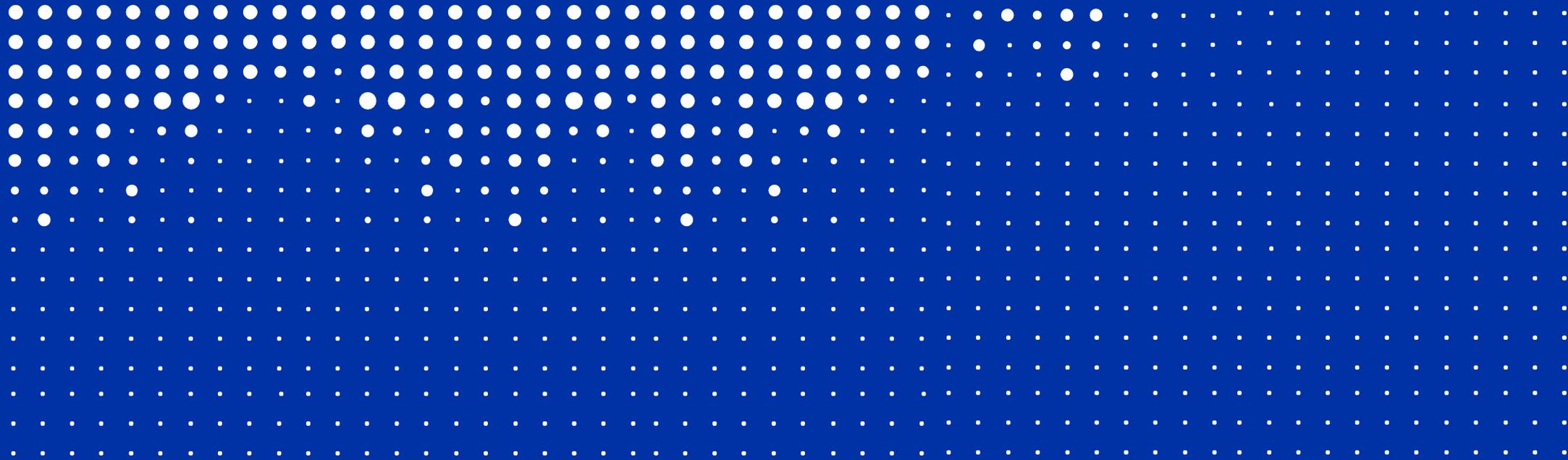


Why Waste Heat?

simon.kerr@sav-systems.com

07768 760515



Danfoss White Paper on Waste Heat

SAV_®

Danfoss Impact
Issue no. 2



The world's largest untapped energy source Excess heat



Excess heat is the world's largest untapped source of energy

In the EU alone, excess heat amounts to 2,860 TWh/y, almost corresponding to the EU's total energy demand for heat and hot water in residential and service sector buildings⁵. Much of this excess heat could instead be captured and reused.



