



Supporting Document

A Centre of Excellence for Sustainable Energy driving the Transformative Urban Regeneration of Nenagh Town Centre



Delivering a Spatial & Economic Framework for Nenagh





Introduction - Delivering Project Ireland 2040

Project Ireland 2040 and the Climate Action Plan 2019 have set out the scale of the climate change challenge, and in order to meet this challenge there is an acute need for leadership and citizen engagement across all sectors of the economy and society.

Tipperary has long been at the forefront of leading the low-carbon transition and this has only been possible through a partnership of agencies working with pioneering businesses, communities and individuals.

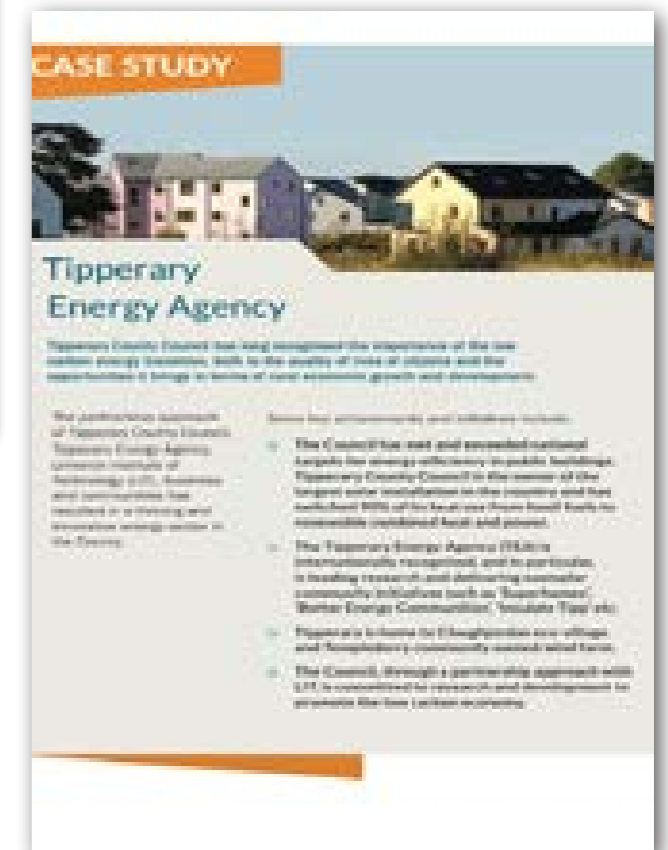
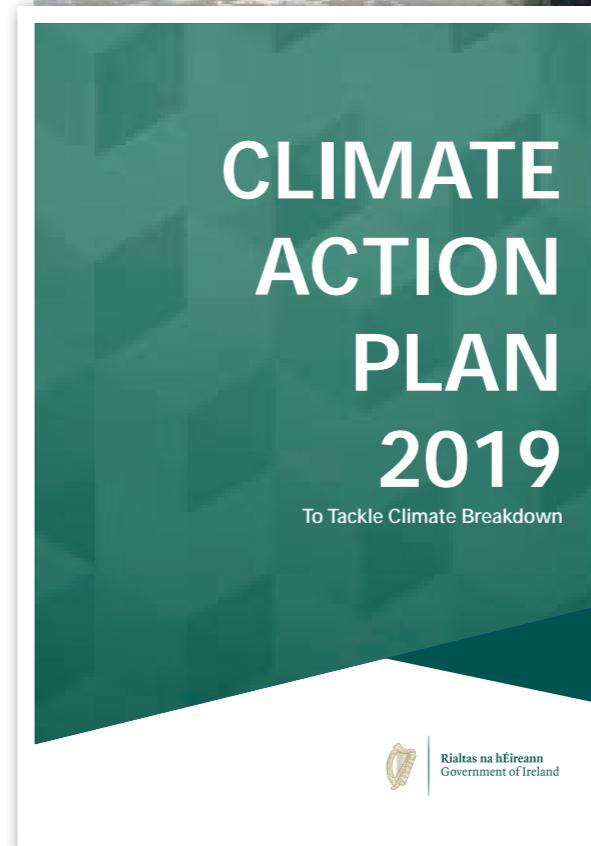
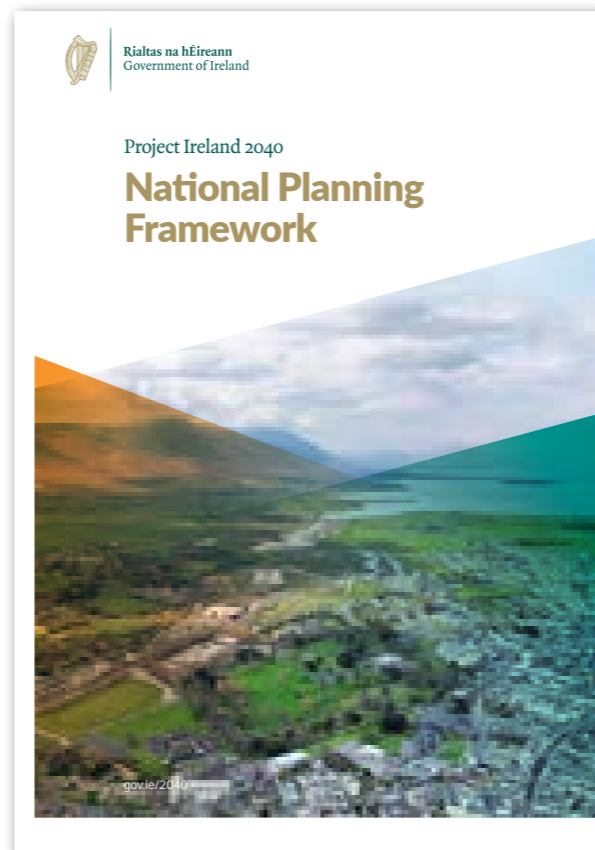
This project builds on over 20 years of partnership and collective leadership of Tipperary County Council, Tipperary Energy Agency, North Tipperary Development Company, Community Power and Limerick Institute of Technology, now coming together to develop a Centre of Excellence, which will have a national impact in accelerating the decarbonisation of Ireland's economy.

The project partners are committed to the success of the project and to contributing to delivering Project Ireland 2040 and cross-governmental policy in climate action to create a resilient, vibrant, low-carbon society.

The Centre of Excellence for Sustainable Energy, will

- be the national destination of learning and education for sustainable energy technologies, hosting over 130 social and sustainable energy professionals and researchers, in a state of the art 'demonstrator' building and will be a pilot centre for innovation in active and smart grid technology.
- be the centrepiece and catalyst for the integrated regeneration of the 'Martry's Road Regeneration Quarter', 10ha of underutilised and brownfield town centre land to be re-developed by applying best practice principles in low-carbon planning, with energy self sufficient buildings, lifecycle housing and services, set within new parks and civic spaces.

This project will achieve transformative place-making through the innovative integration of spatial and energy planning, where architectural, planning and energy experts will provide continued support through the Centre of Excellence in the design and development of a new 'Low-Carbon Neighbourhood.'





About the Project Partners



Tipperary County Council (TCC)

The Council has long recognised the importance of the transition to the low carbon economy and the benefits it can bring in terms of job creation and rural development. The Council, supported by the Tipperary Energy Agency, is the leading local authority in the country in achieving energy efficiency targets. This has been achieved through a range of measures including the implementation of one of Ireland's largest solar photovoltaic projects across nine civic buildings. The Council has won an IPI Award for its County Renewable Energy Strategy and worked with the partners on research projects and public engagement initiatives including Energy in Agriculture.

Tipperary Energy Agency (TEA)

Ireland's largest and leading energy agency. Its CEO Paul Kenny is one of the leading climate action advocates in the Country. The Agency's objective as a social enterprise, is to support society to transition to a low-carbon future and it provides a range of services from building up-grades and project development to research and public engagement. The TEA has provided expert support to a range of pioneering projects including Ireland's only community operated wind farm in Templederry and Ireland's first eco-village and has also piloted the award winning SuperHomes deep retrofit project, now a social enterprise in its own right, with plans for significant expansion of this initiative into the future.

North Tipperary Development Company (NTDC)

Delivering core governmental programmes including rural development and social inclusion with extensive experience in supporting bottom-up community led programmes and initiatives. NTDC has a national reputation for its focus on the delivery of climate action and energy projects. NTDC has a long standing collaboration with the TEA and has supported and facilitates the development of a number of award winning social enterprises, including Community Power, Ireland's first community owned Renewable Energy Supplier and Energy Communities Tipperary Co-Operative, one of Ireland's first community led home insulation and retrofitting social enterprises.

Community Power (CP)

Ireland's Community Owned Licenced Supply Company supplying renewable electricity to domestic customers, local businesses and community owned and managed facilities throughout the island of Ireland, offering a real alternative to conventional electricity supply companies. Community Power is working to support and promote local energy markets within communities where citizens and communities actively participate in renewable energy generation and distribution projects.

