Comhairle Contae Thiobraid Árann
Tipperary County Council

District Heating Pre-Feasibility Study – Tipperary County Council Position Paper

13th February 2026

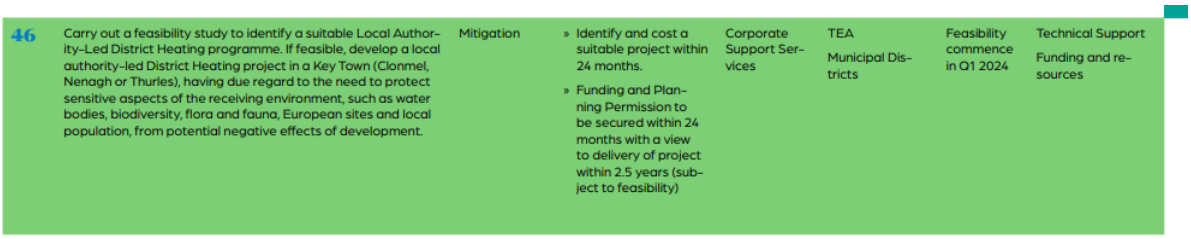
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Introduction

Tipperary County Council are hoping to be awarded funding for a District Heating Feasibility Study as a result of their partnership with the SEAI Pathfinder Programme and their engagement with the SEAI Centre of Excellence for District Heating.

Under Strategic Goal No. 3 of TCC's Climate Action Plan, there is a goal to increase "the use of renewable energy sources and … energy efficiency throughout out housing, offices, infrastructure and transport fleet in line with national 2030 and 2050 targets". Action 46 within this Strategic Goal specifically references district heating feasibility studies as an option to meet these long-term targets. The extract from the Climate Action Plan is illustrated below.



46	Carry out a feasibility study to identify a suitable Local Authority-Led District Heating programme. If feasible, develop a local authority-led District Heating project in a Key Town (Clonmel, Nenagh or Thurles), having due regard to the need to protect sensitive aspects of the receiving environment, such as water bodies, biodiversity, flora and fauna, European sites and local population, from potential negative effects of development.	Mitigation	» Identify and cost a suitable project within 24 months. » Funding and Planning Permission to be secured within 24 months with a view to delivery of project within 2.5 years (subject to feasibility)	Corporate Support Services	TEA Municipal Districts	Feasibility commence in Q1 2024	Technical Support Funding and resources

As well as this, there are a number of other factors which offer an excellent timing opportunity to mobilise district heating feasibility studies in both Clonmel and Nenagh under this SEAI funding:

1. Tipperary County Council and the Tipperary Education Training Board are currently at the early stages of redeveloping Kickham Barracks in Clonmel. All the buildings that will form this campus are potential anchor clients of a future district heating system and are extremely close to a number of TCC's own public building stock, including leisure centre, new library, civic offices, museum etc.
2. Tipperary County Council are currently in the process of regenerating an area of Nenagh Town known as the Martyrs Lane in Nenagh, which will be branded and designed as a Centre of Sustainable Energy and will be a mixed-use development of housing, offices, education buildings etc. It is also located very close to a large creamery, Arrabawn, located in the centre of the town, and a potential provider of waste heat to a district heating energy centre.
3. High level district heating feasibility studies have been completed in the past by Tipperary Energy Agency, and most recently, a study by Heat Grid of district heating potential in Clonmel, incorporating waste heat from Bulmers and Medite which is located less than 6km from the town centre.

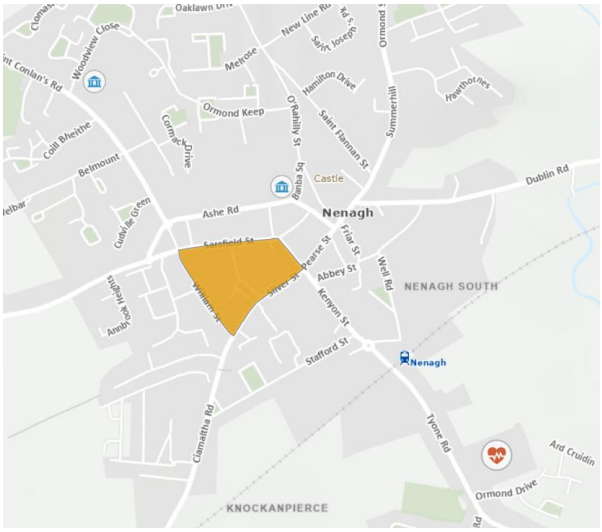
Tipperary County Council want to pursue a District Heating Feasibility Study that may, with the correct supports be realised in the future and not just a paper exercise.

