

Problems Regarding Legal Infrastructure of Unlicensed Electricity Generation in Turkey

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Turkey has been seeking to increase electricity production capacity from renewable energy resources for years, and many rules and regulations have been introduced for this purpose. Even though the efforts resulted with increased renewable electricity capacity, the initiatives have had some negative effects on both the industry and consumers.

Introduction

Like many other countries, Turkey has been aiming to increase its electricity production capacity from renewable resources. Because renewable electricity production is a part of the whole electricity network system, renewable production must be in harmony with the electricity network, and regulations regarding renewable energy should consider these aspects. Turkey has a liberal electricity market thanks to the de-regulation and re-regulation process that has occurred over the last 20 years. However, the electricity market is still heavily regulated by acts and by by-laws introduced by the Energy Market Regulatory Authority (EMRA). The EMRA determines the rules applied to network operators and other actors, such as generators and traders. For example, every company must obtain a licence in order to conduct business in the electricity market. On the other hand, even though there are still profound interferences to the market, trade amongst market participants and between traders and customers are principally based on private law contracts.

In order to increase capacity in renewable electricity, Turkey has complex rules and regulations in order to support electricity production from renewable resources. As a rule, renewable production facilities must obtain a production licence. The law provides purchase guarantee from renewable resources for 10 years from the start of production and the price is established by the Law No. 5346 on the Use of Renewable Energy Resources for Generating Electricity. In 2013 Turkey introduced a new model for electricity production from renewable sources, which allowed elec-

tricity production without a licence (The Regulation on Electricity Generation without a License enacted on 2 October 2013). According to the new regulation, producers up to a certain threshold capacity (originally 1000 kWh, increased to 5000 kWh on 10 May 2019) are exempted from the obligation to obtain a licence. The reason behind this regulation is to encourage small scale production by market participants for self-use purposes and increase capacity in renewable electricity. The expectation was to support participants to produce their own electricity without the burden of obtaining licence. However, there have been many problems regarding the new regulation and it has created enormous bureaucracy rather than reducing it. The problems came from various perspectives, such as network access, a lack of capacity in networks, competition law infringements, access to incentive schemes and many private law problems during the installation process.

Due to these problems, there should be an analysis of whether it is possible to achieve increasing renewable energy production without incentives and excessive regulation. I will discuss whether there is still a need for incentives for electricity production from renewable sources or whether free-market rules should apply. I examine unlicensed electricity regulation as an example.

Electricity Generation and Renewable Regulation in Turkey

In Turkey, Electricity Market Law (EML) requires any production company to obtain a licence, with the exception of renewable energy producers with capacity of up to

Type of generation facility producing renewable energy	Prices to be applied (USD Cent/kWh)
Hydroelectric Power Plants	7.3
Wind Power Plants	7.3
Geothermal Power Plants	10.5
Biomass Power Plants	13.3
Solar Power Plants	13.3
Source: Renewables Law Schedule 1	

Table 1. Incentives for Renewable Energy

Source: Renewable Law Schedule 1

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1 MW (recently increased to 5 MW) (see Gedik & Eraksoy 2017). However, due to requirements of network access and other technical issues, there are a heavy set of rules and procedures that unlicensed producers are required to follow in order to operate (see EMRA 2018). As a rule, small producers are required to produce electricity for their own consumption but are allowed to sell access production to last resource traders, which are legally forced to buy access production (Table 1). The incentives apply for 10 years from the commencement of the production. The tariff for all renewable electricity purchasing is determined by the renewable electricity legislation.

Energy Resource	Established Power (MW)	Rate (%)
Sun	5109.45	94.26
Natural Gas	166.80	3.08
Bio-Mass	79.18	1.46
Wind	55.9114	1.03
Hydro	8.90932	0.16
Sun (Concentrated)	0.50	0.01
Total	5420.76	100.00

Table 2. Unlicensed Energy Capacity as February 2019

Source: EMRA 2019

As a result, even though the system called unlicensed production, there are many regulations that actually bring them closer to production with a licence. In fact, there is not even free access to the market as there are many capacity restrictions determined by the EMRA, which means that only a small proportion of willing entrepreneurs can find the capacity to establish an unlicensed production facility.

The main purpose of unlicensed electricity regulation was to promote renewable energy capacity, which is considered good for the environment *as it keeps carbon emission levels relatively stable. In addition, renewable energy is important for controlling the current account deficit.*

With this belief, Turkey introduced a renewable energy law in 2005 and allowed unlicensed renewable from 2013. Productions with and without licence regulations overlap, but also have many different aspects. The biggest difference is that up to a certain capacity generations are exempted from licensing and the requirement of establishing limited liability companies. Moreover, unlicensed plants are connected to distribution while plants with a licence are connected transmission networks (Table 2).