Limerick Institute of Technology (LIT)

LIT is a multi-campus Higher Education Institute committed to the economic, social, environmental and cultural development of the region. Its LIT Thurles campus has a specific focus on sustainability, delivering R&D projects in the field of energy, climate change, social enterprise and rural development. This R&D agenda is founded on the basis of co-operation and deep engagement with its stakeholders and partners. LIT can continue to drive its innovation agenda and enhance its position as a leader in the field through co-location within the Centre.

SigaHydro

SigaHydro is proposing to develop a Bulk Storage Hydro Electricity Station, identified by the European Union as a "Project of Common Interest", ref: PCI No. 2.29, at a site in the Silvermines, c. 9km from Nenagh. This facility will be central to the future development of renewable energy within Ireland. The proposed Silvermines Hydro's 360MW plant will offer approximately 650,000MWh annual storage capacity. Silvermines Hydro (project no. 1025) is one of the 19 European grid-scale storage projects referenced in the European Union's ENTSO-E Ten Year Network Development Plan (TYNDP) 2018.



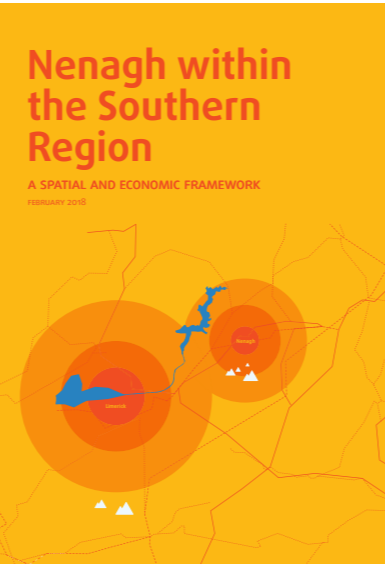
Nenagh within the Southern Region: Project Development



Nenagh Town has a population of close to 9,000 people, and is one of the fastest growing towns in the Southern Region, strategically located within the catchment of Limerick / Shannon MASP, with excellent connectivity by road and/or rail, to Dublin, Limerick, Shannon Airport and the Foynes Port areas.

Nenagh's potential to contribute to regional economic growth and development was acknowledged in the Regional Spatial and Economic Strategy (RSES), through its designation as a Key Town.

In particular, the town and its hinterland has been identified in the RSES as a location for a vibrant and diverse enterprise mix, including major research and development functions, tourism, water-based and outdoor recreation, renewable energy and emerging sectors such as agritech, life sciences, financial services and engineering.



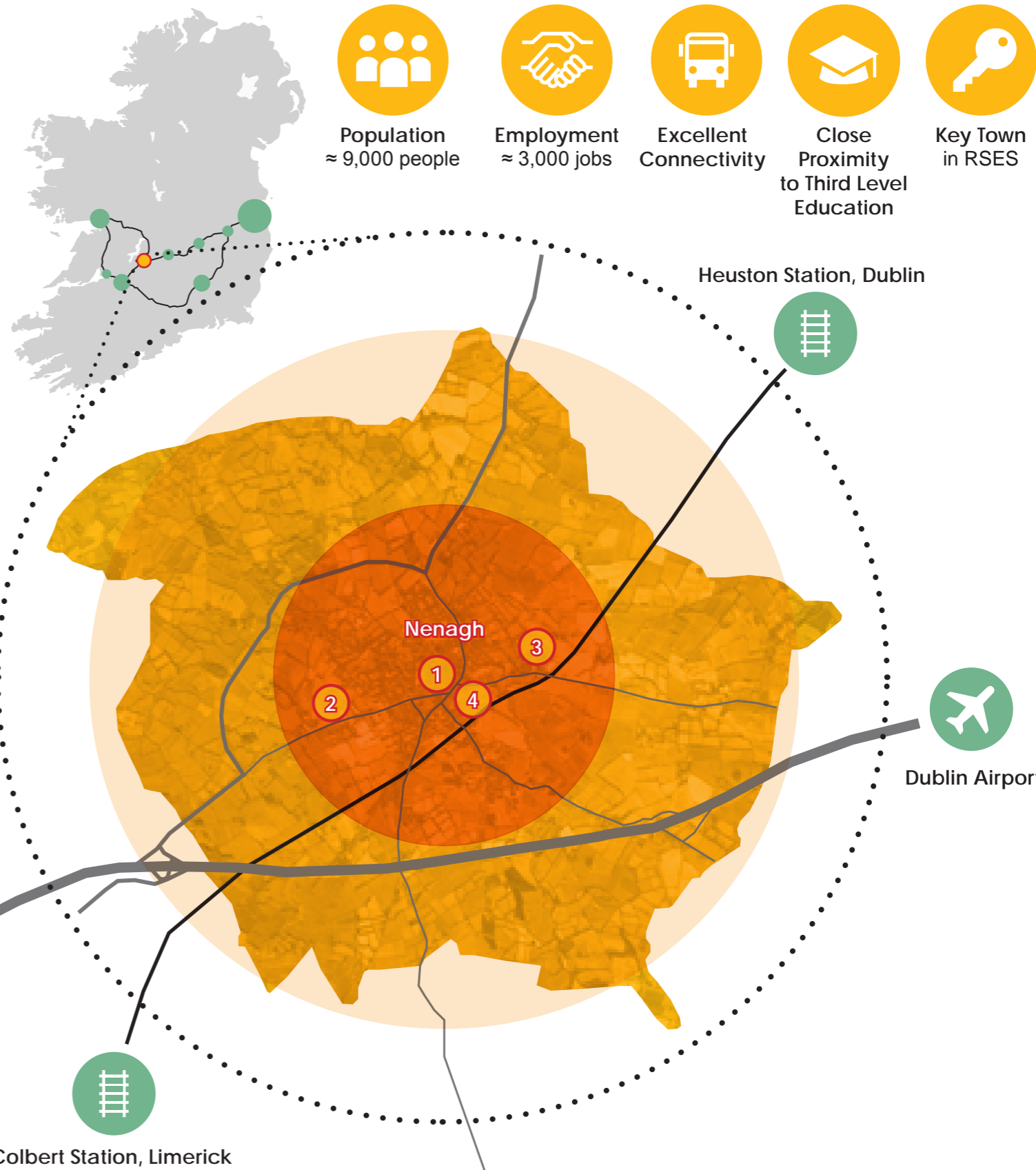
To ensure that Nenagh continues to thrive as a Key Town and regional economic driver, in 2018 Tipperary County Council commissioned the preparation of **A Spatial and Economic Framework**. This Plan seeks to harness strategic urban regeneration and economic development opportunities in the town and to ensure that Nenagh will have a sustainable and diverse economic base for its growing population.

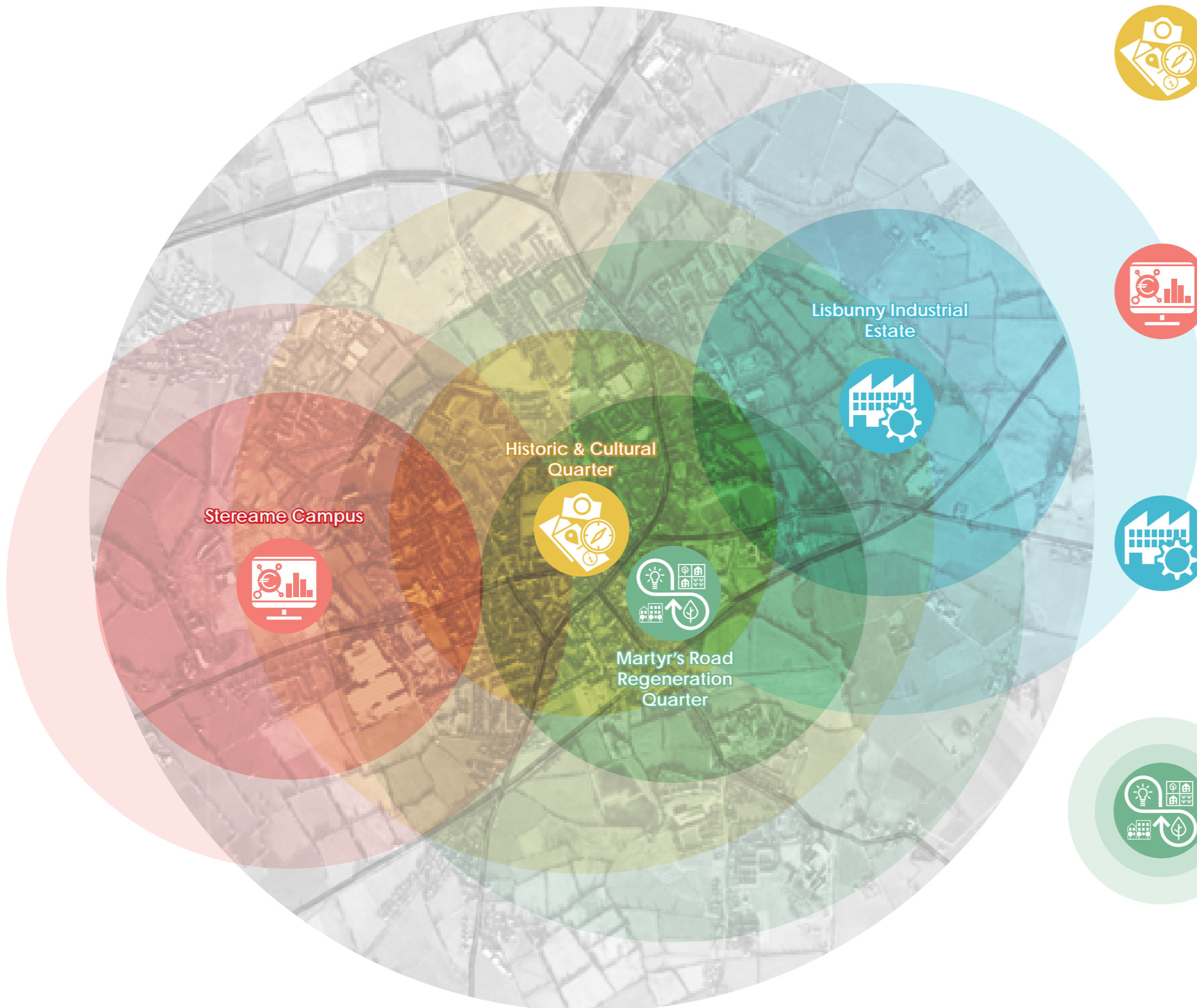
The Framework identified four core Strategic Regeneration and Investment Opportunities, each with a different focus, to capitalise on Nenagh's physical attributes and socio-economic strengths and opportunities as follows;