Pre-Screening of Different Areas in Tipperary

In 2025, a new SEAI District Heating webpage was launched with pre-feasibility mapping tools and guidance documents for the various stages of District Heating project development. Using these tools and guides, a high-level analysis was completed of both Nenagh and Clonmel with regards to District Heating. Note these tools are limited to significant energy users owned by OPW and HSE and do not include LA buildings, Schools, Industry.

Nenagh:

At a high level, using SEAI's District Heating Candidate Map, the potential for district heating is concentrated in a small area of Nenagh Town centre. This Candidate Map calculates heat density, and is for high-level illustrative purposes only and is a starting point for further evaluation.



In order to categorise the opportunities, the area within the SEAI District Heating Candidate Map (orange area) and the area in close proximity to this area is assessed for the presence of what are defined as Significant Energy Users (in terms of Heat Demand or Heat Sinks) and Potential Energy Sources (in terms of Heat Supply or Heat Sources). These Significant Energy Users, once identified, would ideally become future "anchor clients" of a viable District Heating development.

In this image, the SEAI District Heating Candidate Map is limited in its projections of potential heat sinks and sources. Hence, an analysis is completed of:

- Area 1 – Heat Sinks / Sources located in SEAI Candidate Map Area in Nenagh
- Area 2 – Heat Sinks / Sources located close to the SEAI Candidate Map in Nenagh

The proceeding paragraphs outline a short description of district heating potential in each of these areas.

Area 1: Heat Sinks / Sources located in SEAI Candidate Map Area in Nenagh.

According to SEAI's District Heating Candidate Map, based on heat demand density, the area in orange has been highlighted as the most viable area for District Heating in Nenagh. According to this map the area in "orange" aggregated could contribute 0.003 TWh / year towards the delivery of 2.7TWh / year of district heating, the 2030 Climate Action Plan target for District Heating.

This SEAI Candidate Map Area is made up of:

Candidate Area Name	Nenagh
Suitable Residential Demand (MWh/yr)	1090.30
Suitable Commercial Demand (MWh/yr)	1,126.65
Suitable Public Sector SEU Demand (MWh/yr)	0.00
Suitable Public Sector Non-SEU Demand (MWh/yr)	635.27
Total Suitable Demand (MWh/yr)	2,852.22
Total Suitable Demand (TWh/yr)	0.003

