

Transition Roadmap for Developing DHC in South Dublin

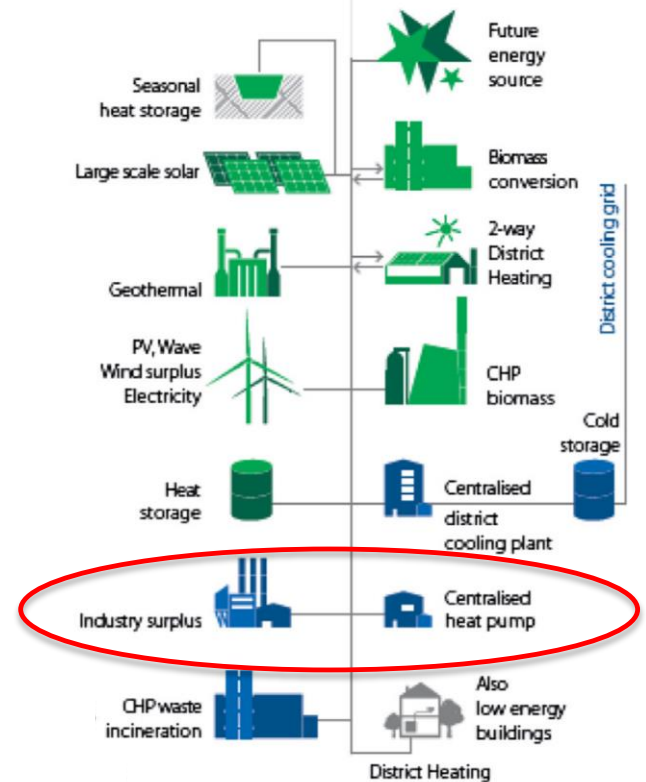


John O' Shea
Energy Systems Analyst - Codema

Interreg North-West Europe HeatNet NWE



European Regional Development Fund



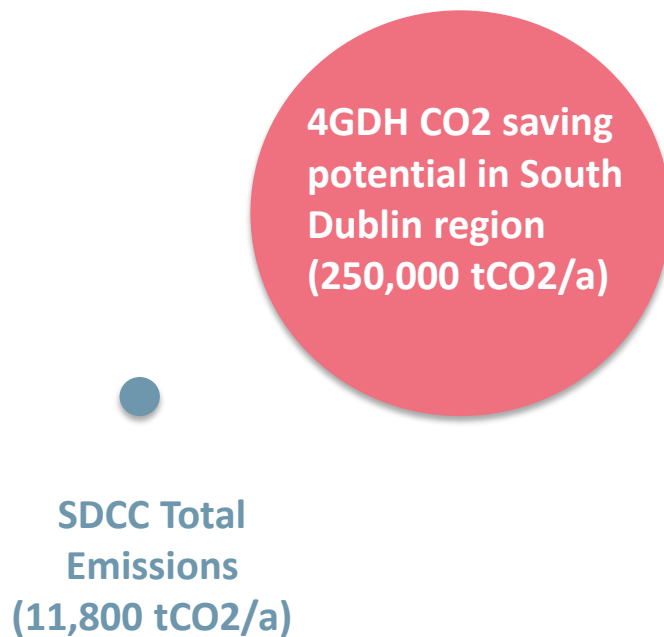
Where to start?
(Location, Mapping
& Stakeholders)

How?
(Delivering Viable
Projects – Steps &
Support)

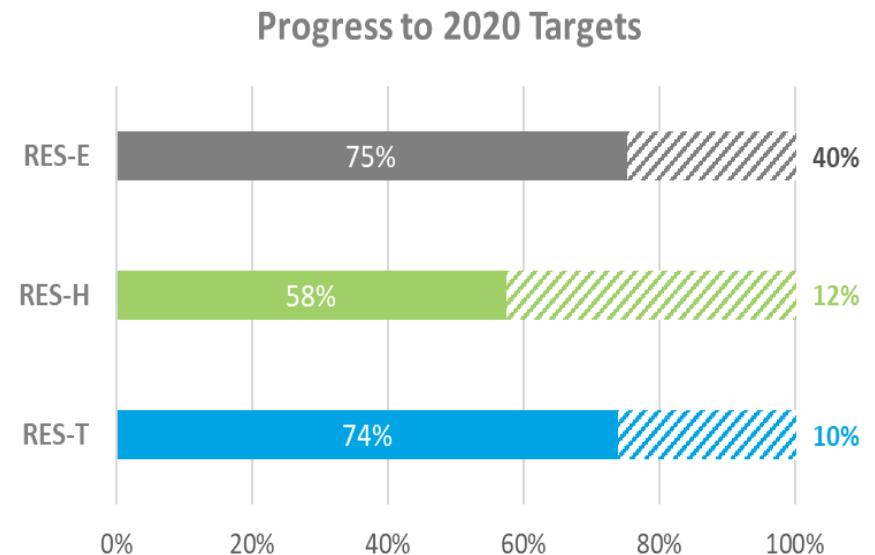
Why DH?
(The Big Opportunity)