1. Historic and Cultural Quarter.
2. Stereame Campus
3. Lisbunny Industrial Estate
4. Martyr's Road Regeneration Quarter

The Council has invested significantly in each of these areas, through land acquisition and site assembly, establishing strategic partnerships and delivering masterplans to maximise the regeneration and development potential of Nenagh.

In 2019 Tipperary County Council and the Tipperary Energy Agency commissioned a multi-disciplinary design team to examine the feasibility of developing a Centre of Excellence for Sustainable Energy in Nenagh. Following an in-depth Feasibility Study and Site Selection process, the site at Martyr's Road was identified as providing the best possible location for the project whilst also providing an opportunity to consider the wider regeneration potential of the project. Acting as a catalyst for regeneration, the Centre of Excellence will play a key role in establishing a Low Carbon Neighbourhood in the surrounding areas.





Ongoing Investment & Delivery - Regeneration Quarters



1. Historic and Cultural Quarter

Nenagh Historic and Cultural Quarter is a large quadrant in the heart of Nenagh Town Centre characterised by a cluster of historic landmark buildings, including the Castle and Gaol, and set around Banba Square. This Plan developed in partnership with Fáilte Ireland and the OPW, will deliver the comprehensive tourism-led regeneration of the area, with world class visitor experiences, set within a new vibrant, central and attractive civic space and supported by local food, drink and service providers.



2. Stereame Campus

The Stereame Campus is Business and residential Parkland covering 38 hectares, located adjacent to Tipperary County Council Civic Offices. The Council's land activation team acquired the landholding in 2010, and commissioned a Masterplan to deliver a live-work campus focusing on the development of financial services, new enterprise and start ups, alongside housing units. The Council is currently developing the campus through public private partnership, which will see the delivery of an Enterprise Centre, residential neighbourhood and 4 hectares of sporting and recreational facilities.



3. Lisbunny Industrial Estate

Lisbunny Industrial Estate was developed by Shannon Development to ensure that the State had lands within its ownership in Nenagh to promote and support employment. Tipperary County Council purchased the remaining undeveloped lands incorporating 53.5 acres (21.65ha) in 2020. The Council is now seeking to promote the site for industrial/employment purposes for the benefit of the town and its wider hinterland while supporting existing enterprises already operating through continued investment upgrading of the industrial estate.



4. Martyr's Road Regeneration Quarter

The Martyr's Road Regeneration Quarter is a 10 ha brownfield re-development opportunity located in the heart of Nenagh Town Centre. Following the inclusion of an objective in the Nenagh and Environs Development Plan, 2013, a Master Plan was developed with the support of local landowners and was adopted by the Elected Members in 2016. This Quarter has now been re-imagined to create a vibrant **Low Carbon Neighbourhood**, with a **Centre of Excellence for Sustainable Energy** at its core.

Delivering a Low Carbon Neighbourhood





Martyr's Road Today



Martyr's Road Regeneration Quarter is strategically located between the Town Centre (2 mins walk) and Nenagh Train Station (3 mins walk). At over 10 ha in area it presents a Strategic Integrated Development opportunity of considerable scale.

- The lands comprise a large-scale town centre brownfield site, formerly largely occupied by Abbey Machinery for fabrication and manufacturing purposes.
- Much of the site contains disused, former light-industrial buildings and workshops, in a number of different land-holdings.
- It represents a large tract of under-utilised, run down land with legacy issues, in close proximity to Nenagh town centre.
- The immediate environs have witnessed recent re-generation (Lidl / Sheahan's Hardware) through implementation of parts of the *Strategic Masterplan and Urban Design Strategy - Martyr's Road 2016*.

Key Assets:

- Existing open spaces and former historic Friary
- Proximity of Train Station and town centre.
- Established linkages to town centre
- Proximity to Nenagh Municipal Town Park and Leisure Centre

Opportunity:

- Reintroducing productive uses into an under-utilised part of the town, thereby revitalising the area and catalysing further development throughout the Martyr's Road area.
- Maximising the return on public investment which has already occurred in the area.

Connectivity:

- Connecting with existing linkages and the future extension of these linkages, encouraging pedestrian and cycle permeability between the town centre, the Martyr's Road area, the Train Station (South) and Town Park (East)

Challenges:

- Multiple landowners.

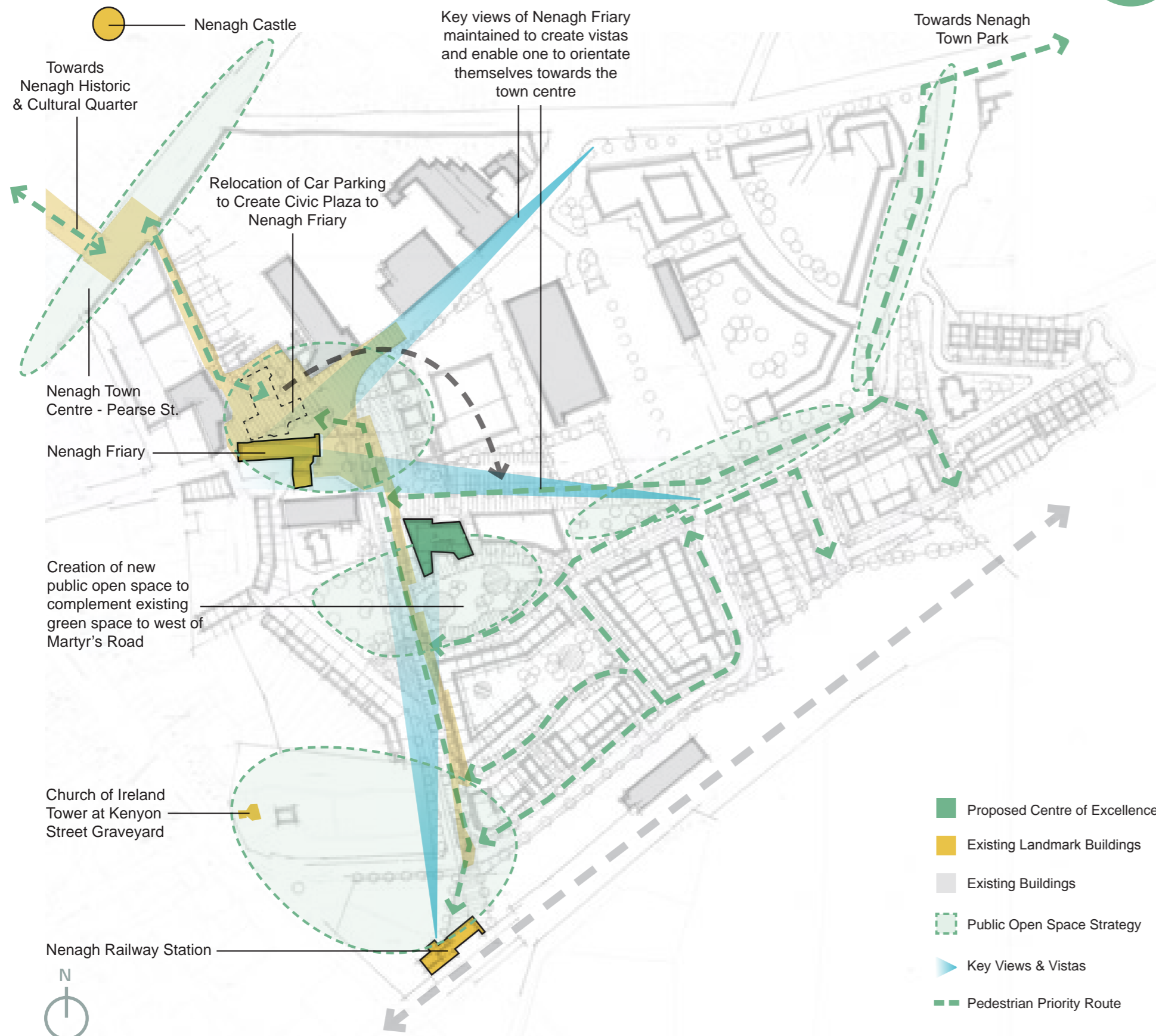
The Martyr's Road area represents a unique opportunity to design and deliver a strategic integrated development to consolidate, expand and support the town centre and support the future socio-economic growth and development of Nenagh Town.