Estimated Residential Connections	91
Estimated Non-Residential Connections	16

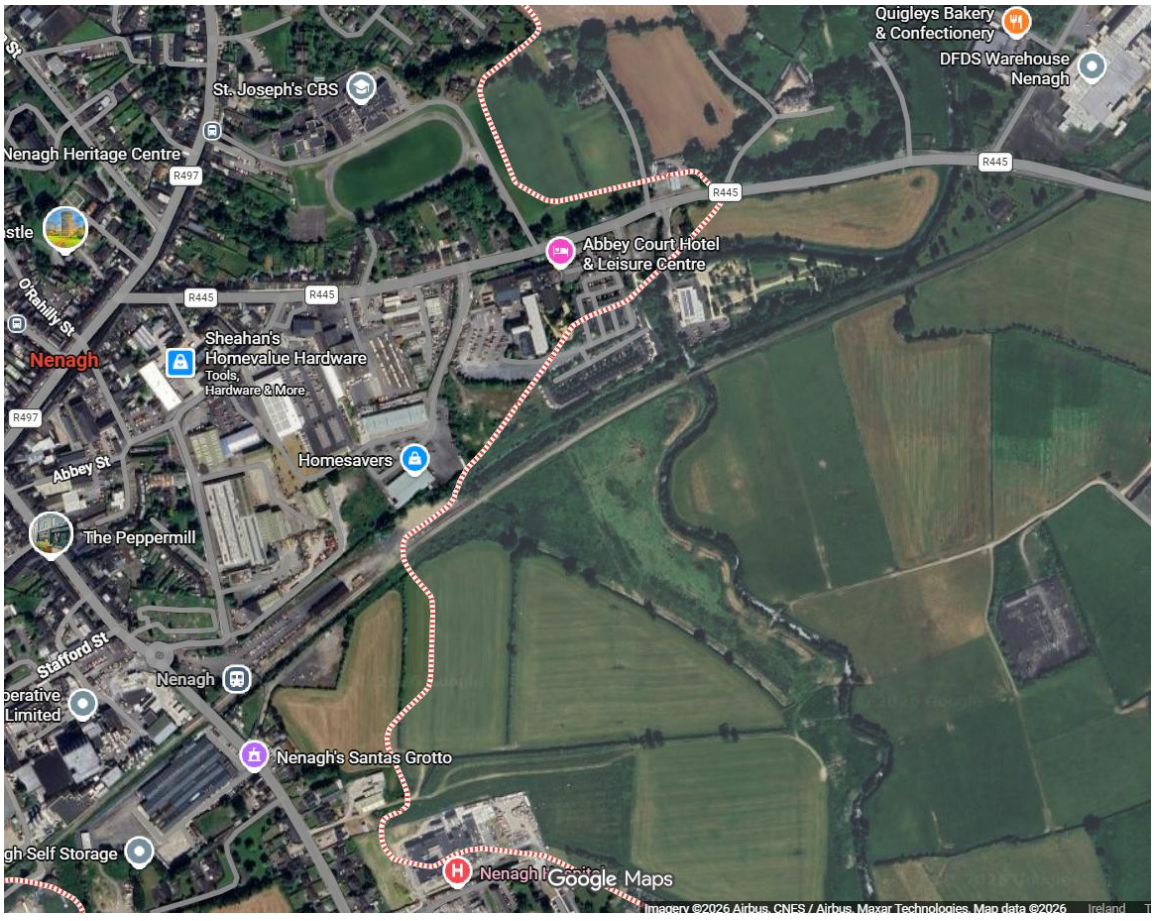




Within Area 1, and having local knowledge of Nenagh, there are no notable heat sinks within this SEAI Candidate Area and it is unclear how the heat density was computed to give this result, given the close proximity of other Large Energy Users, Waste Heat Sources and potential anchor clients.

Area 2: Heat Sinks / Sources located close to the SEAI Candidate Map within Nenagh

Using a wider geographic area view of Nenagh Town, the following map was generated.



There are a number of notable heat sinks and heat sources within this 0.6km2 geographic area of Nenagh:

Potential Anchor Clients:

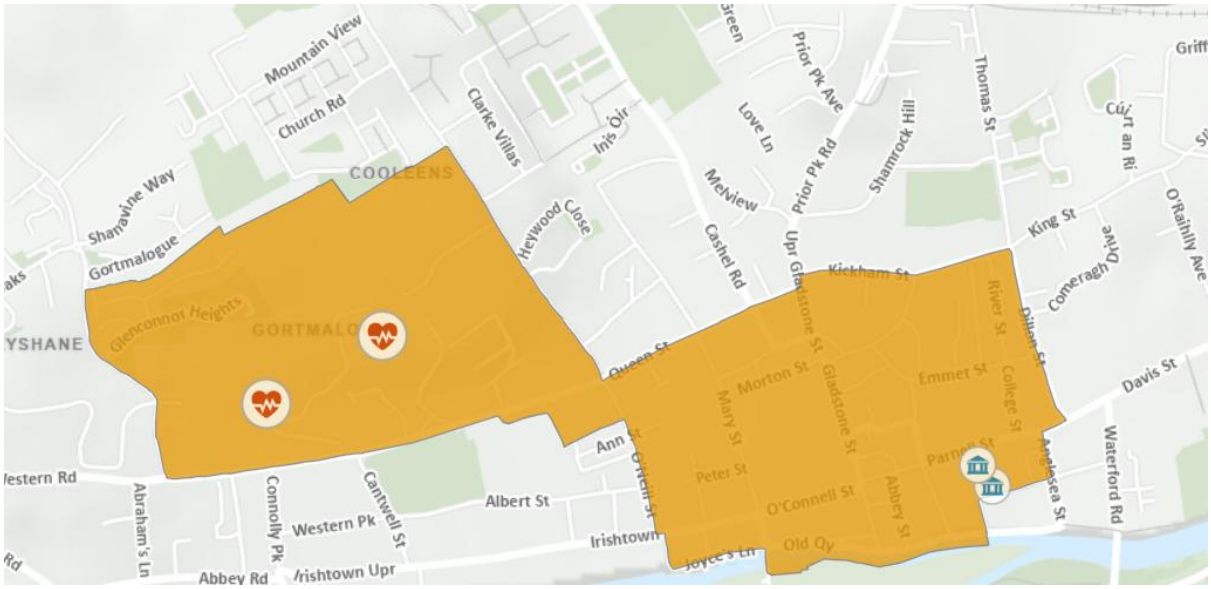
- Nenagh Hospital
- Nenagh Primary Care Centre
- St Martyrs Road Regeneration
- Abbey Court Hotel & Leisure Centre
- Nenagh Leisure Centre
- Quigleys Bakery (Industrial)
- Arrabawn Creamery
- St Josephs CBS
- St Marys Primary School
- Nenagh Heritage Centre
- St Marys Secondary School
- Nenagh Court House
- Residential
- Commercial Properties