The solutions already exist

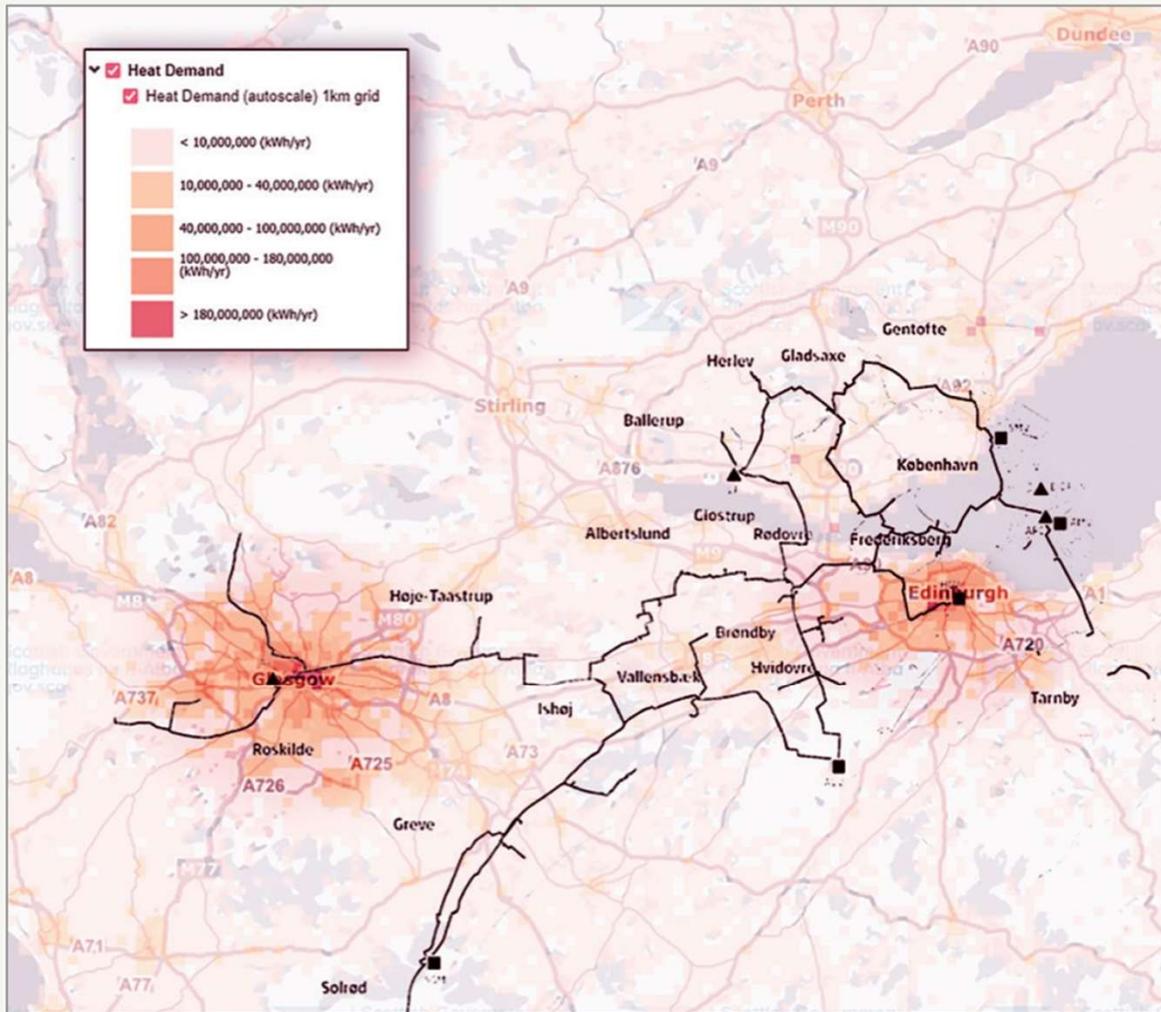
Heat recovery technologies exist that can use excess heat from industries, wastewater facilities, data centers, supermarkets, metro stations and commercial buildings. Excess heat can be reused to supply a factory with heat and warm water or exported to neighboring homes and industries through a district energy system. This paper presents concrete policy measures to accelerate the use of excess heat across sectors, benefitting citizens and businesses with lower energy costs and accelerating the green transition.



Reusing excess heat is energy efficiency in its purest form

A global push for higher efficiency can help avoid almost 30 million barrels of oil per day (that corresponds to triple Russia's average production in 2021) *and* 650 bcm of natural gas per year – around four times what the EU imported from Russia in 2021⁶.

Copenhagen's Heat Highway over the Central Belt



energiraven.com

Proposed Heat Highway Example

This image shows an example of a Danish heat highway overlaid onto a heat map of Glasgow and Edinburgh. This illustrates how such a heat highway might connect two cities within the UK.

