TEMPORAL PROFILES OF RESIDENTIAL HEATING EMISSIONS IN GREECE

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FAIRMODE Technical Meeting

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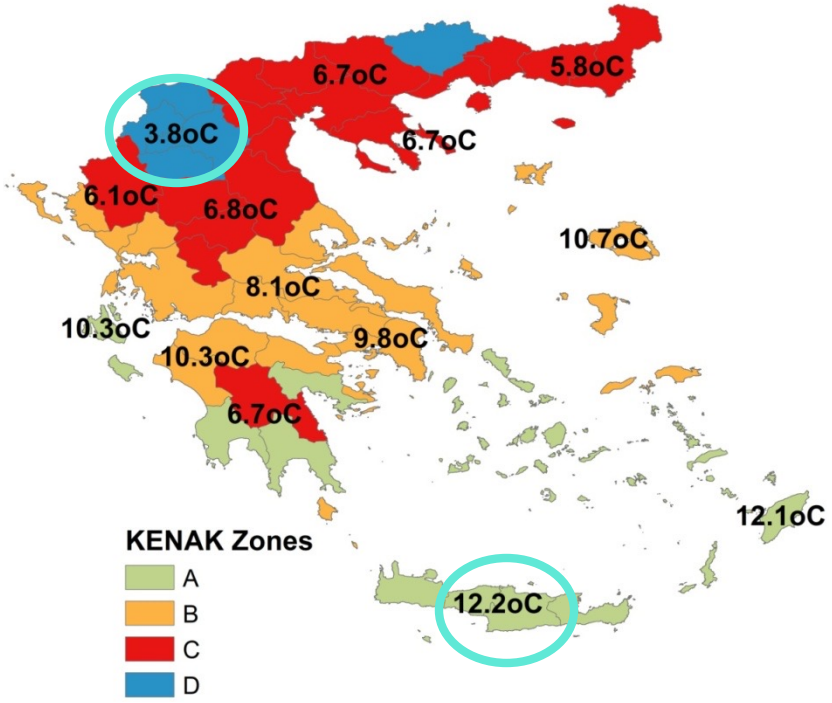
CT7 - Emissions

OVERVIEW & MOTIVATION

Mean temperature for February



Due to the complex topography of the Greek regions, there are many differences in the existing meteorological conditions which consequently define the energy consumption.

According to the "Energy Performance Buildings Regulation" (KENAK), Greece is subdivided into four climatic zones indicative of the heating days

Zone A is the warmest and Zone D the coldest

✓ Conduction of an online survey for the collection of information at a finer scale (Fameli et al., 2021)

✓ Record the heating period for each region

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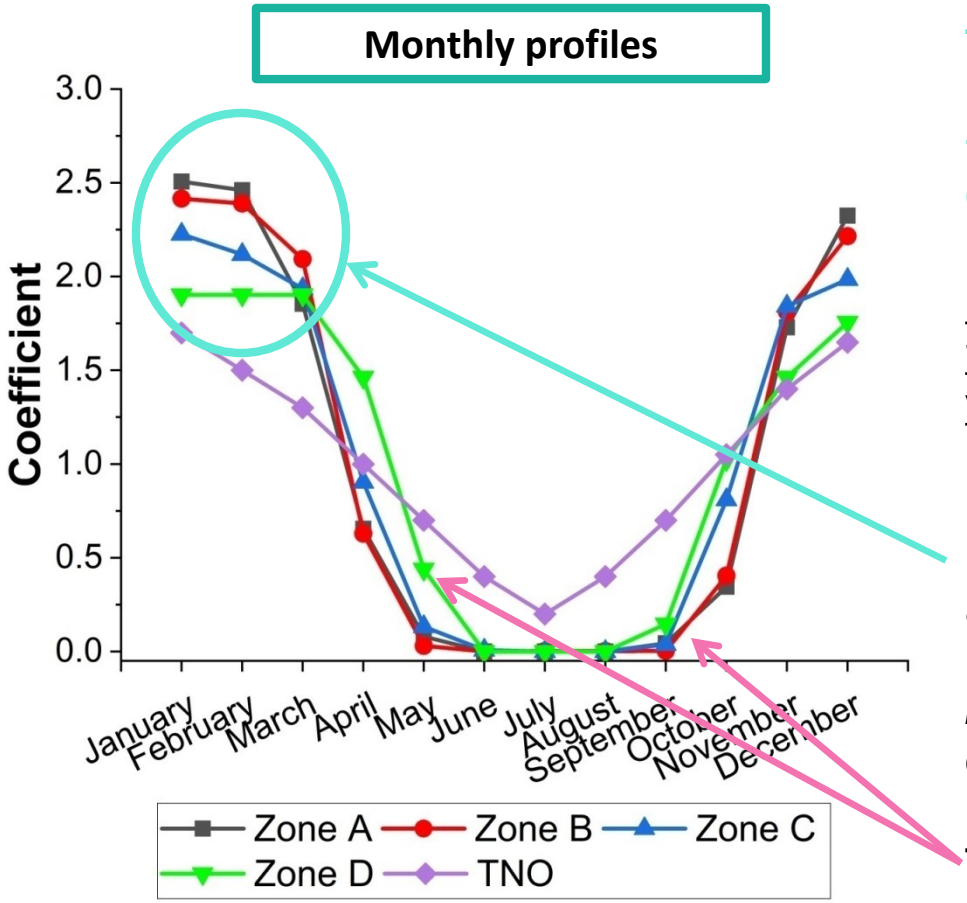
TEMPORAL DISTRIBUTION - 1