Within Area 2, notable heat sources include:

- Waste heat from industry (from Arrabawn Creamery, Quigleys Bakery)
- Alternative sources of heat – ground geothermal, air heat pumps, biomass, biomethane etc.

Clonmel:

At a high level, using SEAI's District Heating Candidate Map, the potential for district heating is concentrated in a small area of Clonmel Town centre. This Candidate Map calculates heat density, and is for high-level illustrative purposes only and is a starting point for further evaluation.



In order to categorise the opportunities, the area within the SEAI District Heating Candidate Map (orange area) and the area in close proximity to this area is assessed for the presence of what are defined as Significant Energy Users (in terms of Heat Demand or Heat Sinks) and Potential Energy

Sources (in terms of Heat Supply or Heat Sources). These Significant Energy Users, once identified, would ideally become future “anchor clients” of a viable District Heating development.

In this image, the SEAI District Heating Candidate Map is limited in its projections of potential heat sinks and sources. Hence, an analysis is completed of:

- Area 1 – Heat Sinks / Sources located in SEAI Candidate Map Area in Clonmel
- Area 2 – Heat Sinks / Sources located close to the SEAI Candidate Map in Clonmel

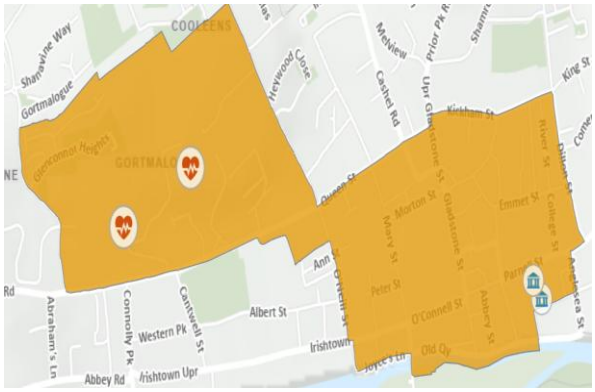
The proceeding paragraphs outline a short description of district heating potential in each of these areas.

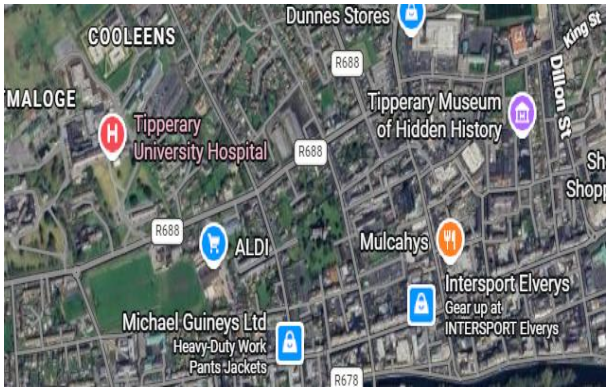
Area 1: Heat Sinks / Sources located in SEAI Candidate Map Area in Clonmel.