- | | |
|---|--|
| 1. Nenagh Friary | 7. Great National Abbey Court Hotel |
| 2. Existing Vacant Industrial Buildings | 8. Towards Nenagh Town Park |
| 3. Recently developed Lidl store | 9. Nenagh Town Centre - Pearse St. |
| 4. Abbey Machinery Store | 10. Nenagh Castle |
| 5. Nenagh Railway Station | 11. Nenagh's Historic & Cultural Quarter |
| 6. The 'Spout' - Historic Monument | |



Martyr's Road - Transformational Place-Making



The Martyr's Road Regeneration Quarter Masterplan, 2016 provided an overall vision for the site to create a multi-functional neighbourhood that would complement the function and character of the town centre.

The project team have built on this place-making strategy through applying best practice principles in compact growth and through developing a vision and ambition to create a low-carbon neighbourhood.

The Masterplan has arranged buildings within the low carbon neighbourhood to create a series of outdoor spaces where everyday life can flourish: places that will reduce energy consumption, cut down unnecessary vehicular travel, minimise resources in construction, save water, maximise recycling, incorporate renewable energy technologies, and promote biodiversity.

The overall strategy will ensure that density, scale, height and massing are appropriate to its location and will prioritise pedestrians and cyclists, whilst also ensuring good public transport connections.

The Martyr's Road Re-generation Masterplan will create a sense of enclosure that will encourage the habitual use of the proposed public spaces and foster interaction between residents, neighbours, workers, students and visitors alike.

Public Open Space

- Creating new Public Open Spaces as catalysts for regeneration and change, with a significant new Civic Space adjacent to the Franciscan Friary.
- Delivering a connected hierarchy of spaces which will function as a network throughout the site.
- Public Open Spaces will be of a 'human' scale, creating comfortable and secure areas, with a uniformity and consistency of materials.
- Creation of linkages with existing recreational and amenity space at the Town Park and around the Lidl Supermarket.
- Create formal and informal spaces to support bio-diversity and green corridors.

Streetscape

- Existing and proposed streetscapes will be treated collectively to ensure that a coherent landscape character for the Low Carbon Neighbourhood is delivered.

Movement and Connectivity

- Encouraging pedestrian permeability between the town centre and the Martyr's Road area is a cornerstone of the proposed Masterplan.
- Friar Street and Abbey Street will be used as critical links in connecting with the Town Centre and project aligns with the overall Movement and Transportation Strategy for Nenagh
- Easy pedestrian and cyclist access to the Town Park and adjoining Leisure Centre, east of the town.



Proposed Masterplan for a Low Carbon Neighbourhood

The development of a Low Carbon Neighbourhood through transformational place-making will enhance the physical and the visual appearance of the area and will deliver a development which responds to the unique character of the site while being sympathetic to the architectural heritage which surrounds it.

Strategic Employment Location.

- A Town Centre location for suitable for delivering an education and training campus, with a Centre of Excellence for Sustainable Energy at its core.
- Opportunity to develop additional business and innovation spaces for professionals and trades central to energy transition and innovation.

Lifecycle Housing

- Provision of a variety of sustainably designed, life-time housing models, catering to the housing needs of Nenagh's residents.
- Mixture of residential tenancies - owner occupier, public housing, co-operative housing associations.

Complementary Uses.

- Delivering a variety of uses that will complement, reinforce and revitalise the Town Centre.

A Catalyst for Regeneration

- The implementation of the proposed Martyr's Road Regeneration Masterplan will have several clear interlinked benefits: social, economic, physical and environmental.
- The benefits will serve the interests of the wider community and will invite further investment and generate added value.
- The proposed infrastructure investment will allow for the development of homes and workplaces – creating employment opportunities and a new residential neighbourhood.
- The investment in critical infrastructure will unlock the re-development potential of this strategic location in Nenagh.
- The proposal will maximise the return on public capital expenditure which has already occurred in the area.



- Proposed Centre of Excellence
- Proposed Educational Campus
- Proposed Residential
- Proposed Commercial
- Proposed Commercial with Residential Above
- Existing Buildings





Development and Implementation

Building on the existing close relationships between Tipperary County Council, its partners and local landowners will facilitate the delivery of the Martyr's Road Masterplan over a 10 year period, as outlined below:

Phase 1 - Centre of Excellence & Public Realm Infrastructure

1

The first Phase of the Integrated Masterplan for the re-generation of this area will comprise of the following essential works:

- Net zero embodied carbon building to accommodate the Centre of Excellence for Sustainable Energy
- Public Open Space and public realm works
- Road and street infrastructure including cycleways, pedestrian linkage and connectivity and EV charging.

Phase 2 - Primary Residential Development

2

The second Phase of the Integrated Masterplan will comprise of the following developments:

- Low-carbon Residential Units, in a mix of two and three storey buildings, providing a variety of lifetime and universally designed housing types, to cater for the needs of Nenagh's population.
- Delivery of an educational campus / training centre co-located with the Centre of Excellence for Sustainable Energy.

Phase 3 - Full Integration with Surrounding Context

3

The final Phase of the Integrated Masterplan will cater for the development and integration of the remaining lands to the East comprising of a mixture of uses, including:

- Commercial development adjacent to Dublin Road for energy transition start-ups and businesses
- Retail development adjacent to the existing Lidl development.
- Additional residential development along the Southern boundary





Martyr's Road - Principles of a Low Carbon Neighbourhood



The Martyr's Road Regeneration Quarter will be guided and developed in accordance with the objectives of the Masterplan and a Low Carbon Design Guide to be prepared by Tipperary County Council. With the Centre of Excellence for Sustainable Energy and adjoining open space as a driving force, and working closely with its partners and landowners, the area will be developed as a Low Carbon Neighbourhood in line with the following principles;

1. Carbon Neutral & Renewable Energy

Building envelopes that are highly efficient, limiting heating and cooling requirements throughout their life span. PV panels providing on site generation of electricity. Whole Building Life Cycle Assessment to influence the selection of materials with emphasis on the use of timber and other sustainable materials.

2. Compact Growth:

Brownfield development in a strategic town centre location ensuring the most efficient use of land and resources. Development which will seek to create a high quality compact live/work quarter of appropriate high density, to act as a socio-economic catalyst for the sustainable transformation of the town of Nenagh and the wider region.

3. Education & Innovation

Centre of Excellence for Sustainable Energy through its partners, will seek to demonstrate how the principles of Low Carbon Neighbourhood can be applied to other towns and regions. Knowledge transfer from sustainable energy experts will be disseminated and conveyed through research and public engagement.

4. Building Design

All types of buildings designed to ensure optimum balance of daylight, solar gains, heat loss and thermal efficiency thus reducing energy demands and acting as best practice exemplars for future developments.

5. Permeability, Connectivity and Traffic

Walking and cycling to be encouraged and actively facilitated. Low Carbon Neighbourhood strategically located for ease of access for public transport, with EV charging readily available.