The residential heating period lasts from October to April and it is even shorter in southern Greece

It is much shorter in Greece than the one proposed by TNO (Denier van der Gon et al., 2011)

For the warmer Zones (A and B) higher values (≥1.7) are attributed to November, December, January, February and March since low T are recorded only this period

The residential heating period is longer in northern Greece (Zone D) thus monthly coefficients for May and September are >0 while for the other zones they are zero

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TEMPORAL DISTRIBUTION - 2

Daily profiles

	TNO	Survey
Monday	1.08	1.09
Tuesday	1.08	1.09
Wednesday	1.08	1.09
Thursday	1.08	1.09
Friday	1.08	1.09
Saturday	0.80	0.77
Sunday	0.80	0.78
total	**7.00**	**7.00**

- People prefer to heat their homes more during the weekdays → Higher coefficients
- Similar values to the ones proposed by TNO

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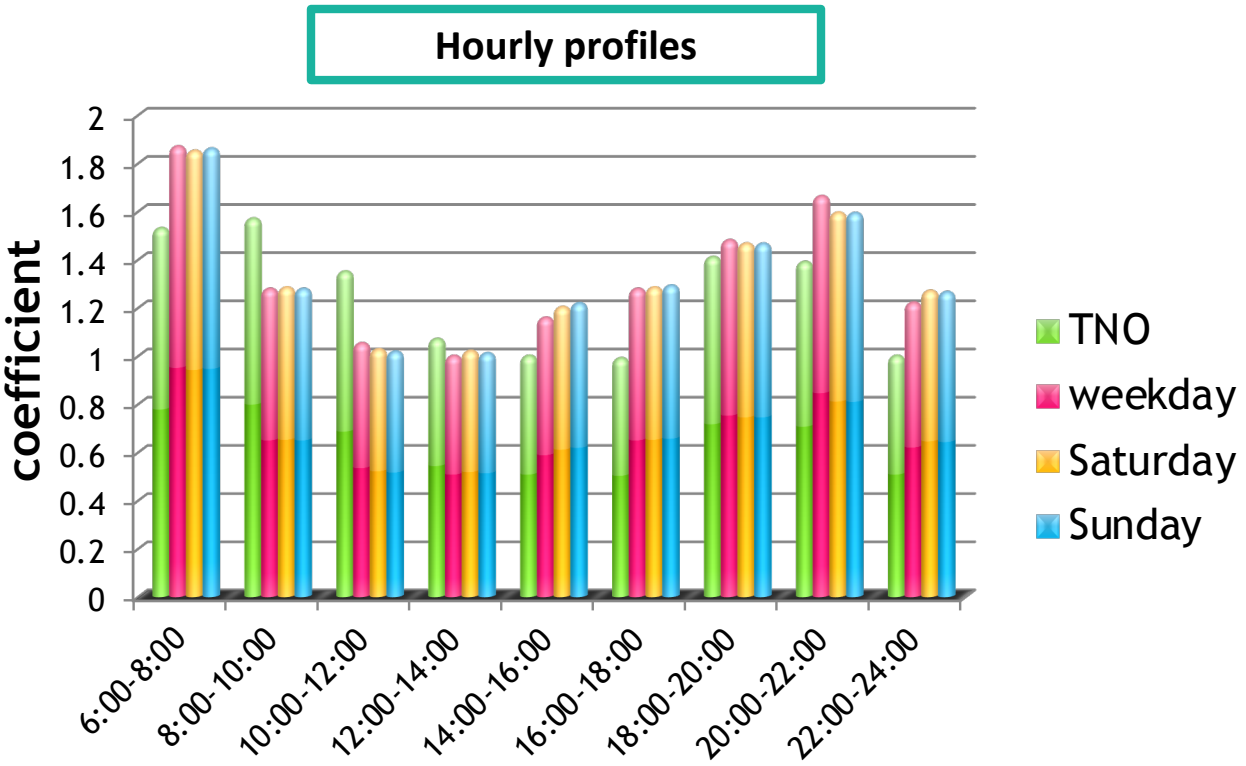
TEMPORAL DISTRIBUTION - 3



- Residential heating needs are higher during the period 20:00 LT–24:00 LT and early in the morning (6:00–10:00 LT)
- **Weekday VS weekend:** same profile in the morning
  higher values at night 20:00 – 22:00 LT for weekdays
- Differences with the TNO hourly profile during the morning (lower heating needs in the morning in Greece)

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THANK YOU!!!

atmosphere

MDPI

Article

Optimizing the Knowledge on Residential Heating Characteristics in Greece via Crowd-Sourcing Approach

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