According to SEAI’s District Heating Candidate Map, based on heat demand density, the area in orange has been highlighted as the most viable area for District Heating in Clonmel. According to this map the area in “orange” aggregated could contribute 0.036 TWh / year towards the delivery of 2.7TWh / year of district heating, the 2030 Climate Action Plan target for District Heating.

This SEAI Candidate Map Area is made up of:

Candidate Area Name	Clonmel
Suitable Residential Demand (MWh/yr)	5,864.59
Suitable Commercial Demand (MWh/yr)	8,228.31
Suitable Public Sector SEU Demand (MWh/yr)	14,762.11
Suitable Public Sector Non-SEU Demand (MWh/yr)	6,998.87
Total Suitable Demand (MWh/yr)	35,853.88
Total Suitable Demand (TWh/yr)	0.036
Estimated Residential Connections	562
Estimated Non-Residential Connections	131





Within Area 1, there are notable heat sinks within this SEAI Candidate Area including:

- South Tipperary General Hospital
- Tipperary University Hospital
- Clonmel Fire Station (campus)
- South Tipperary Dementia Project
- Dunnes Stores
- Clonmel Civic Offices
- Clonmel Garda Station

- Clonmel Library
- Clonmel Leisure Centre
- Clonmel Museum
- Tipperary ETB Campus Redevelopment
- Clonmel Town Hall
- St Olivers National School
- Sisters of Charity
- St Peter and Pauls
- CBS High School
- Residential
- Commercial Properties

Within Area 1, notable heat sources include:

- Waste heat (none)
- Alternative sources of heat – River Suir, ground geothermal, air heat pumps, biomass, biomethane etc.

Area 2: Heat Sinks / Sources located close to the SEAI Candidate Map within Clonmel



If one widens the focus area to a 10km2 boundary of Clonmel, a number of large industrial stakeholders and potential sources of heat can now be included in an analysis.

Potential Anchor Clients (as well as the above):

- Bulmers
- Medite
- Glenpatrick Spring Water Company
- ALS Life Sciences
- TUS Campus
- Talbot Hotel

Within Area 2, notable heat sources include:

- Waste heat from industry (from Bulmers, Medite etc.)
- Alternative sources of heat – ground geothermal, air heat pumps, biomass, biomethane etc.

Summary:

As part of a District Heating Feasibility Study, the consultant will do a detailed study of Nenagh and Clonmel, not limited to the area listed above, which only serve as examples of potential District Heating areas. The most important screening factor will be the viability of an actual District Heating project being built and realised in the future and hence, it is expected that the consultant will carry out the following tasks through consultation with the appropriate members of the Steering Group (to be established once approval received from SEAI) in the Local Authority:

1. Propose areas within where new district heating networks would be best developed (including the identification of major growth areas and regeneration areas).
2. Propose a set of criteria and scoring mechanism that will be used to rank different areas against each other including but not limited to heat density, district heating potential (high level), conservation restrictions, archaeological restrictions, environmental restrictions etc.
3. Qualitatively and quantitatively evaluate and provide recommendation for either one or multiple areas of Nenagh and Clonmel to focus the remaining scope of work associated with the District Heating Feasibility Study, i.e. this screening exercise may result in a recommendation to carry out feasibility studies on several small district heating systems in the DZ, rather than one large district heating system.

Summary:

Within the SEAI DH Candidate Area and its surrounding areas, the following 18+ potential anchors have been identified, including:

Nenagh	**Clonmel**
2 HSE	3 HSE
3 Local Authority	6 Local Authority
2 Industrial Buildings (with waste heat)	4 Industrial Buildings (with waste heat)
3 Education	5 Education
1 OPW	1 OPW
1 Hotel	1 Hotel
1 Commercial (multiple)	1 Commercial (multiple)
1 Residential (multiple)	1 Residential (multiple)
Minimum No. Anchor Clients – 12	**Minimum No. Anchor Clients – 19**

