
Evaluation of the German Funding Scheme for Energy Efficiency in the Economy: Classical versus Competitive Financial Measures

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There are good arguments for both classical and competitive financial measures

- **Funding schemes:** Established in many countries to enhance the uptake of energy efficiency measures
- **Diverging perceptions:** There are good arguments for either classical or competition-based financial policy measures to enhance energy efficiency

Energy Efficiency in the Economy (EEE)	Cross-cutting technologies	Process heat from renewable energies	Energy management software and sensors	Optimization of plants and processes
	Module 1	Module 2	Module 3	Module 4
	Grant Credit	Grant Credit	Grant Credit	Grant Credit Competition
	Promotions for investments to increase the energy efficiency through highly efficient technologies for industrial and commercial applications.	Promotion of systems for the provision of heat from solar collectors, heat pumps or biomass systems where >50% of the heat is used for processes.	Promotion of software and hardware for enhancing and using energy or environmental management systems.	Technology-neutral promotion of investments in energy-optimized industrial and commercial facilities and processes and the use of heat from renewables and waste heat.

Differences in the three EEE lines lie in the achievable rates, the required payback time and the implementing agencies

	Grant	Credit	Competition
Mode	Classical approach		Competitive approach
Support	Direct investment grant	Low-interest loan with repayment subsidy	Direct investment grant
Funding	Investments in energy efficiency e.g. efficient equipment, optimization, waste heat, heat supply, cooling, ventilation, etc.		
Precondition	Energy-saving concept		
Eligible costs	Up to 10 m. euro		
Maximum funding	Non-SMEs: share of up to 30% (max. 3 m. euro) up to 500 euro per annually saved tonne of CO ₂ SMEs: share of up to 40% (max. 4 m. euro) up to 700 euro per annually saved tonne of CO ₂		Successful participation in the competition: share of up to 50% (max. 5 m. euro)
Conditions	Payback without funding: ≥ 2 years		Payback without funding: ≥ 4 years
Implementing agency	German Federal Office for Economic Affairs and Export Control (BAFA)	German development bank (KfW)	VDI/VDE-IT as service provider

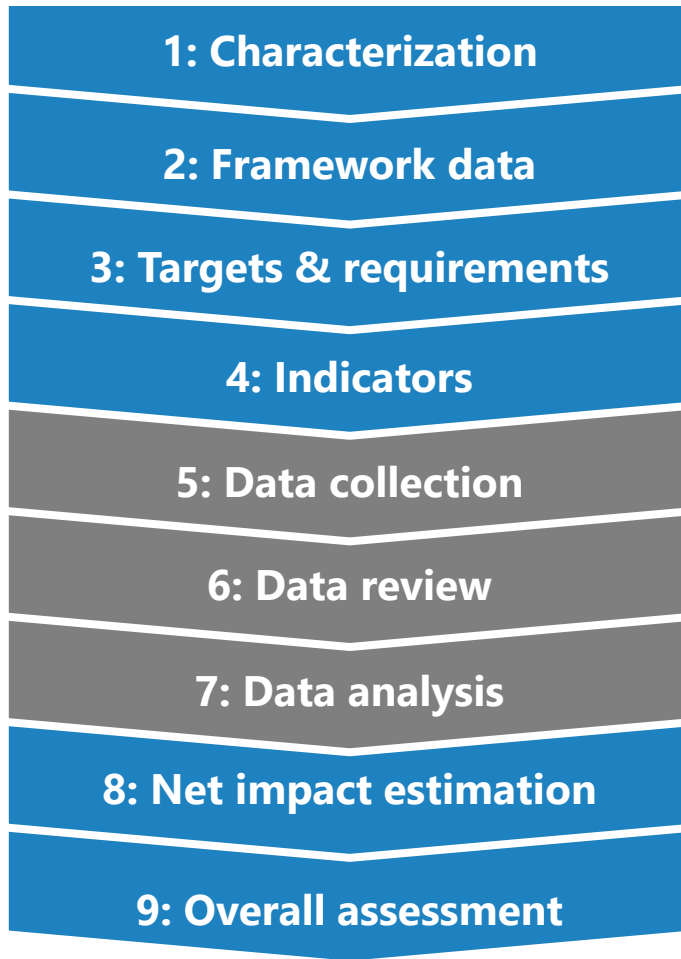
The EEE provides the opportunity to review almost identical offers for classical and competitive funding

- **Funding schemes:** Established in many countries to enhance the uptake of energy efficiency measures
- **Diverging perceptions:** There are good arguments for either classical or competition-based financial policy measures to enhance energy efficiency
- **Opportunity:** almost identical grant-, credit- and competition-based funding approaches in the Funding Scheme for Energy Efficiency in the Economy and a harmonized evaluation approach

Aim: empirical contribution to the discussion about the advantages and disadvantages of “market-based” and “classical” funding instruments

Research question: Can we observe differences in the uptake of grant-based, credit-based and competition-based funding in the case of the EEE?

