

Auction design and policy objectives – A consistency check

Executive Summary

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Besides quantified renewable energy (RE) targets, many countries have defined additional, more qualitative objectives of their renewable energy policy, e.g., system cost or support cost efficiency. In the AURES II project¹, we examined whether European countries with renewable energy auctions in place have defined consistent objectives in their respective RE laws, i.e., whether the different objectives can be achieved at the same time. Subsequently, we checked whether RE auctions were designed according to the stated objectives with regard to the effect of different auction design elements on the objectives.

Firstly, using insights from auction theory, we derived the relations between the following objectives (see Table 1):

	Effectiveness	System cost efficiency	Support cost efficiency	Green growth	Security of supply	Actor diversity
Effectiveness						
System cost efficiency	+					
Support cost efficiency	o	+				
Green growth	+	o	-			
Security of supply	+	+	-	o		
Actor diversity	o	-	-	+	+	

Table 1: Analysis of relation between the objectives. Legend: + = rather complementary, o = neutral, - = rather contrary

Then, we collected the RES policy objectives from 19 EU countries and the UK, choosing these countries as they have existing laws for the implementation of auctions, as well as defined objectives in these laws. Some countries changed their auction scheme over time. In this case, we analysed all used auction schemes.

Based on the identified objectives and their relations, we analysed whether the countries follow consistent RE policy strategies. Our analysis shows that nine countries (in 11 auction schemes, specifically) chose aligned objectives, while the others have at least one conflicting pair (see Table 3).

While we do not judge the objectives and the resulting strategies, we point to the difficulties resulting from conflicting objectives. They cannot be achieved to a full extend simultaneously and policymakers need then to set priorities regarding the fulfilment of objectives.

In a second step, we qualitatively analysed whether countries designed their renewable energy auctions in accordance with their designated objectives. For this purpose, we analysed the effects of different design elements on objectives (see Table 2).

¹ For the in-depth analysis, please refer to Fleck, A.K., Anatolitis, V. (forthcoming): Achieving the objectives of renewable energy policy - Insights from renewable energy auction design in Europe

Design element	Effectiveness	System cost efficiency	Support cost efficiency	Green growth	Security of supply	Actor diversity
Multi-technology	o	+	+	-	-	-
Financial prequalification	+	o	-	o	o	-
Material prequalification	+	+	-	o	o	-
Ceiling price	o	o	+	o	o	-
Floor price	+	-	-	o	o	+
Multicriteria	o	-	-	+	o	+
Geographical control	o	+	-	o	+	+
Bidder group control	o	-	-	+	+	+
Favourable treatment for specific actors	-	-	-	o	o	+
Penalties	+	o	-	o	o	-

Table 2: Analysis of the impact of selected auction design elements on the objectives.

Legend: + = positive impact, o = no impact, - = negative impact

Linking these effects to the countries according to their actual auction design (based on the AURES II Auction database)², we were able to state whether the design fits the specified objectives, or whether there is area for improvement. Differentiating countries based on their alignment of objectives, we conclude that 10 out of 23 auction scheme designs have room for improvement (see Table 3).

	HR	DK	EE	FI	FR	DE	EL	HU	IE	IT1	IT2	IT3	LT	LU	MT	NL	PL	PT	SK	SI	ES1	ES2	UK
Aligned objectives	✓	X	X	✓	X	X	X	X	X	✓	✓	✓	✓	✓	✓	✓	X	X	✓	✓	X	X	X
Auction design performance	✓	✓	✓	✓	✓	X	✓	✓	X	X	X	X	X	✓	✓	X	✓	✓	✓	X	✓	X	X

This leads to country-specific recommendations regarding auction design. The same auction design might support the objectives of one country, while impeding the objectives of another. Thus, it is important for policymakers to check their objectives and design their auctions accordingly. Not only does this simplify further decisions regarding future developments, but it also prevents disappointments when not all objectives can be achieved simultaneously. The inevitable prioritisation should be done before passing a law, not after.

Consequently, policymakers should consider the following recommendations:

- Relations between the intended objectives should be carefully analysed.
- Objectives in RE policies should be aligned to ensure the possibility of simultaneous achievement.
- In case of contrasting objectives, a conscious prioritisation of objectives is necessary.
- Implemented auction design elements should be chosen carefully to support the achievement of the (prioritised) policy objectives.

Policymakers can thus fall back on our results on interdependencies and effects of objectives and design elements while deciding on an RE strategy and the according auction design.

² <http://aures2project.eu/auction-database/>