Why DH? – The Big Opportunity

Carbon saving potential



Renewable heat potential



Why DH? – Not just a heating solution



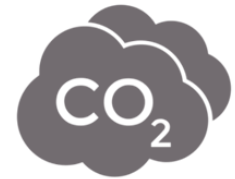
Industrial Waste Heat –
increasing plant efficiency



Thermal Storage – Cheap
Energy Storage for Large Scale
Demand side Response



Customer Safety – no
onsite combustion or fuels



Low-carbon & lower
local air pollution



Integrate more Renewable
Electricity – Large scale Heat
Pumps & Electric Boilers &
RE CHP



Less Fossil Fuel Imports –
increased security of supply



Low-cost heat – utilises
waste and renewable
sources of heat



New market – new
local employment

Benefits recognised in EU & national policy



- Energy Efficiency Directive:
 - Article 14 – Comprehensive assessment of potential for DHC
 - Article 14(4) – Adequate measures be taken to develop DH if cost effective
- Recast Renewable Energy Directive:
 - Acknowledges the contribution of DHC to increasing the share of renewable heat



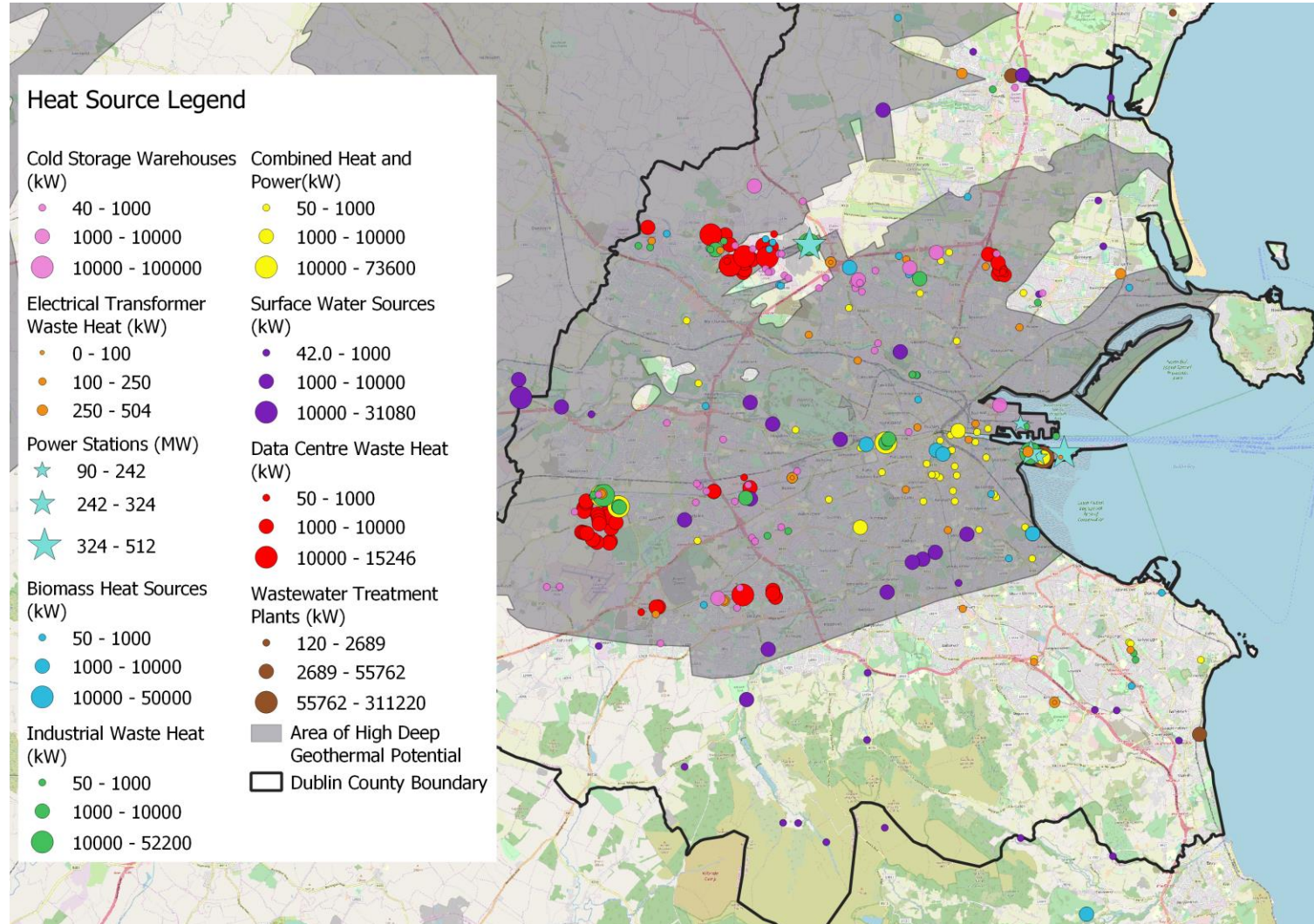
- Project Ireland 2040
- DCCAE Climate Action Fund
- Climate Action Plan 2019:
 - Action 70 – DH Policy framework
 - Action 53 – Assessing financing
 - Action 133 – 3rd level campus DH
 - Action 151 - Geothermal where DH seen as key enabling infrastructure