The analysis of the three lines is based on a common approach for evaluating policy measures on energy efficiency



Data sources for this analysis

1. **Administrative databases** of implementing agencies
 - Cover mainly: Information on beneficiaries, classifications, financial data, savings and administrative information
2. **Surveys** of successful applications
 - Cover mainly: Complementary data and views on the funding process and its implementation
 - Aggregate results for the three different lines from the years 2019 and 2020

	Grant	Credit	Competition
Invitations	1988	564	65
Completed surveys	518	114	29
Response rate	26%	20%	45%

Source: Hirzel and Schlomann 2022; further details: Schlomann et al. 2017; Voswinkel et al. 2018; Voswinkel 2018, 2019 and 2020.

The grant and credit line and the competitive line seem to reach different types of companies

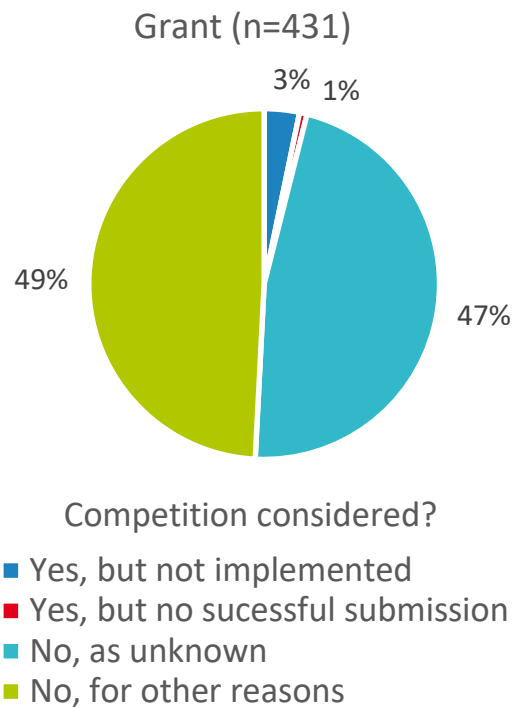
Results from administrative data (brackets indicate the total number of successful applications)

Share of cases by company that ...	Grant	Credit	Competition
... are SMEs	72% (2006)	79% (705)	2% (65)
... are contractors	0.4% (2006)	0.1% (705)	3% (65)
... are municipal companies	0.9% (2006)	0.7% (705)	3% (65)

Results from survey (brackets indicate the total number of answers per question)

Share of cases by company that ...	Grant	Credit	Competition
... are owner-operated	78% (516)	83% (113)	46% (28)
... have an environmental or energy management system	49% (482)	52% (102)	100% (25)
... have a specific target for reducing energy demand	60% (419)	57% (90)	88% (24)
... have energy costs above 10%	15% (390)	13% (94)	57% (14)
... require paybacks for efficiency measures below 4 years	50% (424)	39% (89)	71% (28)

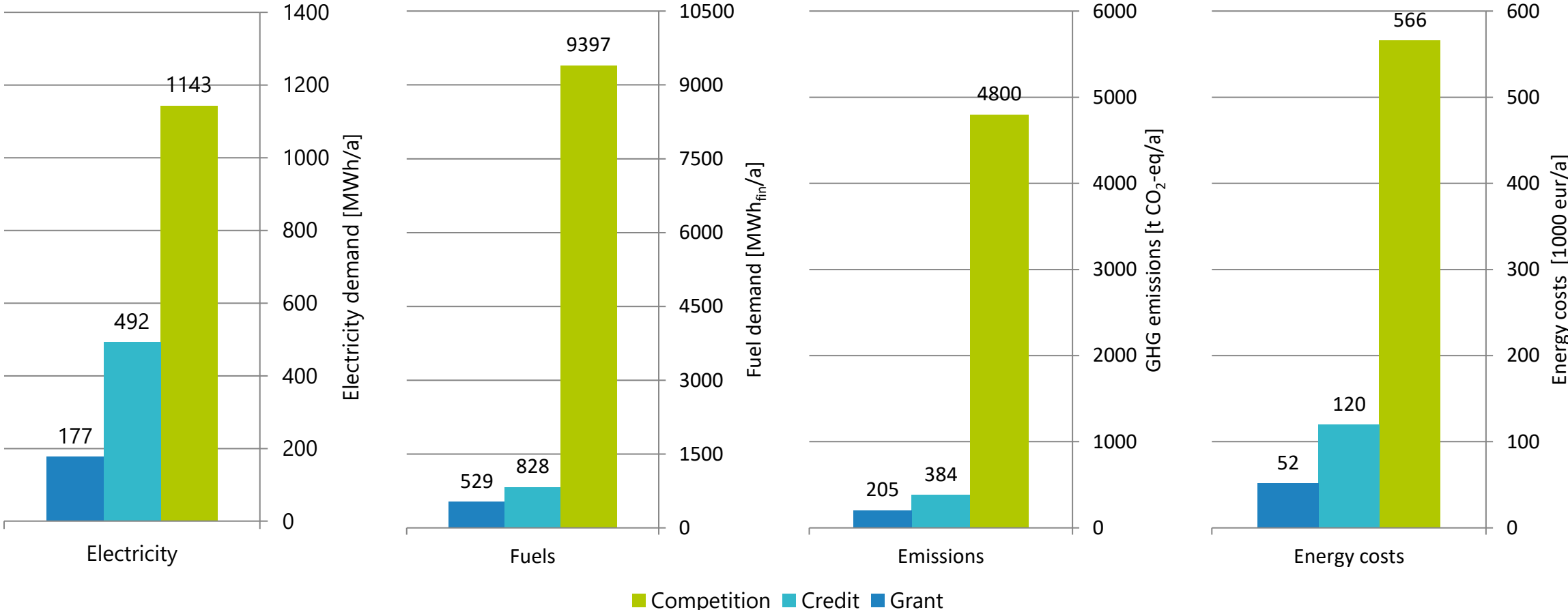
Awareness of the competition-based approach seems limited and risk-benefit considerations appear important