6. Public Green Space/ Biodiversity

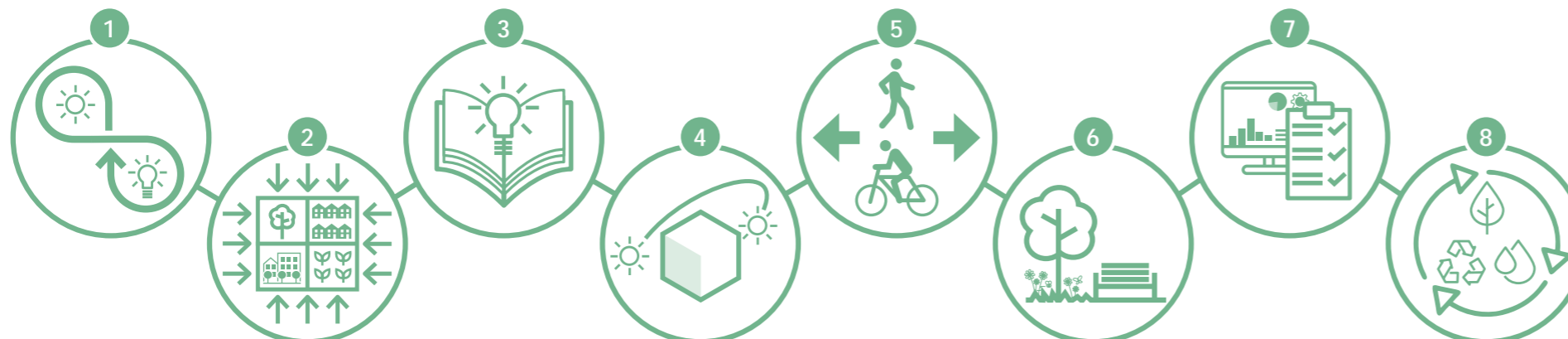
Provision of high quality, safe public and private open spaces that can be easily accessed and enjoyed and which protect, sustain and enhance biodiversity and promote its enjoyment for all.

7. Monitoring & Recording

Continual assessment of real time building energy metering and environmental monitoring to observe and understand the energy performance of buildings.

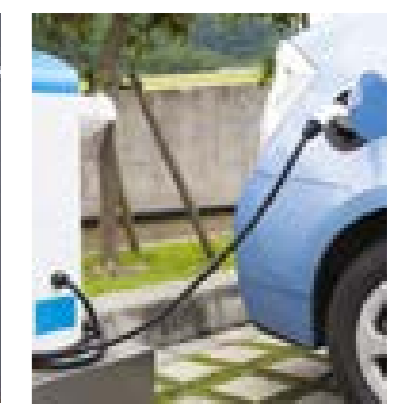
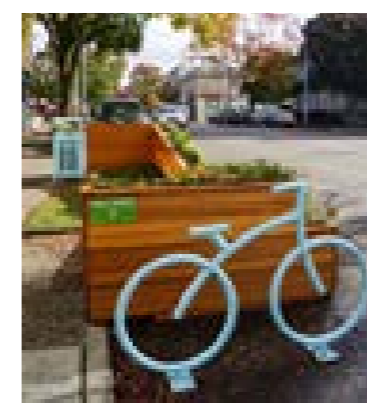
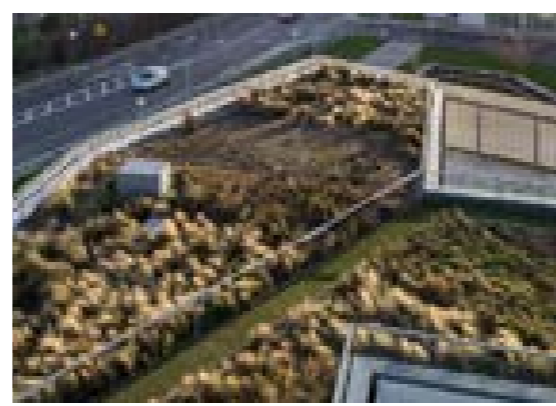
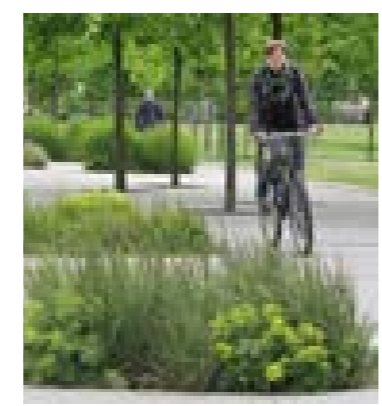
8. Resource Use and Management

Limit the use of natural resources throughout the entire life cycle of the buildings across the Low Carbon Neighbourhood, through careful planning and resource management.



3D

Architectural Visual & Example Precedents



Delivering a Centre of Excellence for Sustainable Energy



A Centre of Excellence: A Catalyst for Regeneration

Pillar 1: A Centre of Learning

- The Centre will provide technical training for communities, professionals and trades in the climate, energy and sustainability fields, supporting decarbonisation and retrofitting of buildings.
- The Centre will facilitate the public sector, local authorities, energy agencies, communities, the private sector and others in delivering on their obligations under the climate action plan through learning and sharing climate actions in a collaborative and supportive work space.

Pillar 2: A Centre of Incubation and Innovation

- The Centre will uniquely cluster a number of public, academic, social and private organisations that are leading the national energy transition, at a local / regional level.
- Co-locating researchers working on smart grid technologies, heat pumps and other energy transition technologies, with practitioners in retrofitting buildings will create innovation synergies and enhance the Country's ability to support the national climate action plan to deliver a decarbonised Ireland. ESB Networks will be an active partner in the smart grid element of the building.

Pillar 3: A Centre of Social & Community Enterprise

- The Centre will be a 'one stop shop' for community groups seeking to deliver energy projects, where advice and support will be provided by North Tipperary Development Company, TCC and the TEA from inception, to planning, design and implementation. This collaborative service will be a model that other Local Authorities and development companies can seek to implement.
- North Tipperary Development Company, with their experience in supporting numerous award winning community energy and social enterprise projects will continue to drive and advocate for bottom up and citizen-led sustainable energy projects in the county. The Centre will be a focal point for community groups across the country to learn from the experiences of groups in Tipperary in the delivery of large scale sustainable community energy projects.

Pillar 4: A Centre of Public Engagement

- The Centre will be an iconic building for sustainable energy becoming one of Ireland's first energy positive buildings through use of high quality passive elements, in addition to active generation and active technologies, becoming Ireland's first zero carbon building.
- The Centre have an Exhibition Centre to engage members of the public on aspects of energy, from energy technology games for children to active national energy technology systems (e.g. Eirgrid control parameters, local network control etc.).



**Pillar 1:
A CENTRE
OF LEARNING**



**Pillar 2:
A CENTRE OF
INCUBATION
AND
INNOVATION**

**A CATALYST
FOR
REGENERATION**

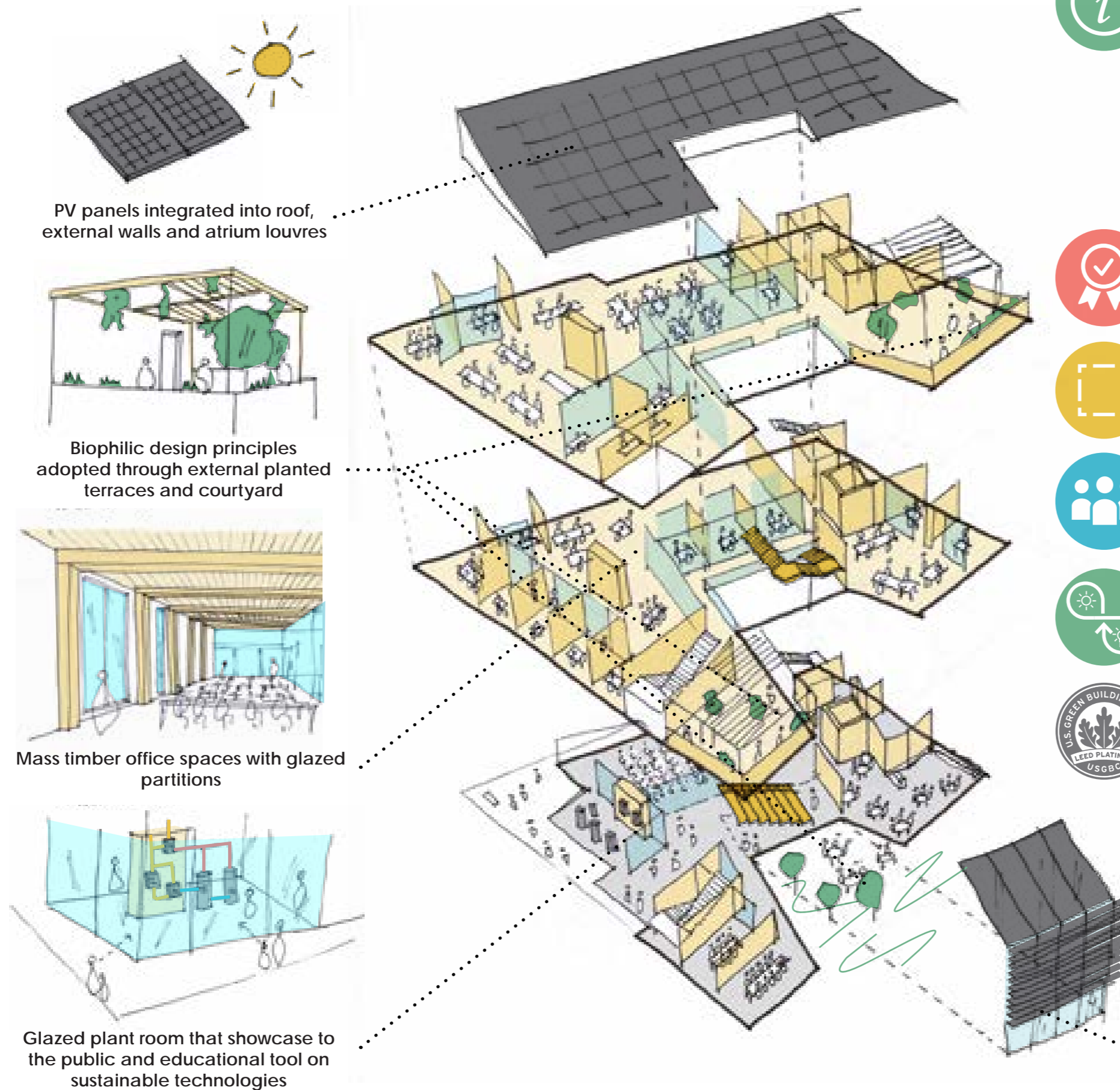
**Pillar 3:
A CENTRE
OF SOCIAL &
COMMUNITY
ENTERPRISE**