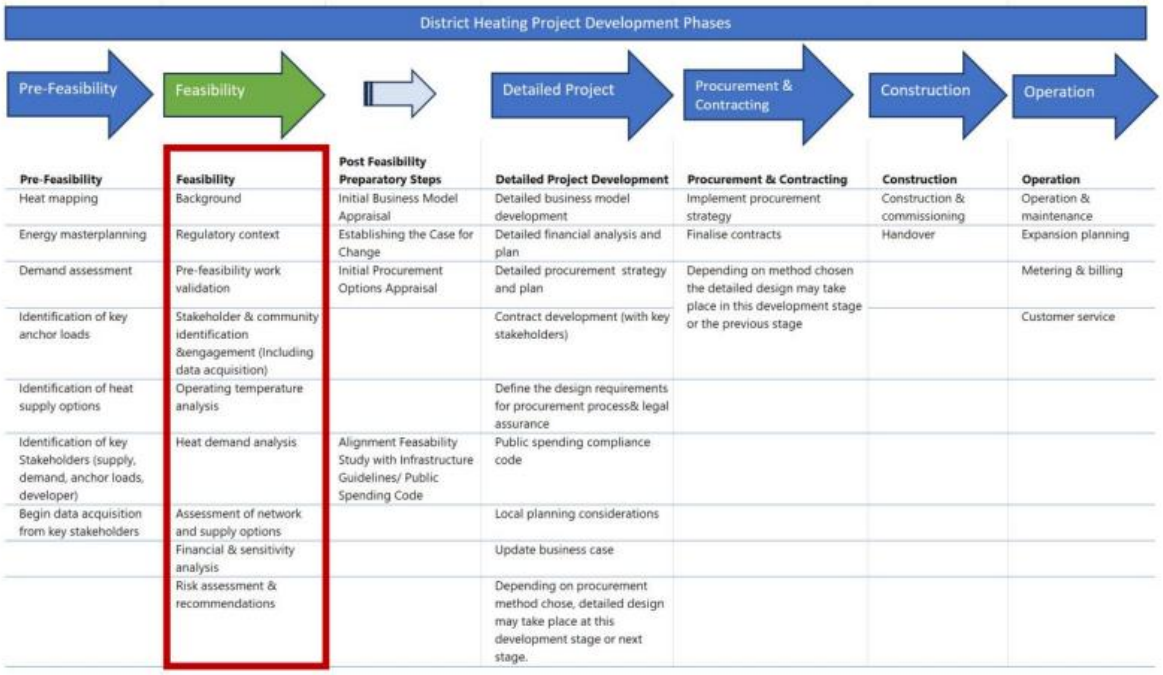
Hence, the key stakeholders in a potential District Heating Scheme in either Nenagh and/or Clonmel could include:

- Local Authority
- HSE
- OPW
- Department of Education
- Higher Education Authority
- Hotel Representative Group
- Industry
- ESB Networks
- SEAI
- Community Groups / Housing Groups

Note there are likely more public sector buildings and private sector buildings that are significant energy users that are within the orange candidate area.

SEAI District Heating Feasibility Study Gap Analysis of Nenagh & Clonmel:

Tipperary County Council is not interested in a appointing a consultant to carry out a "District Heating Feasibility Study" that is simply a paper-exercise. Hence, the highest priority task is the pre-screening of areas and zones within Clonmel and Nenagh to compare and rank the area(s) to move forward with for the purpose of this study. Once these area(s) are selected, and agreed by the LA Stakeholder group, then the "Feasibility" tasks within the well-defined SEAI District Heating Project Development Phases can be initiated. It is envisaged that at least one district heating feasibility study in both Nenagh and Clonmel will progress to full Feasibility.



Pre-Feasibility	Feasibility	Post Feasibility Preparatory Steps	Detailed Project Development	Procurement & Contracting	Construction	Operation
Heat mapping	Background	Initial Business Model Appraisal	Detailed business model development	Implement procurement strategy	Construction & commissioning	Operation & maintenance
Energy masterplanning	Regulatory context	Establishing the Case for Change	Detailed financial analysis and plan	Finalise contracts	Handover	Expansion planning
Demand assessment	Pre-feasibility work validation	Initial Procurement Options Appraisal	Detailed procurement strategy and plan	Depending on method chosen the detailed design may take place in this development stage or the previous stage		Metering & billing
Identification of key anchor loads	Stakeholder & community identification &engagement (Including data acquisition)		Contract development (with key stakeholders)			Customer service
Identification of heat supply options	Operating temperature analysis		Define the design requirements for procurement process& legal assurance			
Identification of key Stakeholders (supply, demand, anchor loads, developer)	Heat demand analysis	Alignment Feasability Study with Infrastructure Guidelines/ Public Spending Code	Public spending compliance code			
Begin data acquisition from key stakeholders	Assessment of network and supply options		Local planning considerations			
	Financial & sensitivity analysis		Update business case			
	Risk assessment & recommendations		Depending on procurement method chose, detailed design may take place at this development stage or next stage.			

