

MEMO

To EFTA Surveillance Authority

From CMS Kluge

Date 12 April 2026

Subject **Complaint regarding Norway Price for electricity - Evidence of high demand flexibility in Norwegian households.**

1. INTRODUCTION

Reference is made to our complaint regarding Norway Price for electricity, the Norwegian authorities' submission dated 15 December 2025, and the meeting with ESA on 3 March 2026. In this meeting, we agreed not to comment, at least for now, on the entire submission by the Norwegian authorities, but rather on particular issues.

The present memo pertains to the documented evidence that Norwegian households possess a significantly higher potential for electricity flexibility than other European countries — directly contradicting the Norwegian Ministry of Energy's claims of limited domestic flexibility. This flexibility is a fundamental component of the functioning of the internal electricity market, and undermining it through the Norway Price scheme constitutes a significant market distortion and a violation of the "Energy Efficiency First" principle.

2. THE UNTAPPED SHORT TERM FLEXIBILITY POTENTIAL OF NORWEGIAN HOUSEHOLDS

The Ministry's claim that Norwegian household flexibility is fundamentally limited is contradicted by assessments from authoritative professional communities like NVE¹, THEMA Consulting², and NORCE Research³.

These institutions have identified a significant potential for flexibility precisely because Norwegian households use electricity for purposes such as space heating and domestic hot water, which accounts for the majority of residential energy consumption. This creates a level of inherent flexibility that far exceeds that of most European countries, where space heating and water heating are primarily gas-based. The potential for demand-side response is further amplified by the high adoption of electric vehicles (EVs), which allow for substantial load shifting without a loss of comfort. Furthermore, the high prevalence of wood stoves serves as a critical economic buffer, enabling households to substitute electricity with alternative heating sources during periods of high electricity prices.

By artificially flattening electricity prices under the Norway Price scheme, the economic incentives that energy experts identify as essential for activating demand-side flexibility are substantially weakened. Consequently, the scheme risks undermining the development of a modern, demand-responsive power policy by decoupling consumer behaviour from underlying market price signals.

¹ Norge har et betydelig potensial for forbrukerfleksibilitet i sektorene bygg, transport og industri, Faktaark NVE 2020

² Har vi fleksibilitet nok til å balansere kraftsystemet fram mot 2050?, THEMA 2022

³ Forbrukerfleksibilitet, NORCE 2025

Thermal Storage: While most European households rely on gas, Norwegian homes use electric hot water tanks and heating systems that function as "thermal batteries". These can be shifted in time without reducing comfort. THEMA identifies domestic hot water storage tanks alone as a potential source of 500 to 4.000 MW of flexibility.

Electric Vehicles (EVs): Norway has the world's highest share of EVs, which, according to NVE, will represent a mobile battery capacity of 100 GWh by 2030. Charging is an exceptionally flexible load; research demonstrates that by shifting charging to nighttime, households can effectively utilize periods of available grid capacity, thereby supporting a socially rational use of the energy system without necessitating costly infrastructure expansions. In its consultation response on the Norway Price scheme, Statnett cautioned that as much as 1.5 GW of flexible demand from electric vehicle charging could be lost if the scheme is implemented, due to the weakening of market-based price incentives for load shifting.

3. THE MINISTRY'S ELASTICITY ASSUMPTION IS AT ODDS WITH ESTABLISHED EVIDENCE

The Ministry claims a very low price elasticity of household electricity demand, estimated at 0.03–0.05. However, empirical data from the THEMA report⁴ documents substantial flexibility in Norwegian households over several years, while emphasizing that such flexibility becomes visible only when consumption data are corrected for temperature effects. Between 2020 and 2023, annual temperature-corrected electricity consumption declined by 2.2 TWh (approximately 5.5%), despite population growth of nearly 3% during the same period. This decline was most pronounced in Southern Norway (price areas NO1, NO2, and NO5), particularly in the Southwest region (NO2), where consumption in the fourth quarter of 2023 was 10% lower than in the fourth quarter of 2020.

The Ministry argues that household electricity consumption is almost entirely determined by outdoor temperature, effectively implying that demand flexibility is negligible or absent. This position stands in direct contrast to the analytical methodology used by NVE, which consistently relies on temperature-adjusted data when assessing progress toward national objectives such as the 10 TWh energy-efficiency target.