Where to Start? - Location

Heat Demand + Heat Source - Physical Barriers = Start Here

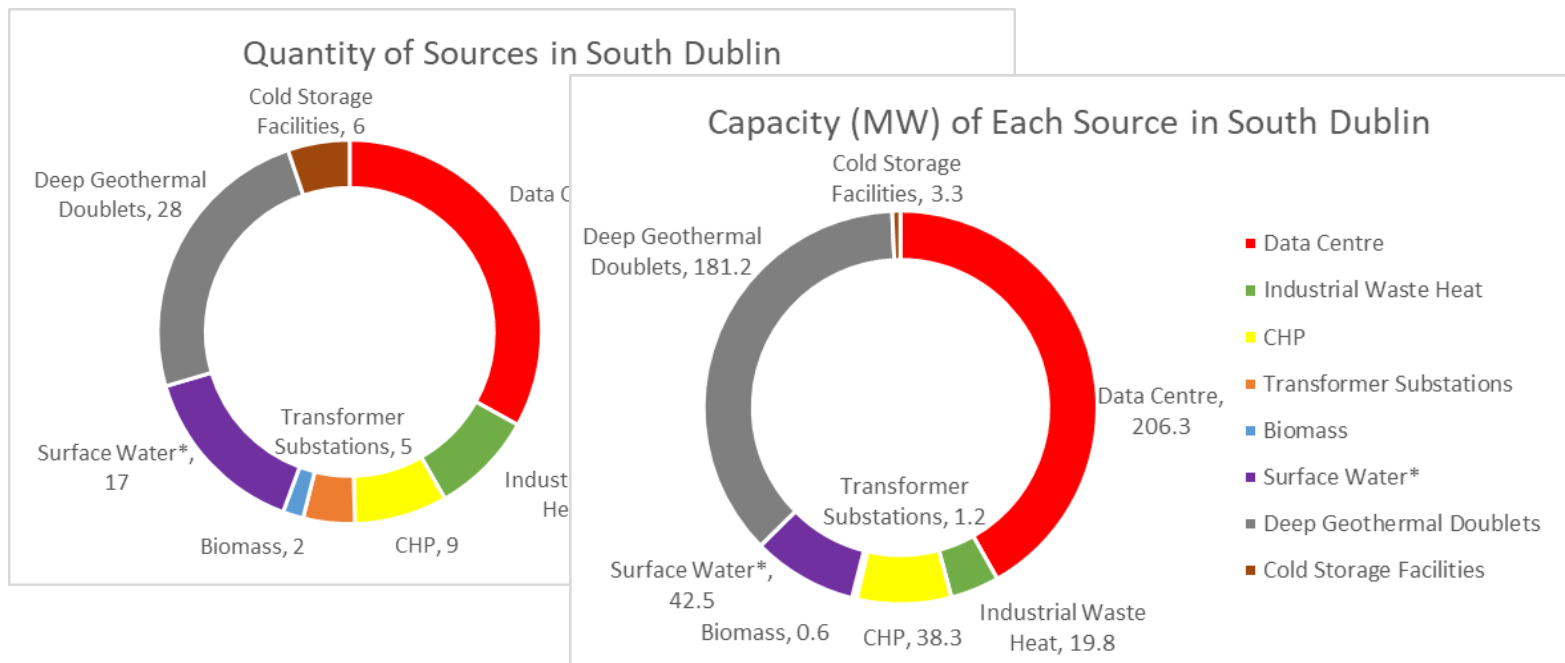
Heat Sources

17 Heat Source Types Investigated – Approx.
70 different data sources used



