

COMPETITION EFFECTS OF THE RENEWABLE ENERGY POLICY REFORM IN FLANDERS: IS THE FLEMISH MARKET FOR GREEN ELECTRICITY CERTIFICATES WORKING PROPERLY?

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Abstract

To promote renewable electricity, Flanders uses a system of tradable green certificates (GC). This systems continues to be a source of controversy. Despite the many changes in past years, the problems have increased rather than decreased. Almost everyone now agrees that an important change in policy is needed. The main question is: do we continue to look for solutions within the existing system or do we stop using a system that depends on the trade in a green certificates market?

Insight into how this market functions would make this question easier to answer, but this functioning is commonly not well documented nor understood. We demonstrate that in the case of Flanders, some major and persistent problems with the green certificates are closely linked to the choice for a market system. The reason is that this market does not function properly, due to a concentration on the demand as well as on the supply side. Even in a profoundly modified system of tradable green certificates, sufficient competition in the electricity market and in the green certificates market is an important precondition, one that is very hard to meet in Flanders.

We therefore propose a different incentive scheme for renewables that also can work in a more concentrated market. If proper functioning of the market cannot be guaranteed, this option is more effective, efficient and just. Another conclusion is that the current problems and debate point to a structural failure in policy preparation. The effects and impacts on market competition are not assessed ex ante nor ex post by market regulator VREG or the energy agency VEA when preparing or evaluating energy regulation in Flanders. This information, however, is crucial to the ability to formulate good policy decisions. We suggest that VREG get its priorities right, and develop a greater capacity for adequate market analysis and regulation.

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1. INTRODUCTION

In Flanders, producers of green electricity receive a green certificate (GC) per MWh of electricity generated. Electricity suppliers are required to purchase these GCs on the certificate market (or produce green electricity themselves) in order to meet their required quota. In other words, they must submit enough GCs per year to cover the amount of electricity they supply, or pay a penalty. The imposed quota is increased yearly, and will reach 13% in 2020. Hence, this is also referred to as a quota system. The suppliers pass on the costs of the quota requirement to their customers. Green electricity producers are able to sell their GCs not only on the certificate market, but in certain cases also to the distribution system operators. They are required to pay a minimum price that differs depending on the technology. The green electricity producer will make use of this purchase obligation on the part of the distribution system operators if this minimum price is greater than the price on the certificate market, as is the case now for solar energy (PV). The distribution system operators later place the purchased GCs on the market, and thus are able to partly recuperate the costs associated with their purchase obligation. The net cost is passed on to consumers via the utility rates.

Due in part to the introduction of this GC system in 2002, the amount of green electricity produced in Flanders has increased each year. The 13% green electricity goal for 2020 appears to be within reach. Looks, however, can be deceiving. There are three things we should be concerned about. In the first place, some investments are now decreasing because the support systems are not functioning properly. The GC system is unstable and offers investors insufficient certainty. Second, the system is more expensive than it need be. This is because some applications receive too much support, and because there are problems with the certificate market. We estimate that total inefficiencies in the system are a high as 1/3 of total costs¹. Third, in recent years the policy has eroded support for renewable energy. Not only because the costs are higher than necessary, but also because they are not fairly distributed throughout society.

The Flemish government is now working on revising the GC system. Diverse organisations and parties are formulating proposals. The central question, however, is: do we look for solutions within the existing system, or do we abandon trading via a certificate market? Answering this question requires an analysis of how the certificate market functions in practice.

