

On the map we have placed larger cities and a selection of larger biomass combined heat and power (CHP) plants around the Baltic Sea (thus excl. Norway). In addition to what is illustrated here, bioheat and biopower is produced at heat plants, industries and biogas plants. A grey circle denotes a city that utilise a lot of fossil based energy.

### SWEDEN

There are 90 biomass CHP's in operation around the country with the greater Stockholm area alone using 9 TWh biomass and waste for heat and power. Plans to phase out remaining coal in Stockholm by 2022. New investments include E.ON's Högbytorp, northwest Stockholm, along with municipal utilities in Borås, Boden, Uppsala and Västerås.

### DENMARK

Copenhagen to be CO<sub>2</sub> neutral by 2025. Høfor building major woodchip-fired CHP in central Copenhagen, total installed capacity 500 MW. In 2002 Dong Energy converted Herning and a unit at Avedøre (Copenhagen) to use pellets and woodchips. In 2016, both Studstrup (Aarhus) and Avedøre were converted to run solely on pellets and straw. This year Skærbæk (Fredericia) on woodchips only. All coal in remaining two power stations, Asnæs and Esbjerg, phased out by 2023.

### GERMANY

German policy only supports small-scale plants. Though, cities like Hamburg, have district heating and waste-to-energy CHP's and building a 20 MW biomass plant.

### POLAND

Szczecin is the location of Poland's thus far largest biomass CHP (68 MWe/162 MWth). It uses woodchip and agri-residues. Gdansk is planning a 250 ktpa capacity waste-fired CHP and waste-to-energy plants are being built in other cities like Poznan, Bydgoszcz, Krakow, Warsaw and Zabrze, the latter by Fortum using waste, coal and biomass.

### FINLAND

There are around 50 biomass CHP's in operation around the country. The Helsinki area still uses around 12 TWh coal and fossil gas but a new 100 MW peilet-fired heat plant is under construction and another pellet heat plant is being built in Esbo. Tampere uses about 50:50 biomass fuels and fossil gas. Åbo uses mostly coal but will build a large biomass CHP in Nådendal. Lahti has converted from coal to solid recovered fuels (SRF) in a new plant. The remaining towns and cities use almost exclusively biomass and/ peat.

### ESTONIA

Fortum has biomass CHP's in Tartu and Pärnu. Both Tallinna Elektriijaam and Utilitas have biomass plants in Tallin, the latter a 77 MWth/21 MWe CHP. New industrial biomass CHP's in Otepää, Imavere and Kehra.

### LATVIA

In 2013 Fortum commissioned a new biomass CHP Jelgava. Smaller plants are being built in Dobeles and Salaspils.

### LITHUANIA

The share of biomass in district heating over doubled, from 27 to 61%, between 2012 and 2015. In Vilnius, two new CHP's are under construction using biomass and waste respectively; a 174 MWth/70 MWe and a 53 MWth/18 MWe. In Kaunas, a new 70 MWth/24 MWe waste-fired CHP is being built.

### OTHERS

Major cities/urban areas lacking biomass heat and/or power include St Petersburg (RU pop. 5 million), Riga (LV pop. 700 000), Kaliningrad (RU pop. 450 000), Berlin (DE pop. 4.4 million), Gdansk/Gdynia (PL pop. 1.3 million).

