

# Are there problems of social affordability within the German Energiewende?

Kerstin Tews<sup>a</sup>, Erik Gawel<sup>b,c</sup>, Klaas Korte<sup>b</sup>, Paul Lehmann<sup>b</sup>, Malte Nachreiner<sup>d</sup>, Ellen Matthies<sup>d</sup>

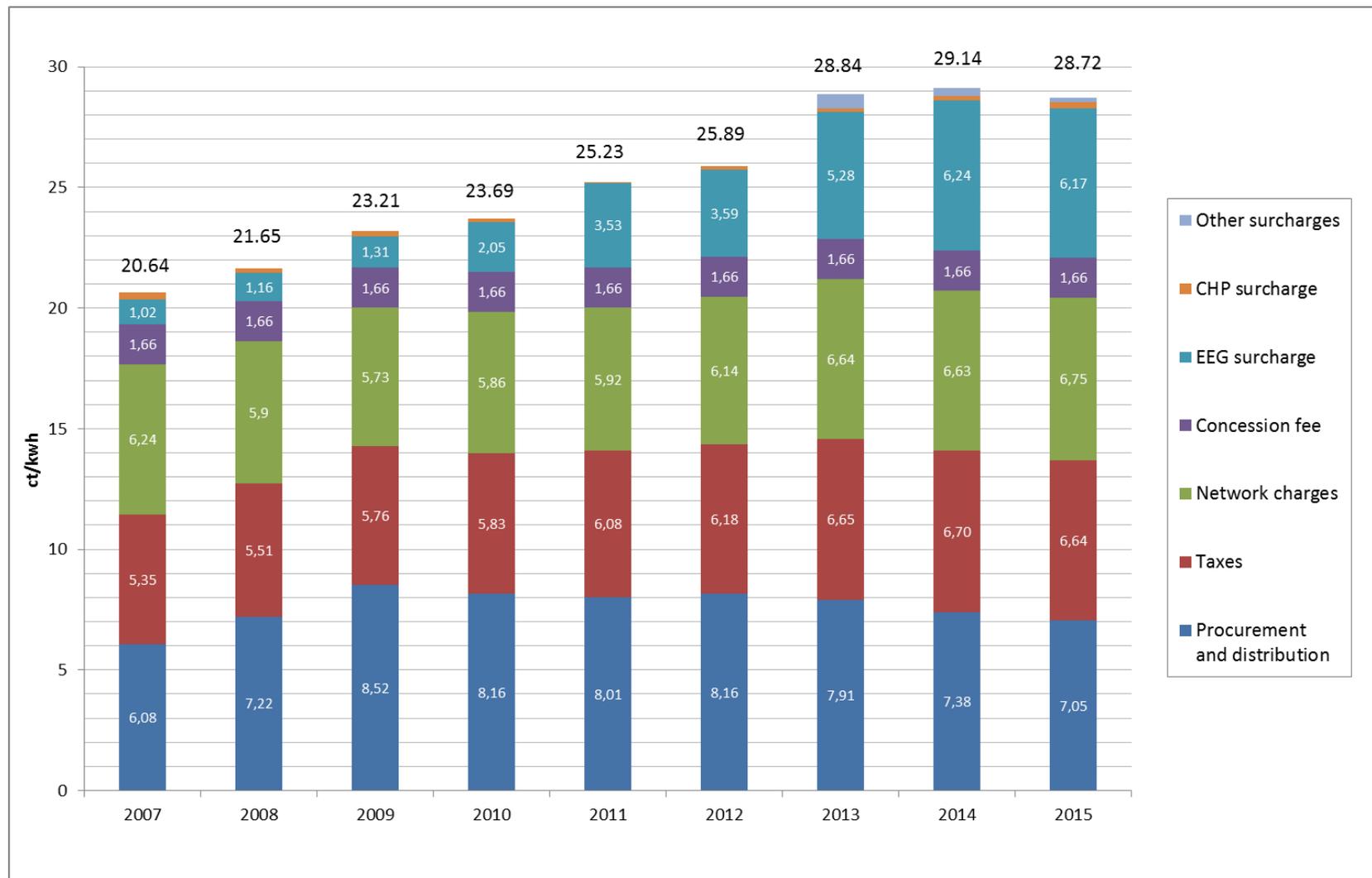
<sup>a</sup> Environmental Policy Research Centre (FFU), Freie Universität Berlin