⁴ Hva skjedde i 2021-2023?, THEMA 2023

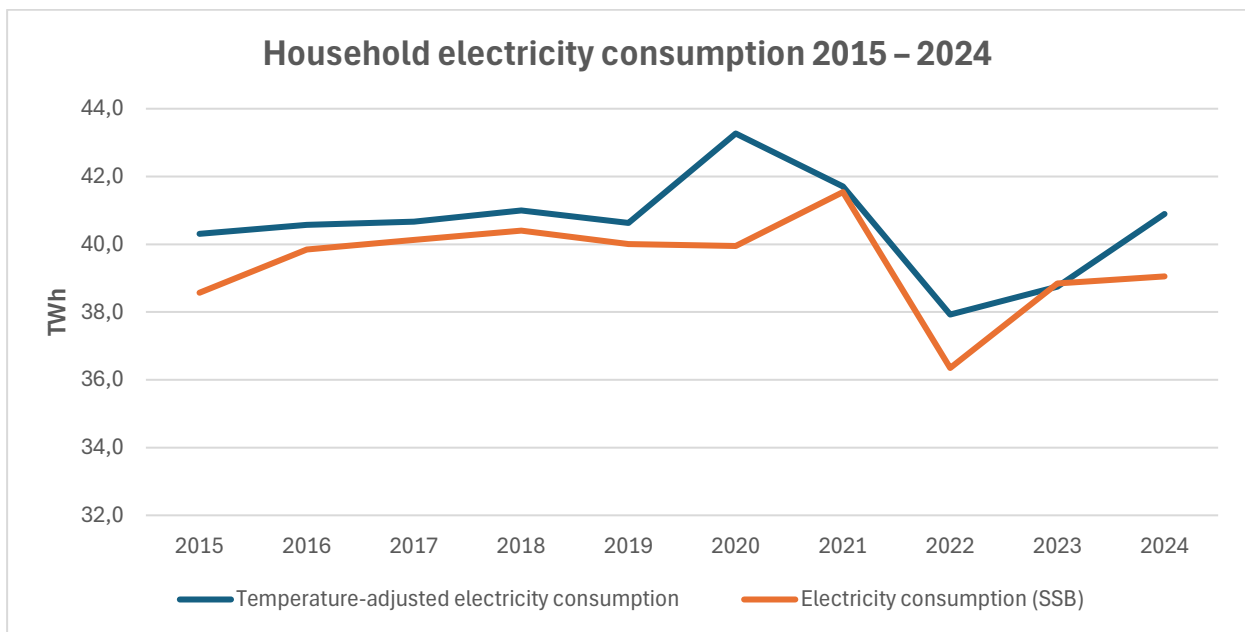


Figure 1. Household electricity consumption (Energibruksrapporten NVE 2025, SSB Energibalansen)

The THEMA report clearly demonstrates that once weather variations are accounted for, both structural efficiency improvements — such as investments in heat pumps and improved insulation — and behavioural changes become observable and measurable. These findings indicate that Norwegian households do respond to economic and informational incentives, and that flexibility exists even if it is obscured when unadjusted consumption data are used. Ignoring temperature-corrected analysis therefore risks systematically underestimating the true extent of household demand flexibility.

The assertion that household flexibility ceases when outdoor temperatures fall below -10°C does not align with observed consumption patterns, as several important end-uses remain adaptable even under extreme cold conditions. Short-term flexibility, such as electric vehicle charging and domestic hot-water heating, is not inherently temperature-dependent and can still be shifted to off-peak hours, thereby contributing to reduced peak load and alleviating stress on the electricity grid. In addition, wood-based heating acts as an important supplementary energy source. Between 2020 and 2022, the use of firewood increased by 1.1 TWh, and surveys indicate that approximately 36 % of households actively used wood stoves to substitute electric heating during the recent energy crisis.

From a medium- to long-term perspective (5–10 years), permanent technical measures are expected to further reduce electricity demand during periods of extreme cold. Improvements such as enhanced building insulation, installation of triple-glazed windows, and a gradual transition toward ground-source heat pumps can significantly lower base electricity consumption during peak winter conditions. These structural measures, combined with behavioural changes, contributed to a reduction of 2.2 TWh in temperature-corrected annual electricity consumption in 2022. This development demonstrates that household flexibility remains both substantial and measurable, even during cold weather, and continues to represent an important resource for the electricity system.

4. CONCLUSIONS

In conclusion, the Ministry’s assertion that Norwegian households exhibit limited or negligible flexibility is based on a static interpretation of consumer behaviour that is inconsistent with established empirical evidence. The combination of electric space heating, thermal storage, and a world-leading EV fleet makes Norwegian households uniquely flexible compared to other European consumers. While the

Ministry assumes near-zero price elasticity during peak demand periods, temperature-corrected consumption data show that households reduced annual electricity use by 2.2 TWh (approximately 5.5 %) between 2020 and 2023. This reduction occurred despite population growth over the same period and indicates that households do, in practice, respond to market signals beyond ambient temperature alone.

Norway's energy system is characterized by structural features that imply a substantial, yet largely underutilized, flexibility potential. High penetration of electric vehicles, widespread use of electric water heaters, and significant thermal storage capacity together represent demand-side resources amounting to several gigawatts. However, by decoupling end-user demand from underlying market prices, the Norway Price scheme effectively neutralizes this flexibility potential.

Shielding consumers from time-varying price signals risks undermining the development of a demand-responsive electricity system. In the longer term, such an approach will inevitably lead to inefficient resource allocation, reduced utilization of existing infrastructure, and increased reliance on costly and potentially avoidable grid expansions, with adverse consequences for both societal welfare and system efficiency.