Priority 1: Pre-screening of District Heating Areas

1. Propose areas where new district heating networks would be best developed (including the identification of major growth areas and regeneration areas).
2. Propose a set of criteria and scoring mechanism that will be used to rank different areas against each other including but not limited to heat density, district heating potential (high level), conservation restrictions, archaeological restrictions, environmental restrictions etc.
3. Qualitatively and quantitatively evaluate and provide recommendation for either one or multiple areas of both Nenagh and Clonmel to focus the remaining scope of work associated with the District Heating Feasibility Study, i.e. this screening exercise may result in a recommendation to carry out feasibility studies on several small district heating systems in the towns, rather than one large district heating system in each town.

Priority 2: Stakeholder Engagement and Data Acquisition

4. Once these proposed district heating systems have been adopted by the LA Stakeholder group, the most fundamental gap identified currently is the “stakeholder engagement process”, “signed letters of intent” and “data acquisition” of heat data by month, week, day, hour (if available) at potential anchor sites and plant rooms within anchor sites.
5. Ideally, an average of 15 anchor sites will be identified in each town as part of the stakeholder engagement process and real data collected either via bills, GPRO, BMS data logging and/or heat metering (if available) for each anchor site (including data for multiple plant rooms within each large anchor site).
6. Consultants to allow for creation and implementation of a stakeholder engagement plan with number of meetings, workshops etc. anticipated to meet the data acquisition requirements of the feasibility study.

Priority 3: Heat Demand Profile

7. Once stakeholders are engaged, and data collected from anchor sites, the rest of the technical data required for analysis in a Detailed Feasibility Study will be easily collected such as operating temperature analysis, heat demand analysis, sizing of heat exchangers of anchor sites, and high-level assessment of network i.e. energy centre location, pipework sizing and distribution layout.
8. This will serve as the information required to create the Heat Demand Profile of the District Heating System.

Priority 4: Heat Source

9. In the context of the heat source options, a number of different heat source options such as biomass, CHP (anaerobic digestion), geothermal, air-water heat pumps will be explored, including the geothermal suitability of the River Barrow.
10. As well as geothermal, other alternative fuel supplies (renewable) are to be considered and factored into a business case development.

Priority 5: Accurate Costing

11. Once the technical aspects of the DH concept are understood, a Quantity Survey or Cost Advisor will price up the infrastructure project in line with ICMS3 and ARM5 standards.
12. This will provide an initial starting point in terms of cost and will include, but will not be limited to the cost of design and installation of the infrastructure (Energy Centre, Pipework, Pumping, Heat Exchangers), the civil, mechanical, electrical, automation enabling works, the planning, regulatory, legal costs etc.
13. The Cost Advisor will also produce a risk assessment, including sensitivity analysis of anchor load characterisation and recommendations on the overall project and associated cost. For example, how is the business case affected is anchor sites X, Y and Z drop out at construction stage.