<sup>b</sup> Department of Economics, Helmholtz Centre for Environmental Research – UFZ

<sup>c</sup> Institute for Infrastructure and Resources Management, Universität Leipzig

<sup>d</sup> University of Magdeburg, Institute of Psychology

# Development of German average household electricity prices 2007-2015



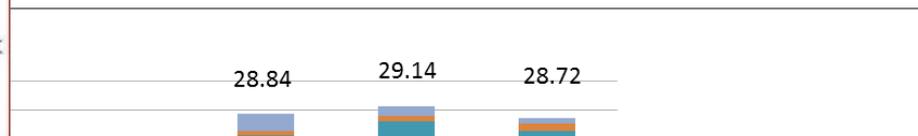
Source: Own illustration based on BDEW 2015

# Deutsche Haushalte können Energie nicht mehr bezahlen

Deutsche Wirtschafts Nachrichten | Veröffentlicht: 26.02.14, 00:10 Uhr | 181 Kommentare

Steigende Strom- und Gaspreise zwingen deutsche Haushalte dazu, ein Zehntel ihres Einkommens für Energie auszugeben. Von Energie-Armut ist mittlerweile jeder fünfte Haushalt betroffen. Die Kosten der Energie-Wende werden für die Bürger untragbar.

# an average household electricity prices 2007-2015



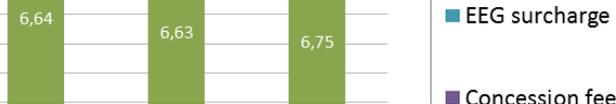
## Strom- und Gaspreise

# Die Energie-Armut grassiert

22.02.2012 | 16:48 Uhr



## Analyse: Die Energiewende hat ein Armutsproblem



## Energiewende „Auf uns rollt ein Kosten-Tsunami zu“

Die Stromkosten steigen, die Versorgung wird unsicherer, Wettbewerb auf dem Strommarkt findet praktisch nicht mehr statt. Die deutsche Monopol-Kommission warnt in einem Gespräch mit der F.A.Z. vor einem „Kosten-Tsunami“ und fordert ein Umsteuern.