The ... line is more suitable for the site than the other due to ...	Grant/Credit	Competition
... the higher reliability of financial planning*	88% (17)	-
... the higher chance of success	87% (15)	33% (3)
... the higher reliability of the time schedule*	78% (18)	-
... the easier company-internal enforcement	53% (19)	25% (4)
... the lower administrative effort	53% (19)	50% (4)
... positive earlier experiences with the offer	53% (17)	40% (5)
... the more attractive achievable funding rate	47% (17)	100% (4)
... recommendations	47% (17)	25% (4)
... due to company-internal requirements	19% (16)	33% (3)

* Only asked to participants in the grant or credit line.

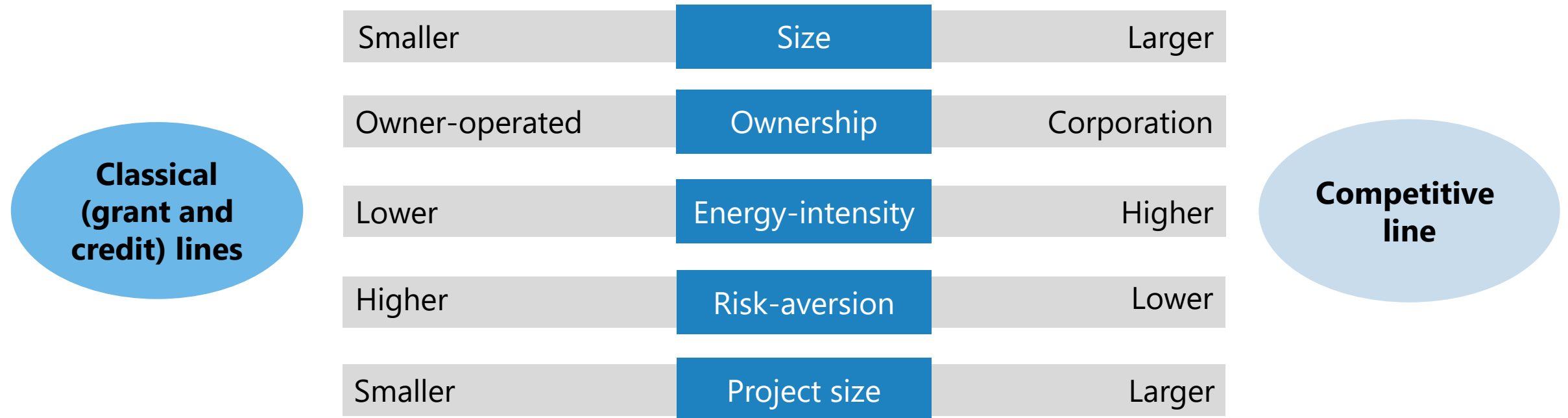
The average gross reduction per approval appears to be largest in the competitive line, followed by the credit line



Note: Data for the year 2020.

Conclusions: The lines do not necessarily compete, but meet different requirements of companies ...

▶ **Research question:** Can we observe differences in the uptake of grant-based, credit-based and competition-based funding in the case of the EEE?



Conclusions: ... and further investigations are needed to complement these insights.

Research question: Can we observe differences in the uptake of grant-based, credit-based and competition-based funding in the case of the EEE?

Chosen analysis	Limitation	Research outlook
Policy instrument analysed along the same methodology	Sample limited to one energy efficiency policy measure in one country	
Use of available evaluation data	Limited count of companies and descriptive statistics only	different schemes
Focus on successful applications only	No exclusion of the selection bias	other countries
Three very similar funding lines	Differences in the starting time, agencies and payback requirements	broader empirical basis
Analysis along different characteristics	Characteristics not necessarily independent	implementation efficiency

Thank you!

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