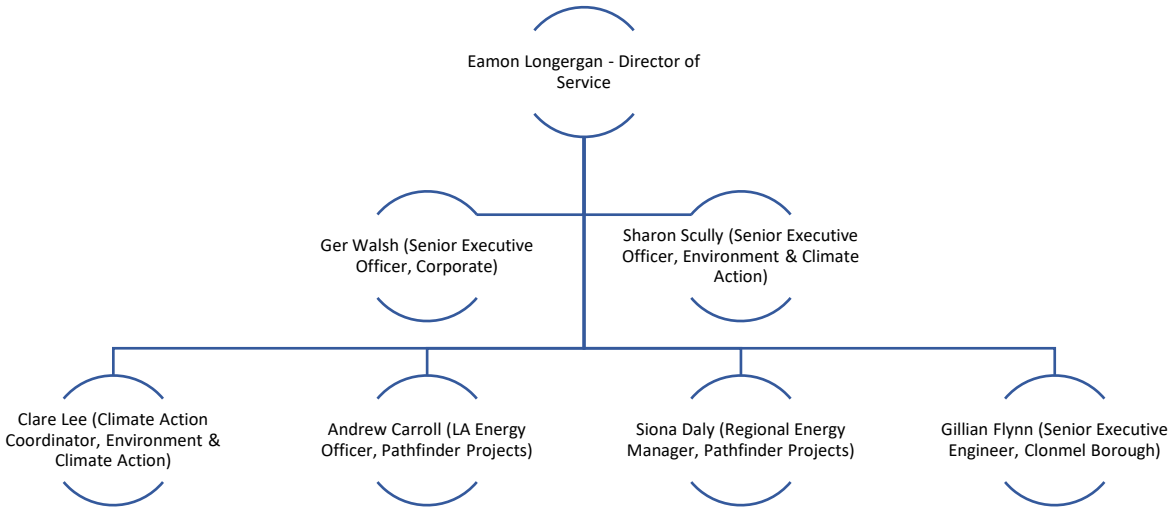
Priority 6: Non-Technical Elements

14. Once the technical analysis and initial costs/risks are understood, the non-technical elements need to be considered, in more detail than previously outlined in the Lawlor Report, with real applications linked to the Irish market. The following questions are those that will need to be considered in order get further buy-in from stakeholders and progress this feasibility study to Post Feasibility Preparatory Stage and Detailed Project Development.

Non-Technical Elements of District Heating in Tipperary	
Governance and Ownership from a Management Perspective	Who is going to fund this project? Where will the money come from? Will there be incentives from the SEAI? Who owns this new utility? Who will operate and maintain new utility? Who will bill anchor clients?
Establishing the "why" or business case for Anchor Clients	How much will it cost for the anchor clients to connect – "sale price" not "cost"? How much will the ongoing operating cost for the anchor clients be €/kWh? How will clients be billed (heat metering data quality concerns)? What incentives exist for anchor clients to switch over?
Establishing the "why" or business case for Owner / Operator	Balanced approach to supply / demand connections? Required commitment / contract duration with anchor tenants? Required contract terms and conditions that anchor tenants must adhere to? Understanding of the size of margin applied to costs to get return on investment / payback?
Regulatory / Legal Aspects / Environmental – more detail – specific to Kilkenny and not just generic copy-paste	River Suir, Clonmel environmental restrictions Nenagh and Clonmel Heritage restrictions River Suir Discharge Licencing restrictions (could inhibit geothermal) Legal impacts on DH development regarding land ownership, planning permission, public/private roads and boundaries that network might interface with

SEAI District Heating Feasibility Study in Tipperary County Council – Governance

The internal governance and ownership of the project with Tipperary County Council, is as follows:



SEAI District Heating Feasibility Study in Tipperary County Council – Procurement Strategy

The SEAI District Heating Centre of Excellence have produced excellent guidance documents and templates and will be included in the Tender pack as a reference for consultants. The majority of the gaps and priorities highlighted above, can be addressed by following the standard "District Heating Feasibility" scope of work. However, expectations will be set that:

1. The detailed feasibility study is specific to Clonmel and Nenagh.
2. The consultant respects the unique heritage status associated with some areas of the towns and its associated constraints when selecting areas to focus on for this feasibility study.
3. The data acquisition whether it is heat demand or hear source data collection is real, detailed and accurate and sourced through stakeholder engagement.

It is proposed that an open procurement of independent consulting services will be published on Etenders for this District Heating Feasibility Study in Tipperary County Council. It is anticipated that the Price:Quality ratio will be 40:60 with the quality criteria assessment on:

- Structure and competency of the proposed team
- Relevant experience on other similar District Heating feasibility studies
- Proposed methodology and project plan.

Conclusion

Tipperary County Council believe that the "compactness" of the towns and the town-centred location of industry as potential waste heat sources, i.e. lends itself to a potentially very viable District Heating opportunities in both Nenagh and Clonmel. The next step is to get "approval-in-principle" from the SEAI District Heating Centre of Excellence, followed by SEAI Pathfinder Approval at AG1 meeting, scheduled for the 25th February 2026.