04.06.2012

24. APR 2012

Studie

# Das EEG belastet vor allem Geringverdiener

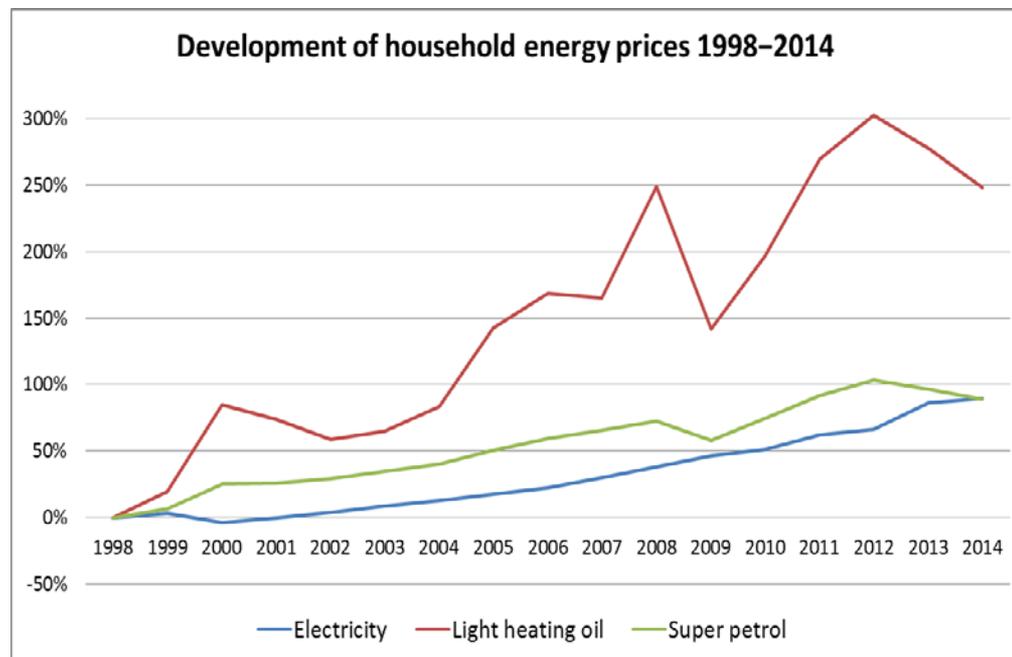
1.173 € 192 f

Die derzeitige Finanzierung der Energiewende ist unsozial. Einkommensschwache Haushalte werden durch das EEG relativ bis zu 10mal schwerer belastet, als Haushalte mit hohem Einkommen. Das geht aus einer Studie des Instituts der deutschen Wirtschaft Köln (IW) hervor, die im Auftrag der Initiative Neue Soziale Marktwirtschaft (INSM) erstellt wurde.

# EEG = socially unjust?

## Why this argument is misleading

- EEG-surcharge is not a good benchmark for the costs of energy transition
  - EEG surcharge increases existing affordability problems only marginally (Gawel et al. 2016)
  - Electricity price increase more moderate compared to other household energy carriers (before 2014)
- ↕
- criticism for social reasons focuses on electricity prices almost exclusively



➔ Strong governmental regulation of electricity prices makes them appear “politically negotiable” (rent-seeking)

➔ Social policy should not be played off against climate and environmental policy

➔ What can socially and energy transition compatible policies look like?

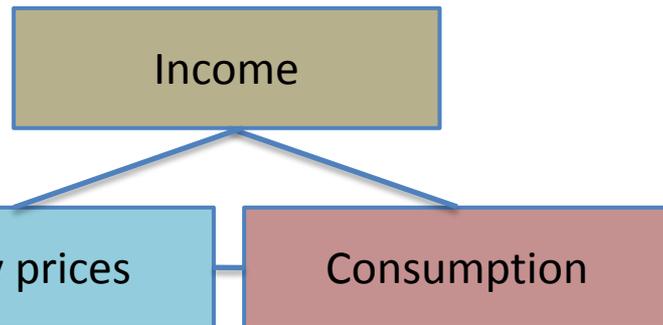
# Capturing the nature of affordability problems/“fuel poverty”

- Invalid but often used indicator: ratio of income to energy expenditures
  - mask potential causes: expenditures are a function of prices and consumption – mask *determinants of consumption*
  - Does not suffice to develop problem-specific and target group-specific policies
- Three determinants shaping

affordability constraints

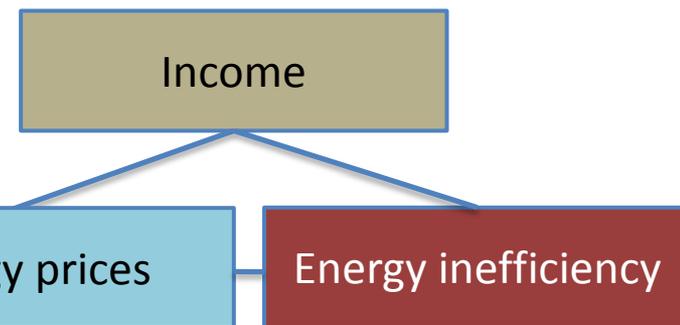
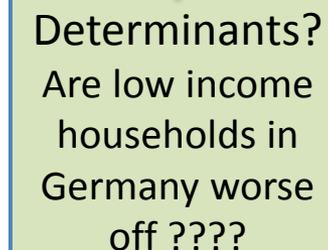
/

fuel poverty (UK-approach)