Heat Sources

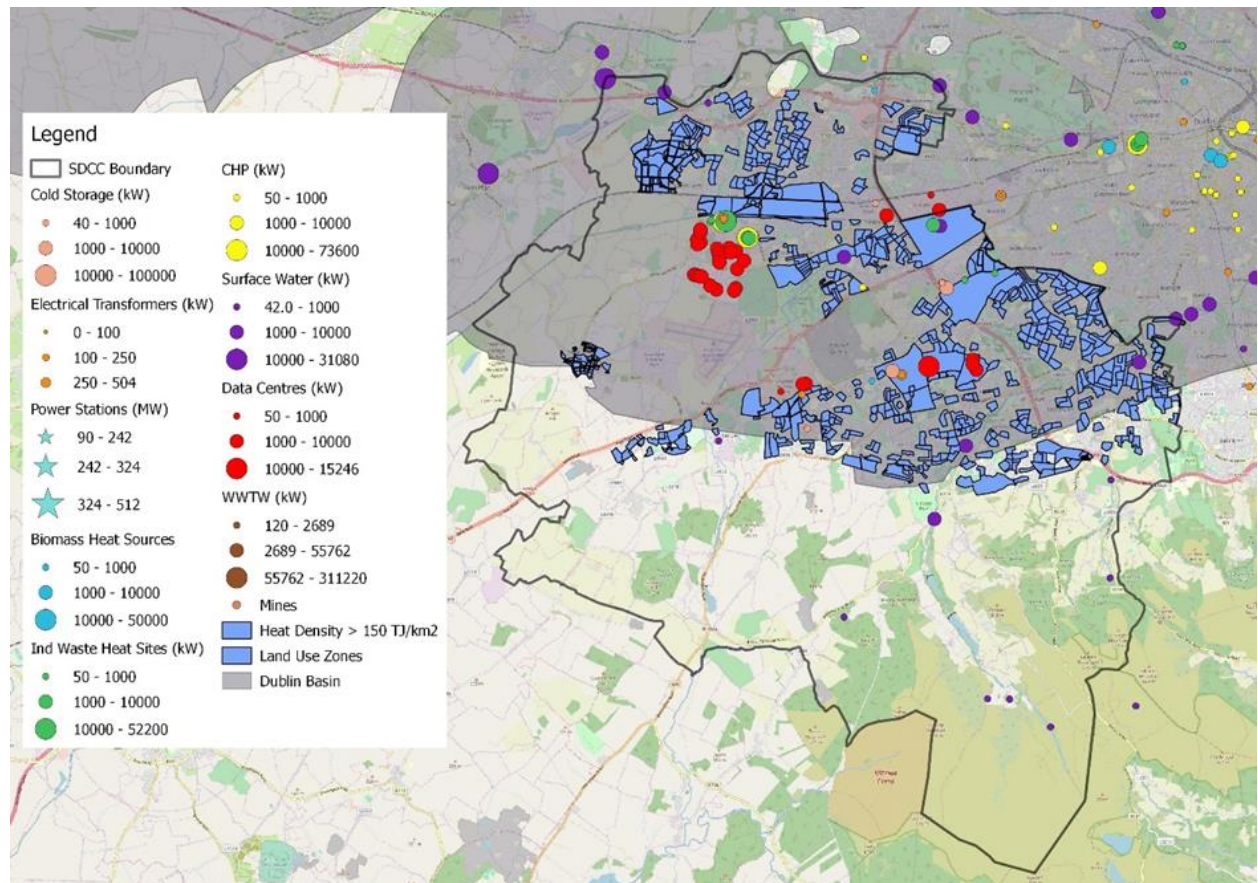
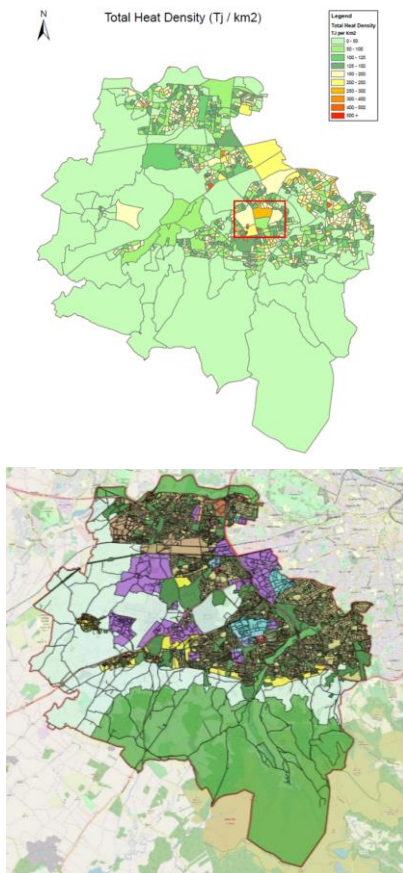
- Total heat capacity identified within SDCC = 493 MW
- Total number of heat sources identified = 115