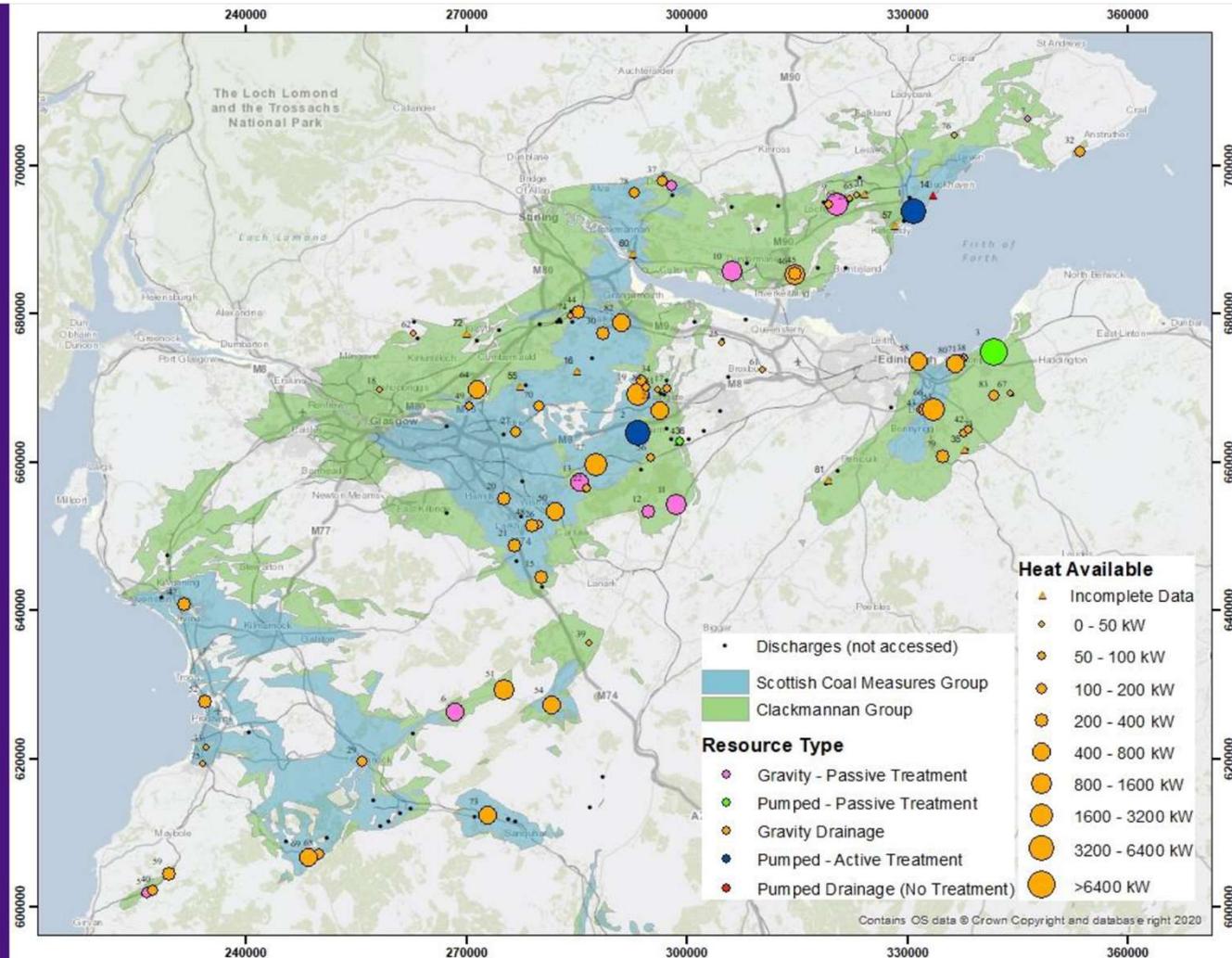
Heat map image courtesy of the Scottish Government.

Heat Available from Mine Water– Join The Dots!

