

Factsheet: Emissions from modern wood stoves

Emissions from wood burning are strongly reduced the last decades, thanks to continuous research and technology development. This is one of the results from the knowledge building project [SusWoodStoves](#), supported by the Research Council of Norway and industry.

In SusWoodStoves we have compared the emission factors that today are used in the Norwegian national emission inventory for modern wood stoves with three modern wood stoves.

Then we found that the three modern wood stoves on average has:

- 52 % lower emissions for the smallest (and most dangerous) particles (PM2.5)
- 72 % lower emissions for CO (carbon monoxide)
- 76 % lower emissions for CH₄ (methane)
- 77 % lower emissions for other relatively light gases (NMVOC)
- 70 % lower emissions for the heaviest gas compounds that condense out as liquid particles in the atmosphere

The emission inventory must be updated

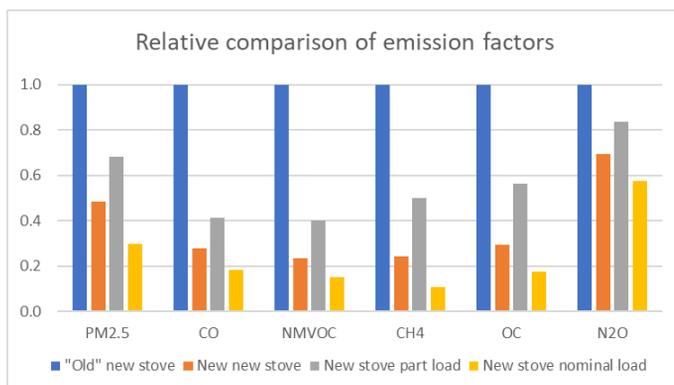
The results are good news that also must be reflected in our national emission inventory. Updated emission factors (per kg dry wood) must be used when the total emissions from the wood stove fleet in Norway is calculated based on technology type (old stove: before 1998; modern stove: from 1998; and open fireplace) and the wood consumption in these.

Read more in the SINTEF blog

[Research and Development Reduce Emissions from Wood Burning.](#)

And in the scientific publication

[Emission levels and emission factors for modern wood stoves.](#)



At the same time the stove efficiency has been improved, being on average 80%, which gives further reduced emissions per kWh net heat output.

Want to know more? Contact:

[Øyvind Skreiberg](#)

Chief Scientist at SINTEF Energy Research