*Surface water could be over 10 times the listed capacity figure if mean flow was used

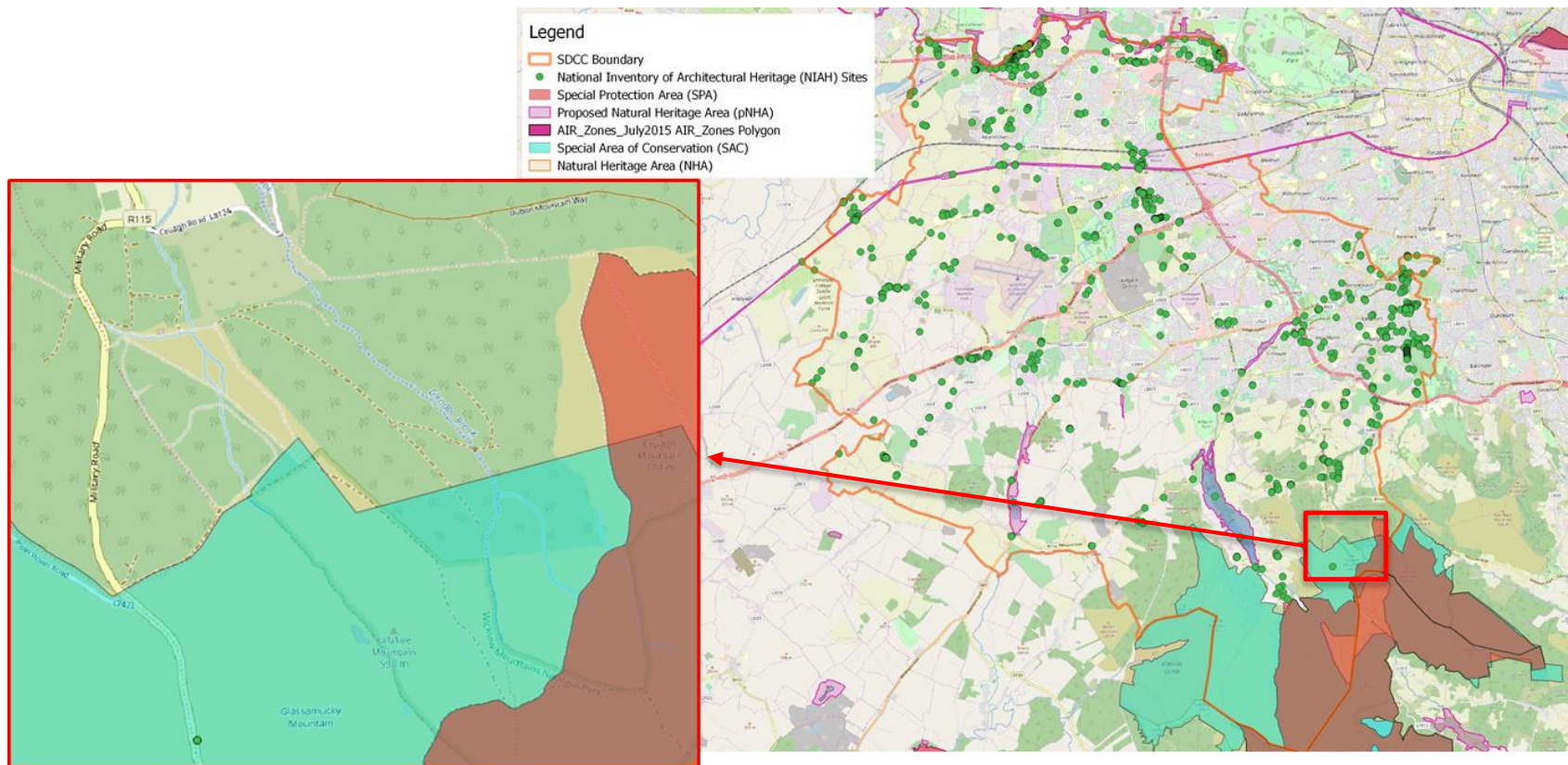
Heat Demand

- Spatial Energy Demand Analysis (SEDA)