**Pillar 4:
A CENTRE
OF PUBLIC
ENGAGEMENT**



A Centre of Excellence for Sustainable Energy



Centre of Excellence: Building Overview

The Centre of Excellence for Sustainable Energy, located at the heart of Nenagh's Low Carbon Neighbourhood at Martyr's Road, will be an exemplar in energy positive and carbon neutral design. Designed to LEED Platinum standard, it will provide a collaborative working environment in a sustainably designed building and will act as a demonstrator for how buildings can contribute to the energy transition. The building will be:



- **First** building of its type in Ireland and one of the **best** examples internationally both for **energy usage** and **mass timber** structure
- An **energy positive** building, producing **more energy than it uses**
- A **tool for learning**, through its design, delivery and daily operation



- **1565 sqm** Gross Internal area
- **830 sqm** Net Lettable Area



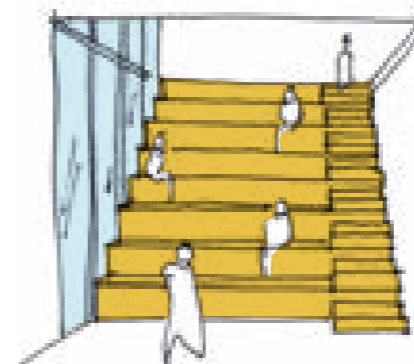
- **100** no. Workspaces
- **15** no. Incubation Spaces
- **1** no. Multi-purpose Training Centre
- **2** no. Rentable Meeting/Conference Rooms



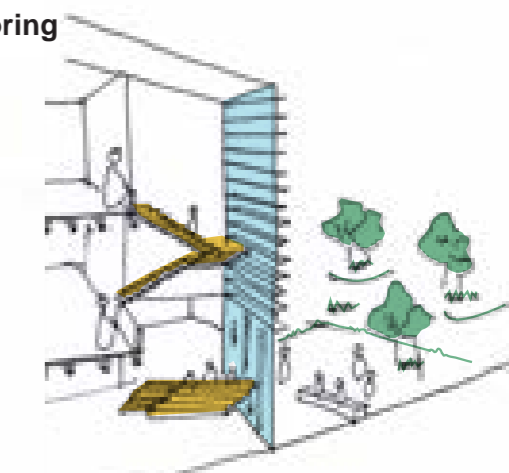
- **Zero Embodied Carbon Building** in <60 years
- **Net Producer** of >**18,000 kWh** energy per annum
- **Showcase of Renewable Technologies**



- **LEED Platinum** Design
- **Mass Timber** Construction
- **Resource & Energy Monitoring**



Full height atrium for internal circulation and access to daylight utilising circulation used as informal event and social space



