implement measures to manage these areas. | | | Potential opportunities to collaborate with other third level colleges. |

REPORT

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REPORT

| Key Partner | Buildings & Energy Efficiency | Transport | Green Spaces | Biodiversity | Waste Management | Regeneration | Community Engagement & Behaviour Change |
|------------------|--|---|--------------|--------------|--|--------------|--|
| HSE | Hospitals and Health Centres have high energy demand. Retrofit of HSE buildings to increase energy efficiency. | Promote lower-carbon transport initiatives among employees where possible (walking, cycling, public transport, carpooling). | | | Potential to examine waste produced in HSE buildings and aim to reduce where possible. | | |
| Local businesses | Implement energy saving initiatives in buildings. | Promote lower-carbon transport initiatives among employees where possible (walking, cycling, public transport, carpooling). | | | Reducing waste initiatives - potential collaboration with Local Enterprise Office and Carlow Chamber of Commerce | | Engage with local community initiatives to promote sustainability and decarbonisation. |

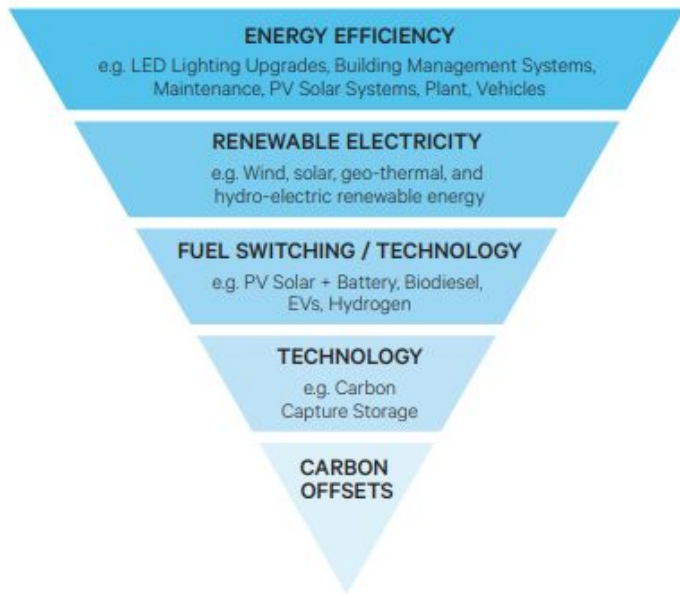
REPORT

| Key Partner | Buildings & Energy Efficiency | Transport | Green Spaces | Biodiversity | Waste Management | Regeneration | Community Engagement & Behaviour Change |
|-------------------------|---|--|---|---|--|--|---|
| Community Organisations | Implement energy saving initiatives in buildings. | Promote lower-carbon transport initiatives among the community (walking, cycling, public transport, carpooling). | Community input into green spaces and green amenity development projects. | Continue community engagement with biodiversity initiatives Past examples include 'Biodiversity for Everyone' workshop and National Tree Week | Contribute to initiatives and campaigns to promote waste reduction within the community. | Community input into regeneration projects in Carlow Town. | Play a key role in initiatives aimed at promoting sustainability and environmentally friendly behaviour changes in the community. |

Appendix 1 – Expressions of Interest Received

TULLOW DECARBONISING ZONE

25th March 2021

| | |
|---|--|
| Urban Area | Tullow Urban, Tullow Rural and Tullowbeg DEDs |
| Population | 5,446 persons (Census 2016) |
| Decarbonisation |  |
| Sustainable Development Goals Utilised | Goal 11 – Sustainable Cities and Communities Goal 13 – Climate change and its impacts Goal 17 – Partnerships for the goals |
| Objectives | <ul style="list-style-type: none"> ❖ Supporting a significant reduction in carbon emissions and air pollution in Tullow ❖ Remove large volumes of traffic from the Town Centre ❖ Encourage sustainable travel in Tullow giving easy access to pedestrian and cyclists ❖ Improved public transport options to Carlow town ❖ Encourage greater switch to electric vehicles with electric “fast charge” charging points ❖ Increased biodiversity and greater habitat protection |

| | |
|--|--|
| Actions already carried out or continuing actions | <p>Flood Relief Alleviation Scheme – 2011</p> <p>Tullow, County Carlow – Habitat Survey and Biodiversity Report - 2015</p> <p>Rainwater Harvesting Project – 2016</p> <p>Social Housing Investment Programme (retrofitting) - 2016</p> <p>Savings in water production through Leak Reduction Programme – 2020 – only 3.13% leak rate in Tullow East DMA</p> <p>White Goods Collection Day - 2021</p> <p>eCar Standard Charging Points – 5 points</p> <p>Mulching of all public grass cutting – continuing</p> |
| At Development Stage | <p>Tullow Community Water Conservation Plan (expected finish date – April 2021)</p> <p>Tullow SEC – Energy Master Plan (expected completion date – June 2021)</p> <p>Highlighting the Register of Opportunities</p> |
| Funding Applications Lodged and Forthcoming Applications | <p>Habitat and Biodiversity Study of the River Slaney – LAWPRO – 2021 – awaiting grant decision outcome</p> <p>Tullow Community Development Plan leading into the Tullow Local Area Plan - County Carlow Development Partnership – to be lodged first week of April 2021 (opportunity to plan for Climate Change and Decarbonisation)</p> |
| Future Actions and Opportunities to reduce our Carbon Footprint | <p>Use of completed Energy Master Plan:</p> <ul style="list-style-type: none"> - Upgrade Community Buildings - Purchase residential electricity on a mass scale - Upgrade eCar standard charging points to fast charging points - Upgrade of Business premises - Community energy generation <p>Development of Active Travel measures in Tullow to encourage walking and cycling - €255,000 in 2021</p> <p>Community Allotments</p> <p>Cycle Parking Bays</p> |