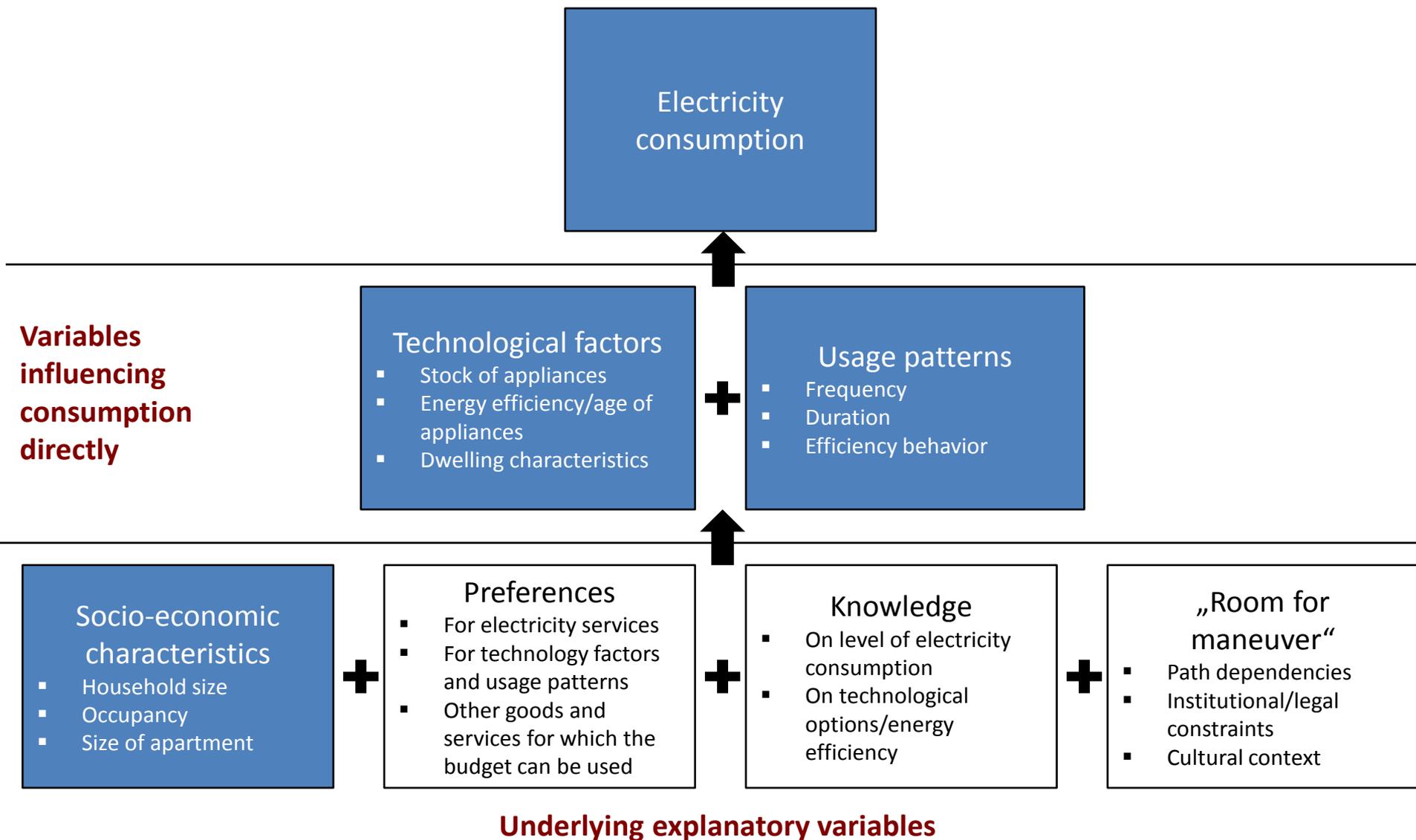
???

What is the nature of the problem in Germany?  
This is an empirical question!