Centre of Excellence: Floor Plans



Rentable Meeting Rooms

Visible Plant Room

Informal Terraced Seating

Multi-purpose Training Centre

Outdoor Terrace Amenity

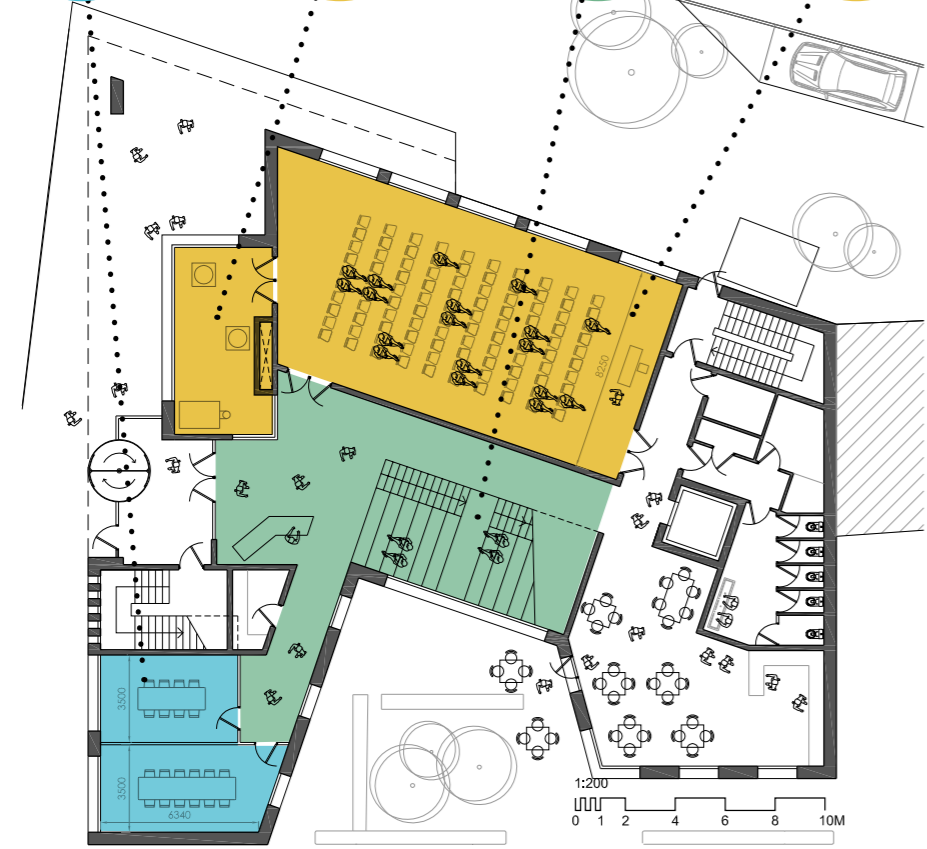
Office Space

Incubation Hub

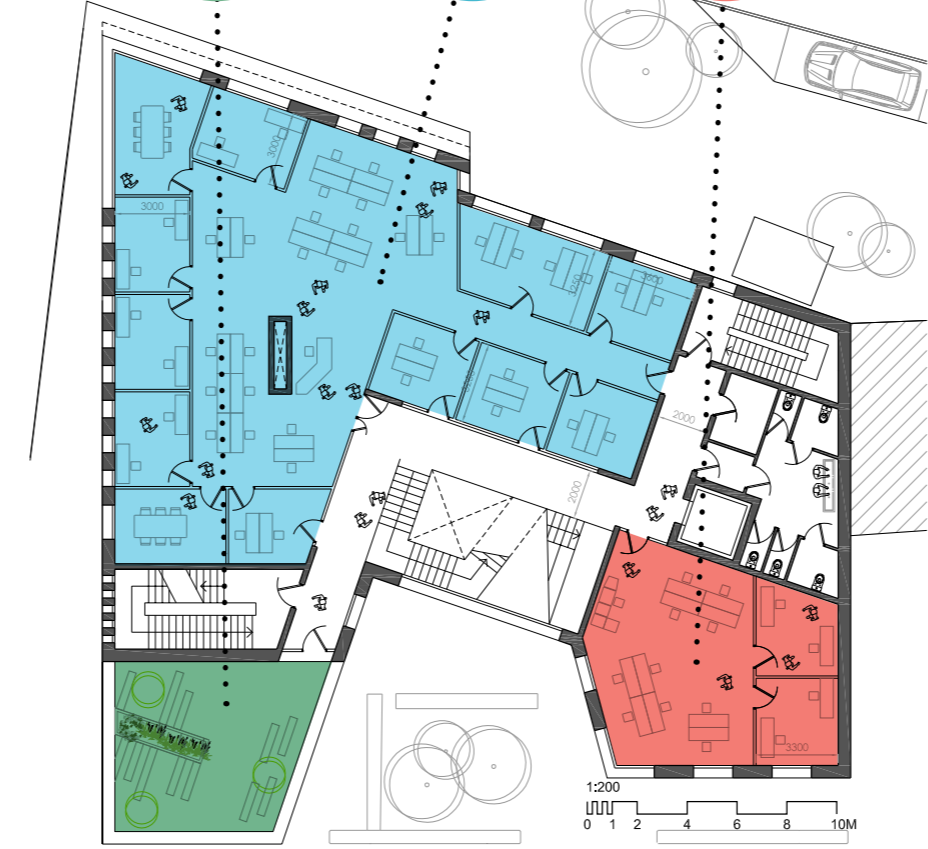
Office Space

Per Cent for Art in Event Courtyard

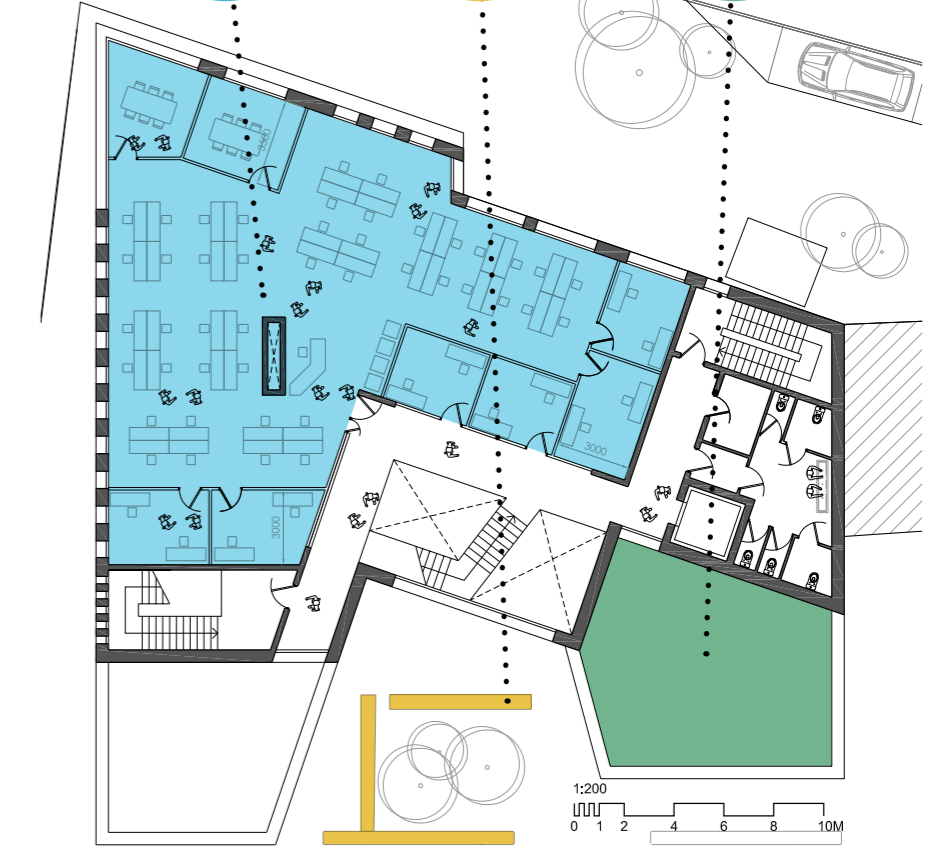
Outdoor Terrace Amenity



Ground Floor Plan - Public Engagement Facilities

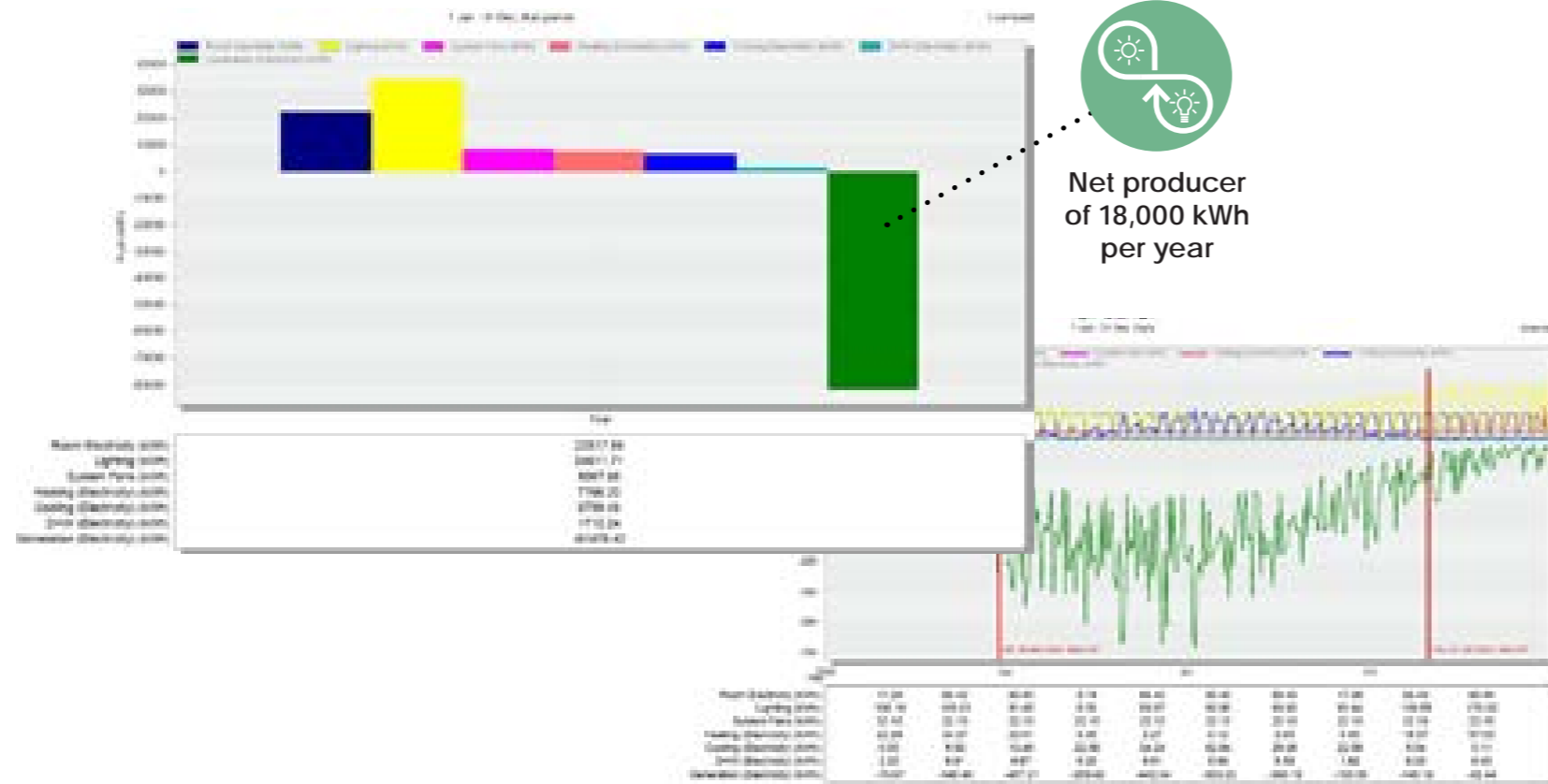


First Floor Plan - NTDC & Partners Offices & LIT Incubation Hub



Second Floor Plan - TEA & SuperHomes Shared Offices

A Centre of Excellence for Sustainable Energy



Net producer of 18,000 kWh per year



Centre of Excellence: Building Performance



LEED Platinum Design

Delivering Ireland's First Net Zero Embodied Carbon Building: A LEED assessment of the proposed design provides a roadmap to the development of a LEED Platinum and net zero embodied carbon certified building.

The Centre will be an exemplar project and demonstrator of the energy transition in Ireland. It is designed to be an **energy positive** building (consuming less energy than it produces on an annualised basis) with an envisaged surplus of **18,000 kWh/yr.**

By showcasing the building's renewable energy strategy and sustainable resource use while continuously monitoring the building's ongoing performance, it will be a **tool for the education** of both professionals in the industry and members of the public.