| | |
|--------------------|---|
| | <p>Plantation of Native Oak Mini-Forest at Pairc Mhuire</p> <p>Development of several areas of native Irish Wildflower plantations</p> <p>Public Lighting Energy Enhancement Project</p> <p>Tidy Towns move from annual planting to drought resistant planting</p> <p>Retrofitting of Council Housing Stock (2021)</p> <p>Building new Council and AHB Housing Stock with Air to Water technology e.g. 49 units for Respond! on the Shillelagh Road and 48 units for an AHB at Tullowbeg</p> <p>Upgrade of Tullow Waste Water Treatment Plant</p> <p>Development of Outer Relief Road to take cars away from town centre – walking and cycling route – biodiversity opportunity</p> |
| Lead Groups | <p>Develop Tullow Association CLG</p> <p>DTA Tidy Towns and Climate Action Committee</p> <p>Tullow Sustainable Energy Network</p> <p>Tullow Water Conservation Group</p> |
| Contact | Cllr. Will Paton |

MYSHALL MUINTIR NA TIRE

Attn: Orla Barrett

29th March 2021

Re: Climate Action – Decarbonisation Zone – Expression of Interest

Dear Ms Barrett

We are writing to express our interest in becoming a decarbonisation zone under the minimum criteria of 'rural areas with an area of not less than 4km²'.

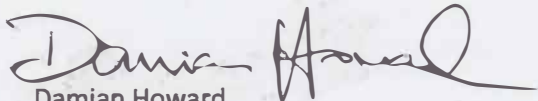
Our organisation Myshall Muintir Na Tire was formed in 1948 as a community improvement organisation, active in the development and maintenance of community public spaces and facilities, tourism development, sustainable energy initiatives, community renewable energy initiatives, biodiversity mapping and heritage preservation in the townland of Myshall.

A sample of our recent and current projects are:

- Registered as a Sustainable Energy Community (SEC) in 2018 and currently completing an energy master plan for the village and community of Myshall.
- With support from CCDP, completing a study exploring the feasibility of a community renewable energy project for Myshall.
- With support from Community Foundation Ireland working closely with Mary Tubridy in preparing a Biodiversity Action Plan for Myshall village and its environs.
- Development and promotion of a low impact sustainable tourism initiatives such as 'The Columban Way' project and walking village access routes to the Blackstairs Mountains.
- Winners of The Heritage Council 'Le Cheile San Eoraip Award' in 2019
- Project Management and Delivery of 2017, 2018 Town and Village Schemes for Myshall
- Numerous implementations of small grant projects in the areas of Biodiversity Studies, Village Planting, Energy Saving and Local NS School partnership projects.

We would welcome the opportunity of finding out more about the initiative and should you have any questions, please do not hesitate to contact the undersigned.

Yours Faithfully



Damian Howard

On behalf of

Myshall Muintir Na Tire

Sent: Wednesday 31 March 2021 10:40
To: Environment <environment@carlowcoco.ie>
Subject: Decarbonisation Zone

Dear Ms. Barrett,

I am writing on behalf of Bagenalstown Improvement Group (B.I.G.).

B.I.G. is well established in the community for the last thirty years and has been integral to raising environmental awareness in the community during this time. More recently it has been the lead organisation in the Bagenalstown Sustainable Energy Community Network. It is also participating in the design of a Water Conservation Plan for the community.

B.I.G. would like to formally express an interest in participating in the Decarbonisation Zone initiative, as advertised in the Nationalist newspaper, on behalf of the community of Bagenalstown. We would be grateful for the opportunity to discuss the initiative with you.

Yours sincerely,

Liam O'Brien. Environmental Officer. B.I.G.

Sent: Thursday 1 April 2021 15:23

To: Environment <environment@carlowcoco.ie>

Subject: Re: Climate Action - Decarbonisation Zone (DZ)

Dear Orla,

Thanks for your email on Decarbonisation Zones.

Considering the criteria, targets to be achieved and that it is only one location per county to be nominated I would like to nominate Carlow Town to be considered as the decarbonisation zone for Carlow.

Climate change and decarbonising our County is something we have to take very seriously. Through our role as Sustainable Development Goal champions and our Climate Change Adaptation Strategy, Carlow County Council have been leaders in this area over the past number of years.

Ireland's target for carbon emissions reductions is an average 7% per annum reduction in overall greenhouse gas emissions from 2021 to 2030. This target will be challenging but one we in Carlow have to rise to meet. I believe, Carlow Town, as the most populous town in the County and indeed the 13 largest urban area in the Country, offers us an opportunity to be ambitious, significantly contribute to the national reduction target and continue to be a leader in this area.

Should Carlow Town be nominated I have no doubt there will be huge community support and buy in to this project. As an elected member I will be very happy to support in coordinating that effort here in the Town.

Kind regards,

Fintan

Cllr. Fintan Phelan

Fianna Fáil Group Leader;

Carlow County Council