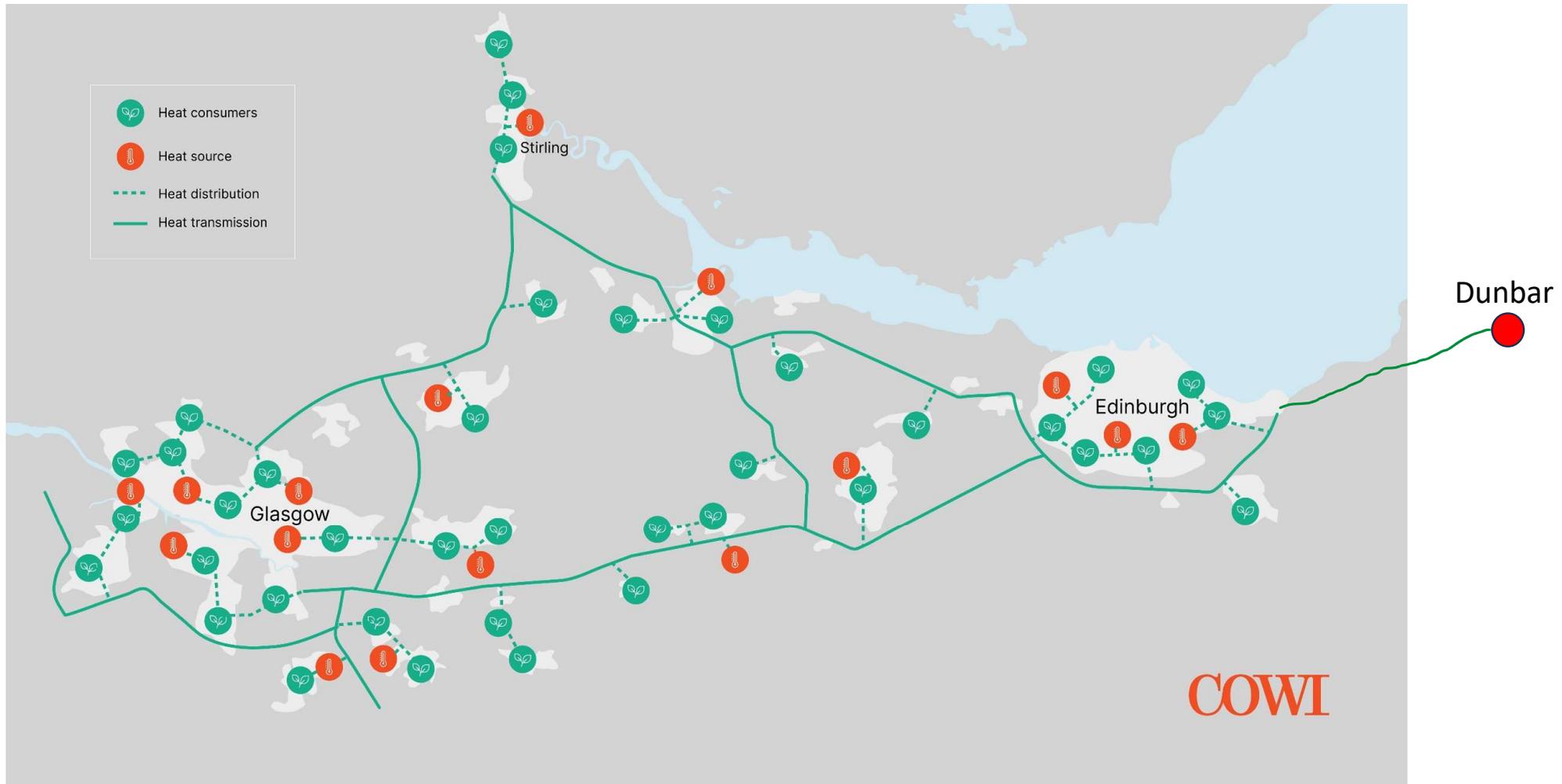
**Mine Water
Geothermal
Sources at the
Surface**

**Coal Authority
treatment schemes or
gravity discharges**

**Circle Size
=
Heat available**



Scotland's Heat Highway



Dunbar's Viridor Energy from Waste (EfW) Plant

- Waste capacity = 325ktpa
 - Electrical generation = 31MW
 - Heat generation = 108MW
-
- The electricity generated goes to the grid.
 - The heat generated gets dumped to atmosphere.
 - 108MW is enough to heat all homes in East Lothian and part of Edinburgh.

Some of Edinburgh's existing Heat Networks



In the era of global boiling... ...we're still freezing in our homes.

Power stations, factories, wastewater plants, supermarkets, and data centres are just a few industries generating incredible amounts of waste heat.

We boast a proud heritage of canals, railroads, and mines: visionary infrastructure projects that elevated our industrial sectors – not to mention our quality of living. If we're serious about making our heating green, affordable, and sustainable, we can bolster our economy and continue this tradition by building expansive, inter-city Heat Highways. They harvest waste heat from commercial and industrial customers, transporting it directly to large population centres.

We have a remarkable opportunity to make fuel poverty a thing of the past. So why do we still dump heat to atmosphere?

www.energiraven.com/highways



Recent advert in Private Eye

SAV,

“We boast a proud heritage of canals, railroads, and mines: visionary infrastructure projects that elevated our industrial sectors – not to mention our quality of living. If we're serious about making our heating green, affordable, and sustainable, we can bolster our economy and continue this tradition by building expansive, inter-city Heat Highways. They harvest waste heat from commercial and industrial customers, transporting it directly to large population centres.

We have a remarkable opportunity to make fuel poverty a thing of the past. So why do we still dump heat to atmosphere? “

Thank you for your attention.
Any Questions?

simon.kerr@sav-systems.com

07768 760515

