



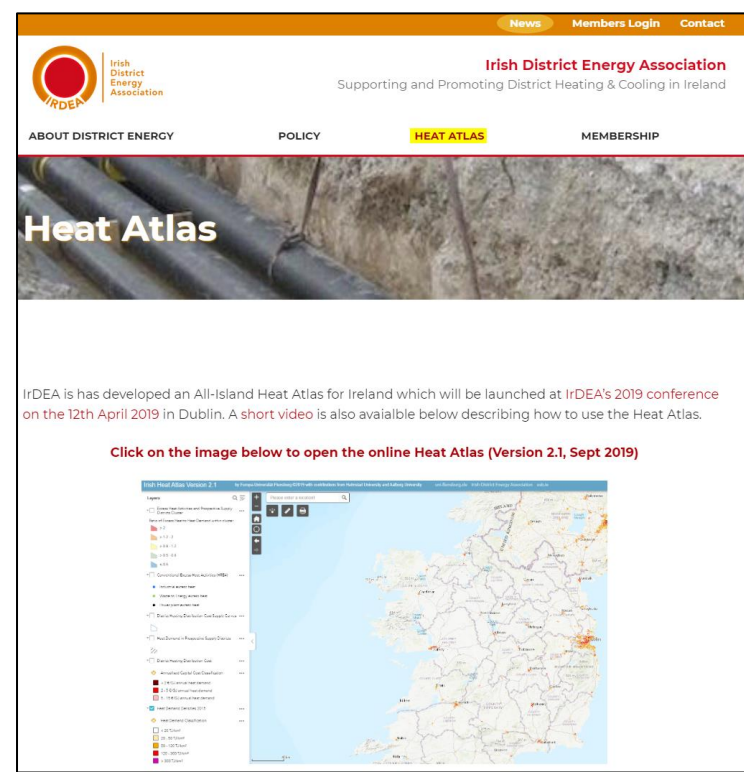
Irish  
District  
Energy  
Association

**IrDEA Heat Atlas**  
**David Connolly, Chairperson**

# Irish Heat Atlas

On IrDEA Website

<https://www.districtenergy.ie/heat-atlas>



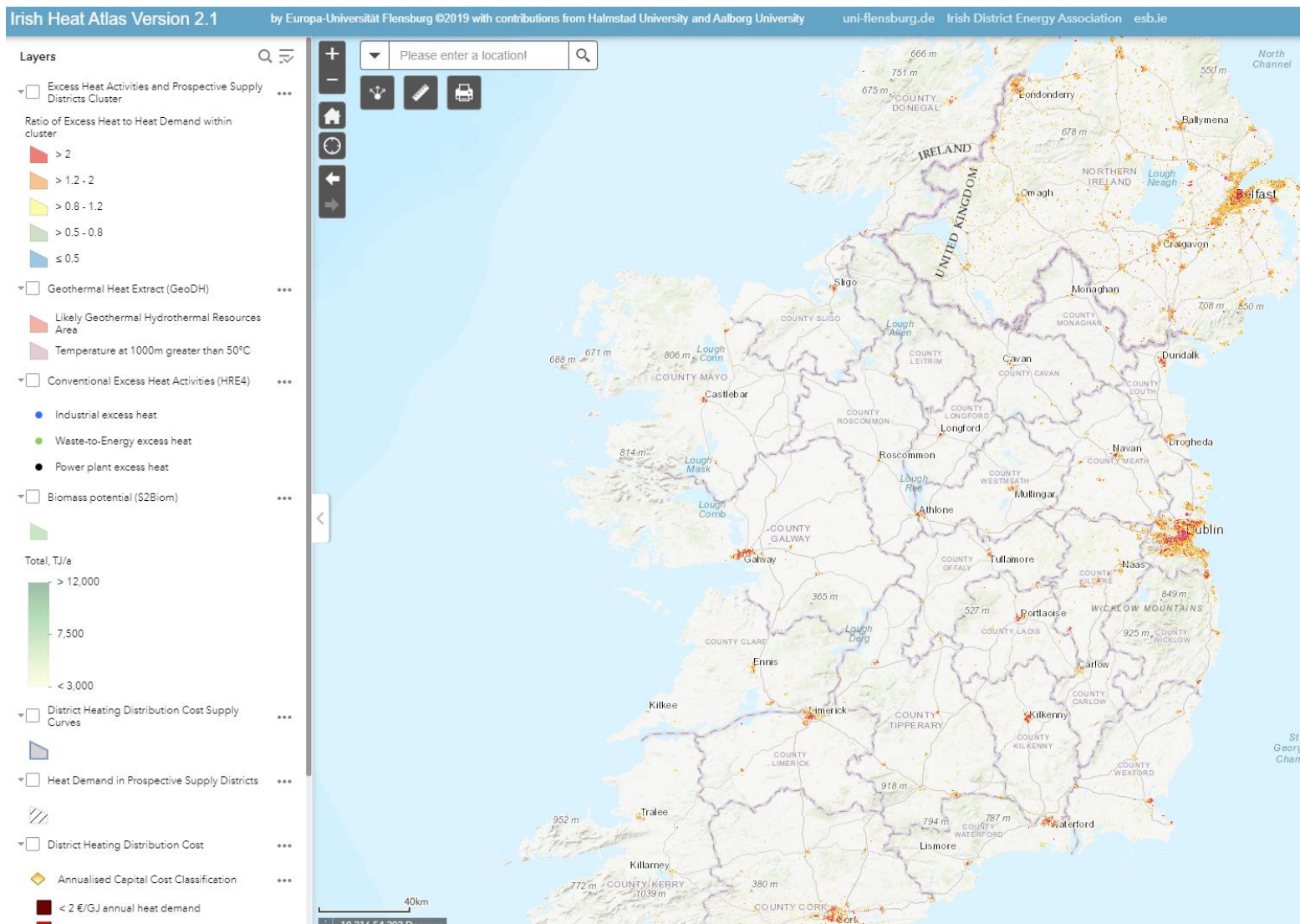
Partners:



This heat atlas is funded by ESB eHeat, Ireland and partly based on the findings of the project Heat Roadmap Europe, EU Horizon 2020 research and innovation programme under

695989.

# Irish Heat Atlas

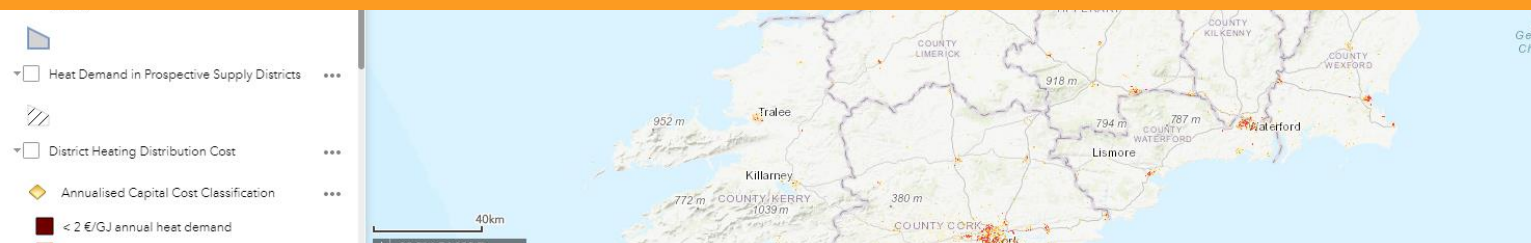


# Irish Heat Atlas



Heat demand density class	Sum of heat demand within PSD	Share of total heat demand
> 300 TJ/km <sup>2</sup> : Obvious DH potential	12.9 PJ	12.3 %
120 – 300 TJ/km <sup>2</sup> : Feasible DH	21.9 PJ	20.9%
50 – 120 TJ/km <sup>2</sup> : Subject to regulation	24.8 PJ	23.6%
20 – 50 TJ/km <sup>2</sup> : Future potential	9.4 PJ	6.2%

**33% Irish Heat demand feasible for DH**  
**57% feasible if supporting policy and regulation (similar to Denmark) put in place**





# Irish Heat Atlas

Layers on the Left Hand Side:

- Heat demand areas:
  - Heat Demand Densities
    - DH almost Impossible: 0 - 20 TJ/km<sup>2</sup>
    - Potential for 4DH: 20-50 TJ/km<sup>2</sup>
    - Suitable for 4DH: 50-120 TJ/km<sup>2</sup>
    - DH Currently Possible: 120 - 300 TJ/km<sup>2</sup>
    - DH Highly Feasible: >300 TJ/km<sup>2</sup>
  - NOTE: can use to find where low cost areas could make a high cost areas viable ([Morten Presentation](#)). Hence why there is also the layer called: "Prospective supply areas" – connects these together!
    - If you only look at 'viable areas' i.e. >120 TJ/km<sup>2</sup> then 33% of heat in Ireland is suitable
    - BUT when you look at 'adjoining' areas, then ~57% of heat in Ireland is suitable (previous slide)
- DH investment costs:
  - <€5/GJ is sensible usually
  - Two layers:
    - Supply curves
    - Layer with various costs

☒ Heat Demand Densities 2015

Heat Demand Classification

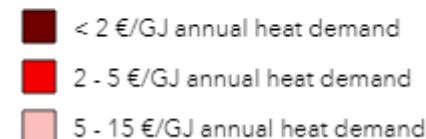


☐ Heat Demand in Prospective Supply Districts



☐ District Heating Distribution Cost

Annualised Capital Cost Classification



☐ District Heating Distribution Cost Supply Curves



# Irish Heat Atlas

## Layers on the Left Hand Side:

- Excess heat
  - Volumes
  - Ratio
- Renewable heat:
  - Geothermal
  - Bioenergy
- Tools:
  - Distance from excess/renewable heat to area suitable for DH can be very useful
  - Address bar – can use EirCode!

### Conventional Excess Heat Activities (HRE4)

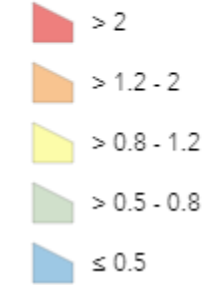
- Industrial excess heat
- Waste-to-Energy excess heat
- Power plant excess heat

### Geothermal Heat Extract (GeoDH)

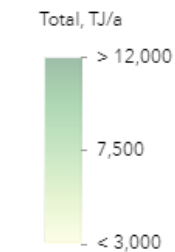
- Likely Geothermal Hydrothermal Resources Area
- Temperature at 1000m greater than 50°C

### Excess Heat Activities and Prospective Supply Districts Cluster

Ratio of Excess Heat to Heat Demand within cluster



### Biomass potential (S2Biom)



▼

Please enter a location!

🔍

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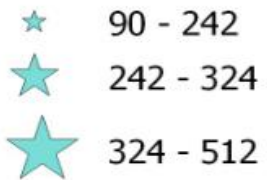
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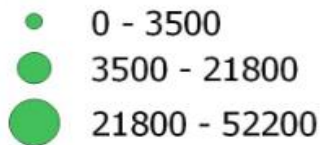


# Legend

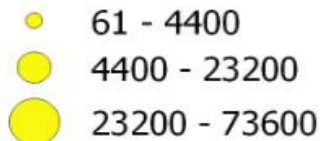
## Power Stations (MW)



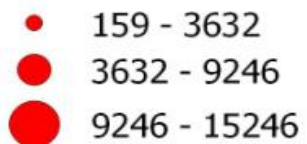
## Ind Waste Heat Sites (kW)



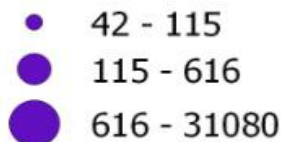
## CHP (kW)



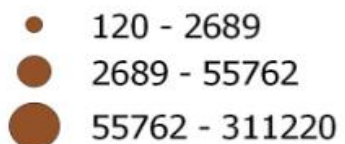
## Data Centres (kW)



## Surface Water (kW)



## WWTW (kW)



>2000 MW heat available in Dublin  
Market value > €1.2 billion



Thank You!

For more information:  
[info@districtenergy.ie](mailto:info@districtenergy.ie)  
[www.districtenergy.ie](http://www.districtenergy.ie)



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