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Research: How Swiss Households Save on Heating Costs with Individual Billing

- Heating energy consumption in apartments lowered by 17%
- Common billing encourages “free-riding”

Bonn, Mannheim, 12.02.2025 – **Swiss households living in apartment buildings benefit from individualized metering and billing of their energy consumption: They save an average of CHF 144, or 17 percent, each year on heating costs. This is the result of new research which concludes that tenants become more price-sensitive when heat submeters are introduced, especially in larger buildings. These are findings of the discussion paper “The Tragedy of the Common Heating Bill” published by the EPoS Economic Research Center at the Universities of Bonn and Mannheim.**

Heat submetering enables the accurate measurement and billing of energy consumption in each apartment. “When submeters are installed in apartment buildings, over-heating the flat at the expense of neighbors, a form of ‘free-riding’, is no longer possible,” says Mateus Souza from the EPoS Economic Research Center. “With individualized billing, consumers adjust their heating behavior.”

Stronger savings in larger buildings

According to the Swiss Association for Energy and Water Cost Accounting, individualized billing is present in only about one-third of Swiss rented apartments. The researchers study the effects of the switch to the new regime based on a sample of more than 4,000 buildings, 185 of which introduced submetering between 2008 and 2022. They find that the savings effects are stronger in buildings with a larger number of apartments.

“We observe substantial savings in terms of money and CO2 emissions,” says Souza. “Yet, we had anticipated an even greater reduction. Surprisingly, some households had not exploited the opportunity to free-ride and over-consume at the expense of others even when it was possible to do so.”

Saving more energy in the future

Nevertheless, the false incentive to over-consume is one of the main drawbacks of common energy bills. Another problem is that consumers are less sensitive to energy price changes compared to individualized billing. “In the current situation, we clearly need strong incentives to cut CO2 emissions and save energy,” says Souza. “Energy and water billing based on accurate consumption offer a good solution. They create transparency and encourage consumers to use resources carefully.” The researchers find that the adoption of submetering can be justified for many buildings in Switzerland.

How to push further adoption of submeters

Yet, the wide adoption of individualized heating bills is unlikely without intervention by policymakers. “Ignoring the climate benefits, our results suggest that submetering is cost-effective for only 10 percent of the buildings in our sample,” says Souza. However, policymakers also have to take the cost of carbon emissions for society as a whole into account. “Even if the overall right carbon tax were in place, households would not consume at ‘socially optimal’ levels because of the free-riding incentives created by shared billing.” Considering the social carbon costs, the research estimates that the installation of submeters is justified for 63 percent of the analyzed buildings. “Our findings suggest that households in smaller buildings are already quite responsive to price

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changes. Submetering policies should therefore focus on larger buildings, where free-riding seems to be more prevalent.”

The presented discussion paper is a publication without peer review of the Collaborative Research Center Transregio 224 EPoS. Access the full discussion paper here: <https://www.crctr224.de/research/discussion-papers/archive/dp629>

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The Collaborative Research Center (CRC) Transregio 224 EPoS

Established in 2018, [the Collaborative Research Center Transregio 224 EPoS](https://www.crctr224.de), a cooperation of the universities Bonn and Mannheim, is a long-term research institution funded by the German Research Foundation (Deutsche Forschungsgemeinschaft, DFG). EPoS addresses three key societal challenges: how to promote equality of opportunity; how to regulate markets in light of the internationalization and digitalization of economic activity; and how to safeguard the stability of the financial system.

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