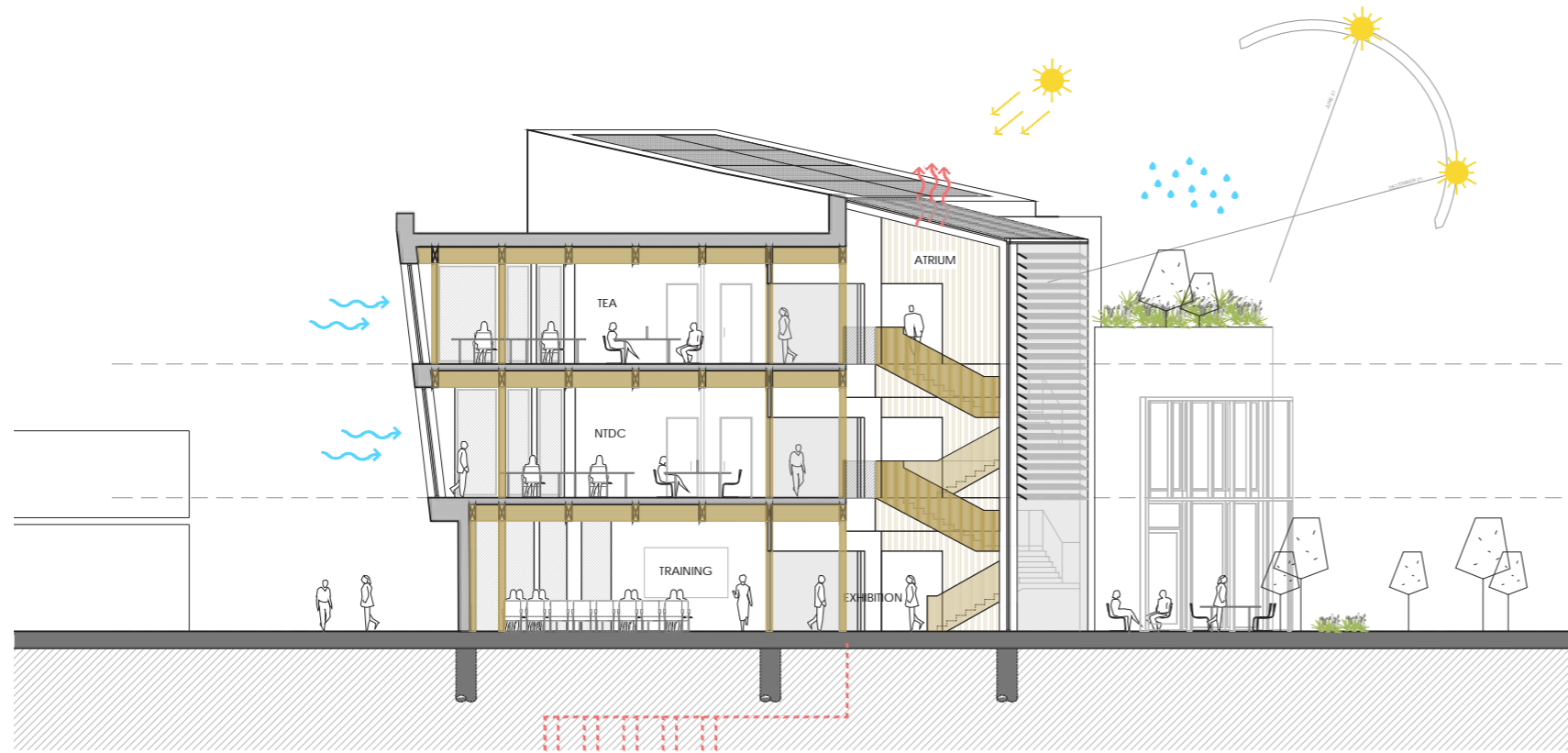
PV & Battery Storage



Mass Timber Structure



Rainwater Harvesting & Treatment



3D

Architectural Visual



A Centre of Excellence for Sustainable Energy driving the Transformational Urban Regeneration of Nenagh Town Centre
Supporting Document





Social, Climate & Economic Impact

A Strategic Assessment Report (SRA) in accordance with the revised 2019 Public Spending Code Guidelines was carried out as part of a wider feasibility study. The SRA clearly documents the strategic fit of the proposal with public policy and its alignment with:

- National Planning Framework
- Southern Region RSES economic vision for the region
- National Policy Goals
- National Policy on Climate Action

The methodology used in the SRA was based on a Cost Benefit Ratio where the direct and indirect economic benefits of the project and the net cashflow generated from the centre were assessed against the proposed capital investment in the project. A logic path model was also used to assess the non-quantifiable social impacts and climate impacts resulting from the outcomes of the project.

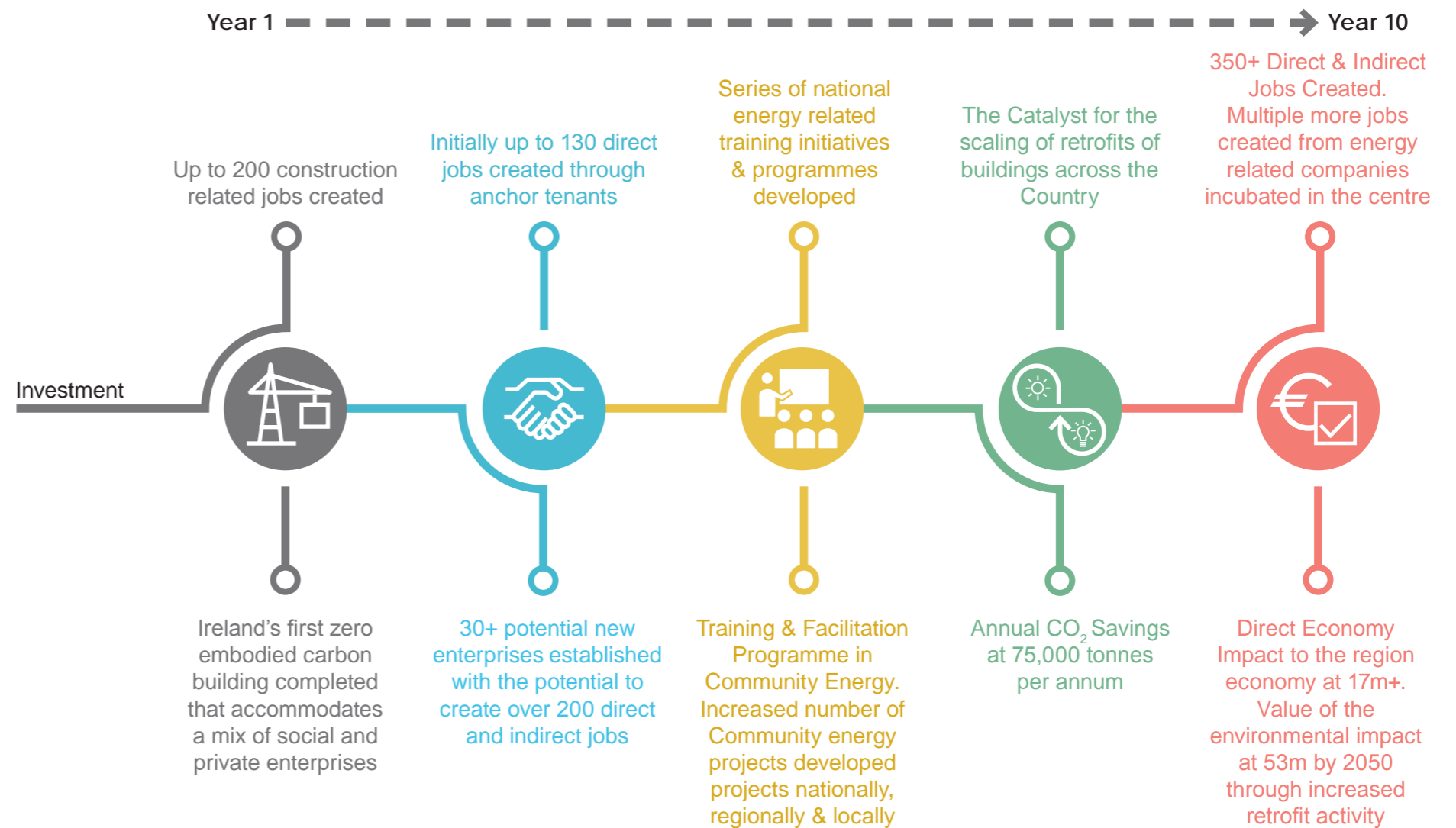
The methodology is a comparison of the outcomes i.e. the social, economic and climate benefits, that would result following implementation of the proposal compared with some alternative scenario, the counter-factual – ‘do nothing’.

The analysis carried out clearly shows that the investment in the Centre of Excellence will have many positive economic, social and environmental impacts for Nenagh, Tipperary and the wider region.

Documents Available on Request

The following supporting documents are available should the Department wish to consider them:

- Martyr’s Road Regeneration Quarter Masterplan 2016
- Nenagh in the Southern Region: a Spatial and Economic Framework, 2018
- Nenagh Town and Environs Development Plan, 2013
- Feasibility Study to develop a Centre of Excellence for Sustainable Energy in Nenagh Town, 2020
- Nenagh Mobility and Transportation Plan, 2019
- Nenagh Low Carbon Neighbourhood and Centre of Excellence – Strategic Assessment Report, 2020
- Nenagh Low Carbon Neighbourhood and Centre of Excellence - Business Case, Governance and Risk Review, 2020



Project Partners



Project Design Team