- Future land use zones (SDZ, RES-N, REGEN)



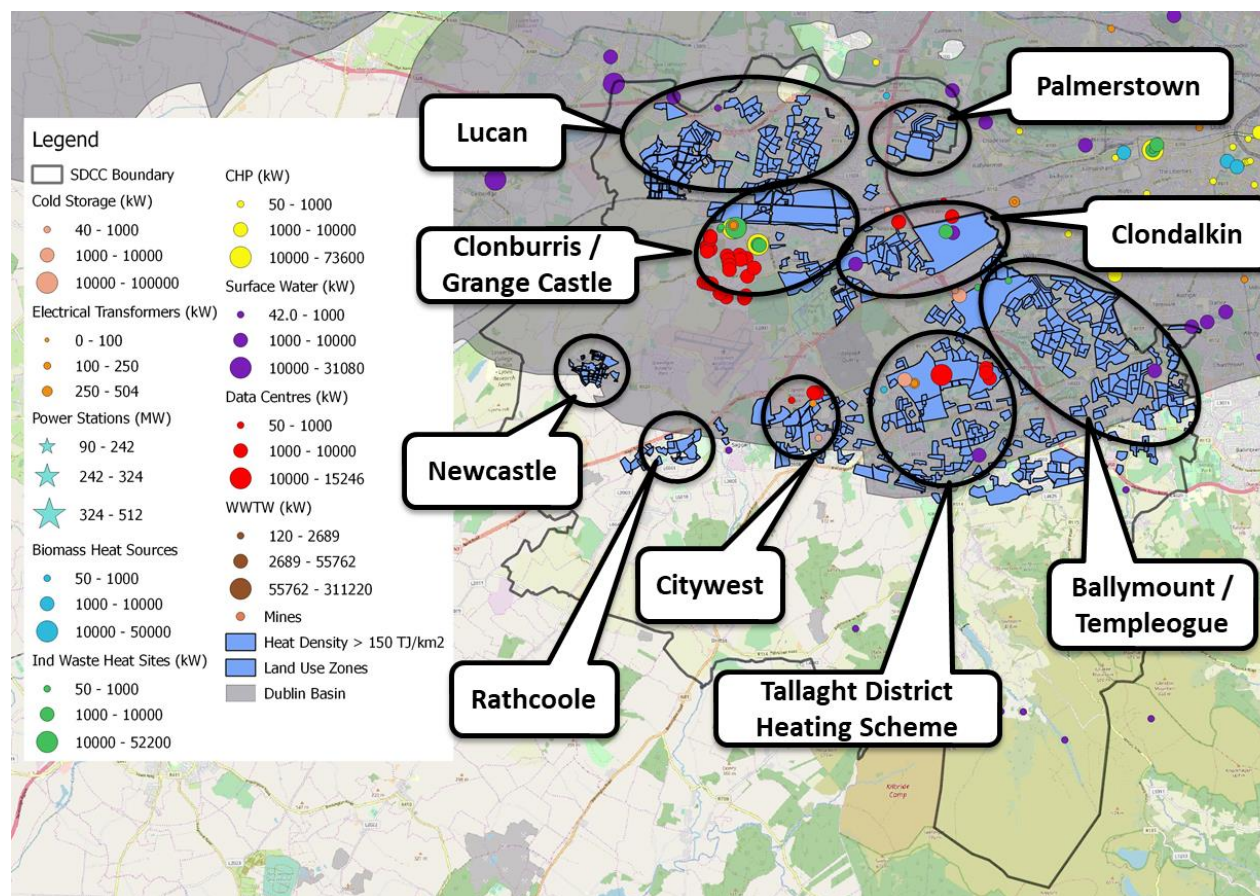
Physical Obstacles

These obstacles include; Infrastructure, Historical & architectural heritage sites, Habitat, Rivers & lakes.