“Various factors might lock households in to high energy costs, of which the most significant are a low standard of energy efficiency and a lack of access to capital to make the necessary improvements [...]” Hills, John (2012): Getting the measure of fuel poverty. Final Report, commissioned by DECC

# Our concept for empirical research on the determinants of electricity consumption



# Factors shaping affordability constraints in Germany: Income

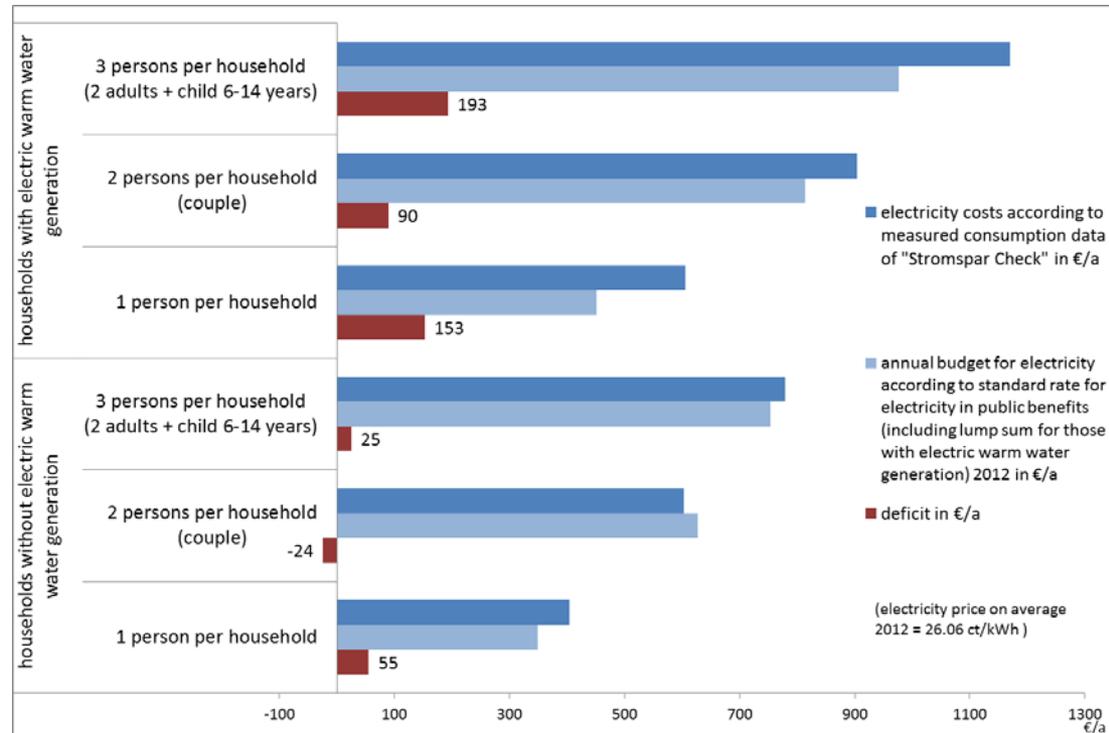
## ➤ Do low income households face affordability constraints because they are poor?

- Gap between standard rate for electricity in social benefits (SGB II, XII) and real cost for electricity
- Not all households at risk of poverty get social benefits (e.g. working poor)



Adjustment of social benefits is needed but perhaps not sufficient

Gap between standard rate for electricity in social benefits and real costs acc. to consumption data measured by the project „Stromspar-Check“ for 2012 [N=22.527]



Source: Tews 2013

# Factors shaping affordability constraints in Germany:

## Consumption patterns

- **Do low-income households face affordability constraints because they exhibit specific characteristics which increase their electricity consumptions?**
- ***Coherent results*** regarding general consumption features of low-income households
  - consume on average *less* electricity than non-LI households: more energy-saving behaviour, fewer appliances (Tews 2013, Nachreiner et al.)
  - spend higher share of their consumed electricity to satisfy basic energy services (Nachreiner et al.)
- ***Mixed results*** concerning technological/structural factors determining the amount of electricity needed to satisfy a given level of energy services
  - No differences in efficiency of the stock of basic appliances of LI households (fridge, freezers, washing machines) (Nachreiner et al.; very young sample)
  - Unclear relevance of electric water heating (strong regional differences)
    - Higher share of LI households (27%) compared to the German average (20%) (Tews 2013; nation-wide sample)
    - No difference between LI- non LI- households (Nachreiner et al.; local sample - city of Dortmund, where 41 % of the whole sample have electric water heating)