Renewable Electricity and Incentives

There have been immense technological developments regarding renewable energy in recent years. According to many reports, renewable energy is much cheaper to produce than electricity from fossil fuel (IRENA 2019). The installation process has become plain and the power plants have become more efficient. The economic explanation of incentives must be based on a cost and benefit analysis. Liberalisation of the electricity market requires companies to produce at a low cost and sell at a profit. In this model, price will be determined by free trade principles amongst market actors. However, in renewable energy production, the regulation introduces purchase guarantees at a fixed price. The reason behind these guarantees is the belief that the renewable production is expensive and requires incentives for companies to invest in renewable energy. However, the time of high cost has already passed as renewable energy production is much cheaper than electricity from fossil fuels.

There is a common belief that there is public good for giving incentives to renewable energy, and thus must be supported even though it creates extra cost for last users. However, this set of rules interferes with the basic principles of a liberal market and a liberal pricing system. The ultimate financial burden of incentives is eventually carried by the last users of electricity. Table 3 below shows how

Years	Incentives Paid for Renewable Energy (TL)	Average Price (TL/MWh)	Renewable Additional Cost (TL/MWh)	Renewable Production (MWh)	Licensed Production (MWh)	Percentage of Renewable to Total Production (%)
2018 February	1,292,952,047.93	281.18	25.52	4,598,325.47	23,124,311.87	19.88
2019 February	2,833,459,226.49	446.03	66.18	6,352,641.00	22,901,148.20	27.74

Table 3. Incentives Paid for Renewable Energy and Average Cost

Source: EMRA 2019

much support is provided for renewable and unlicensed renewable energy.

On the other hand, in February 2019, there were 584.812 MWh productions from unlicensed renewable and almost all of them were sold excess capacity (567.022 MWh) and producers were paid TL 392.826.163. Most of the capacity (91,50 %) comes from the sun (EMRA 2019).

Problems Regarding Unlicensed Production

There are several problems regarding unlicensed renewable production.

Problems regarding how to determine self-use and excess production: The regulation did not require producers to have any percentage of self-use. In this case, most of the capacity established (around 98 per cent) is intended to benefit from incentives rather than self-use. Moreover, multiple site ownership adjacent to each other was allowed, which is similar to licensed production. This creates double standards between licensed and unlicensed producers; even though they have the same conditions, unlicensed producers are given unfair advantages.

Problems regarding incentives: There is a big problem with economic regulations when the regulation is used as a market maker in a liberal economy. Renewable incentive regulation actually standardises the future incentives with fixed price purchase guarantees. The incentives are determined by the law and in US dollars. However, exchange rates are unpredictable in Turkey. During the economic slow-down in Turkey in 2018–2019, the dollar was up by almost 50 per cent against the Turkish lira (See XE 2019). As an example, in April 2019 the average price of market exchange was around TL 262 and the last resource tariff was around TL 300, while average support for whole renewable sources in Turkey in February was TL 450. However, renewable energy from the sun, which holds almost the whole unlicensed renewable capacity, cost more than TL 600. Currently, production from the sun might sell without incentives at as little as USD 0.02 (Energysage 2019). As a result, this law creates a wealth transfer from consumers to producers as renewable electricity production is competitive even without incentives.

The problem of excess regulation: Electricity market is already heavily regulated due to its nature. In addition to general regulation there is a separate set of regulations for renewable productions. Moreover, unlicensed productions created regulation within the regulations. Creating more and more regulations does not help efficient operation and this complex structure creates unpredictable market conditions. In my opinion, liberalisation process should take a short time and once a market has been liberalised,

the specific economic regulation should discontinue and general laws and regulations should prevail. However, with unlicensed electricity regulations the state created another complex rule. In this case, the market cannot self-correct. There has been much regulatory interference to reduce the negative effects on the market (see Yeşil Ekonomi 2019). For example, the law was changed just before this paper was submitted, increasing the minimum capacity for unlicensed production by 5 MW. However, purchase guarantee was determined as last-resource trade tariffs determined by the EMRA, which actually reduces the cost by around 30 per cent. However, these constant interferences to legislation create an excessive and unpredictable regulatory environment for market participants.

Private law problems: Many of the unlicensed producers were small companies with no market experience. They have experienced many problems regarding their operations from private law perspectives such as partnership agreements, land use, project financing, insurance, purchase and maintenance of products. As a result, much of the production capacity has been transferred to proficient electricity producers. This valuable capacity gives these producers unfair competitive advantages over other electricity producers.

Conclusion

Constant regulatory interference to liberal markets with the intention of supporting renewable energy production creates excessive regulation. As a result, regulation regarding economic issues through renewable incentive schemes that interferes with liberal market creates more problems than public interest. The regulation of economic aspects of electricity production should be left to contract law, commercial law and competition law. General laws and regulations will be sufficient to create a fair market model as the incentive-based model creates unfair competition and unfair wealth transfer. In my opinion, the time has come to create simpler regulation for electricity production. The regulation should cover technical issues while trade issues should be left to general regulation. Incentives must be abandoned as they create more complex system in which last users bear the ultimate cost. It is better to leave it to professional energy companies to produce electricity for profit purposes, regardless of whether it is renewable or not.

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