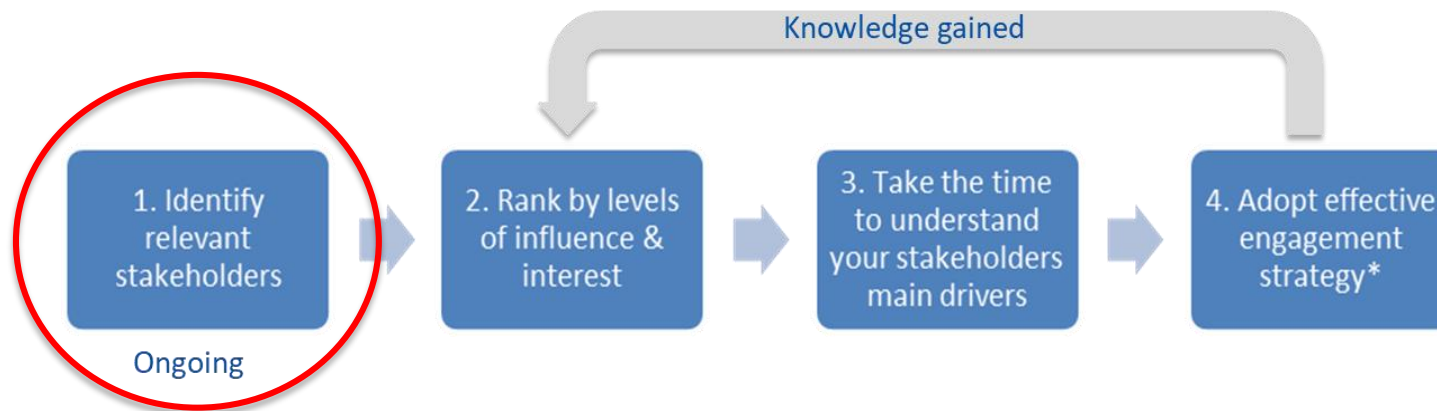


Start Here

Rank	Name
1	Clonburris / Grange Castle
2	Clondalkin
3	Ballymount / Templeogue
4	Palmerstown
5	Lucan
6	Citywest
7	Rathcoole
8	Newcastle



Where to Start with Stakeholders?