# Conclusion

## 1. Make the discussion more objective

- by a thorough analysis of the problem (e.g. consider regional differences)
- Environmental/climate targets and social acceptability should not be played off against one another

## 2. Tackle affordability constraints by a *mix of measures* addressing *diverse causes*

- If affordability constraints are *largely income poverty issues*:
  - Adjust social benefits to rising electricity prices

This will not suffice

- If affordability constraints are *largely fuel poverty issues*:
  - Focus on technological factors influencing electricity demand for basic services
  - Develop targeted efficiency policy which prioritises with respect to vulnerable households

## 3. Avoid socially motivated price interventions (e.g. electricity taxes reduction, social/progressive tariffs)

- Have only little or no unburdening effect on LI-households
- Suffer from high degree of target group inaccuracy
- Set wrong incentives (polluter pays principle)

Thank you for your attention!!!

# References

- Gawel, E., Bretschneider, W. (2014). "Affordability of Water and Energy Pricing – the Case of Germany". In: Fitzpatrick, T. (ed.). Handbook in Social Policy and the Environment, Edward Elgar: Cheltenham, 123-151.
- Gawel, E., Geißler, H., Lehmann, P. (2016). Erschwinglichkeit der Stromversorgung und Förderung erneuerbarer Energien – eine empirische Analyse für Deutschland. In: Großmann, K., Schaffrin, A., Smigiel, C. (eds.), Energie und soziale Ungleichheit: Zur gesellschaftlichen Dimension der Energiewende in Deutschland und Europa, Heidelberg: Springer, forthcoming.
- Gawel, E., Korte, K. (2012). "Verteilungseffekte des EEG: Kritik an den falschen Stellen". In: Wirtschaftsdienst 92 (8), 512-515.
- Gawel, E., Korte, K., Tews, K. (2015): Distributional Challenges of Sustainability Policies—The Case of the German Energy Transition. In: Sustainability 7 (12), pp.16599-16615.
- Gawel, E., Korte, K., Tews, K. (2015): Energiewende im Wunderland: Mythen zur Sozialverträglichkeit der Förderung erneuerbarer Energien durch das EEG. UFZ Discussion Papers 2/2015, Helmholtz Centre for Environmental Research -UFZ, Leipzig.
- Gawel, E., Korte, K., Tews, K. (2016): Thesen zur Sozialverträglichkeit der Förderung erneuerbarer Energien durch das EEG – eine kritische Analyse. Sozialer Fortschritt 65 (3) (forthcoming).
- Nachreiner, M., Lehmann, P., Tews, K., Matthies, E. (forthcoming): Influence of technological factors and usage patterns on electricity consumption: Are low-income households in Germany worse off? Submitted to Energy Policy
- Tews, K. (2013): Energiearmut definieren, identifizieren und bekämpfen - Eine Herausforderung der sozialverträglichen Gestaltung der Energiewende - Vorschlag für eine Problemdefinition und Diskussion des Maßnahmenportfolios. FFU-Report 04-2013, Forschungszentrum für Umweltpolitik, FU Berlin.
- Tews, K. (2014): Energiearmut – vom politischen Schlagwort zur handlungsleitenden Definition. In: GAIA 23/1, 14-18.
- Tews, K. (2011): Stromeffizienztarife für Verbraucher in Deutschland? Vom Sinn, der Machbarkeit und den Alternativen einer progressiven Tarifsteuerung. FFU-Report 05-2011, Forschungszentrum für Umweltpolitik, FU Berlin.