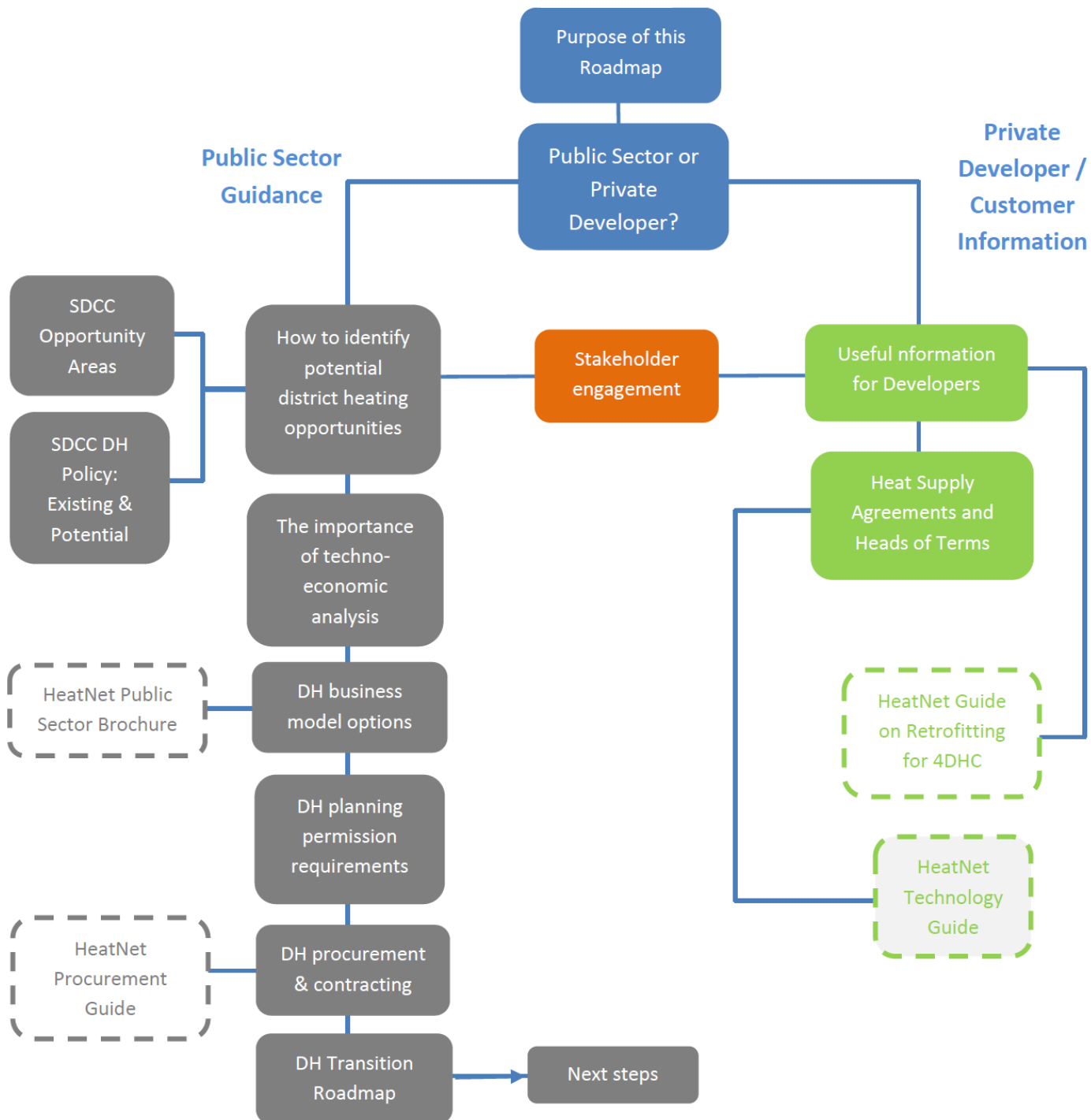
- What roles need to be filled
- Further information on the methods of communication and common stakeholder questions can be found in the Transition Roadmap.

How? – Delivering Viable Projects

	Short Term		Medium Term			Long Term	
	2019	2020	2021	2022	2023	2024	2025
Planning	Develop a heat map	Use and continual improvement of heat maps	Create zoning areas for DH enabled buildings	Further investigation into the geothermal potential			
	High-level ranking of opportunity areas	Feasibility study for high ranking opportunity area	Funding & procurement for feasible project	Development of new DH network	Re-evaluate opportunity area rankings	Funding & procurement for feasible project	Development of new DH network
	Include identified major growth areas in heat map / transition		Create development plan that looks to co-locate high heat demand with heat sources				
		Consider supplying new buildings from the return of older buildings	In 4DHC zones secure provision of thermal storage				
	Locate new development sites close to heat source	Identify areas suitable for locating energy centres and thermal storage	Create low-temperature 4DHC zoning areas				Investigate opportunities to link existing networks
			Consider opportunities for renewable				

How? – Delivering Viable Projects

	Short Term		Medium Term			Long Term	
	2019	2020	2021	2022	2023	2024	2025
Pilot - Proof of Concept		Develop TDHS as proof of concept		Extend initial TDHS			
Stakeholder Engagement	Continually engage developers / stakeholders		Highlight the whole energy system benefits				
Legal	Develop suite of legal documents		Update legal documents				
Policy	Continually work with national authorities for the inclusion of DH in applicable building regulations	Encourage high density developments with futureproofed centralised systems					
	Planning policy support for generation and distribution of low-carbon heat						
Technical Guidance		Develop secondary system design guidance to improve connectivity					
Capacity Development	Create SDDH Co. - SPV	Develop capacity within SDCC/SDDH Co. to manage the operation of TDHS				Develop capacity within SDCC/SDDH Co. to operate the DH system	



Interreg



EUROPEAN UNION

North-West Europe

HeatNet NWE

European Regional Development Fund

Thank you!