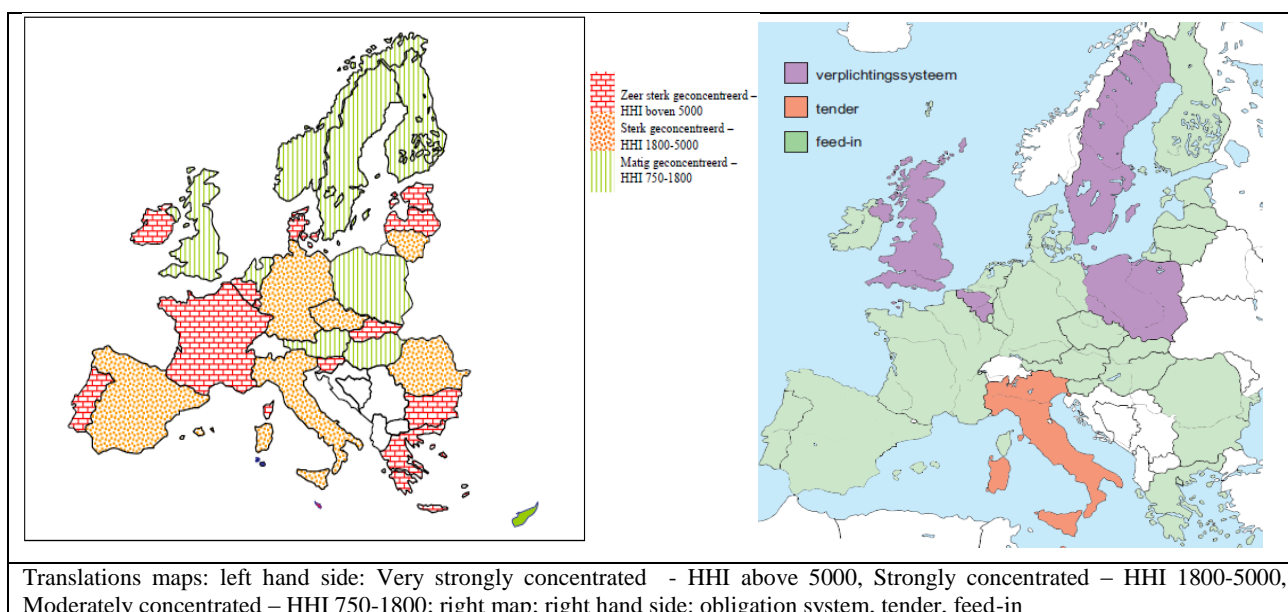
¹ For more references and a more detailed explanation of the analysis in this article, we refer to the book we wrote together with Annick Lamote on renewable energy (Bollen, Annemie, Peter Van Humbeeck and Annick Lamote (2011). *Energie voor een Groene Economie*. Gent, Academia Press) and to the recommendation of SERV and Minaraad with respect to renewable energy (SERV/Minaraad, *Advies hernieuwbare energie*, 16/17 November 2011).

2. THE CHOICE FOR A TRADING SYSTEM

The theory says that a quota system can only be effective, efficient and fair when good free market processes are present, i.e. a sufficiently large market with enough users and suppliers, such that no single party is able to influence prices on its own. Green electricity markets usually do not meet these conditions. These markets, after all, interact with the normal electricity markets. And these generally are not examples of competitive markets. Flanders certainly does not meet these conditions: the market is not only small, but is also one of the most concentrated in Europe.

Despite this, the Flemish government opted for a quota system in 2000 as the central instrument of its renewable energy policy. This was justified at the time by the expectation that a GC trading system would be created within Europe. Afterwards, it quickly became clear that there would be no European trading system. Consequently, most countries opted for a different system without a certificate market, such as feed-in or tender². The countries that did opt for a quota system have a moderately concentrated electricity market... except for Belgium/Flanders (see map).

Since its introduction in 2002, the Flemish system has had a bumpy ride. It has required frequent changes and corrections. However, the choice for a market with trade in certificates remained, despite repeated demand for a fundamental evaluation since 2005. Hence, it is interesting to examine how the market functions in practice.



² In a tender system, an amount of production or capacity is auctioned, for which the government generally also indicates the desired renewable energy technologies to be used. A feed-in system offers payment for renewable energy that is placed on the network.

3. IS THE FLEMISH CERTIFICATE MARKET WORKING PROPERLY?

The Flemish certificate market is not functioning well³. This is especially due to the fact that the concentration on the electricity market affects the certificate market. Electrabel, the dominant player, handles approximately 70% of the electricity supply and therefore must also submit the most certificates by far. Electrabel, however, is an integrated player and also generates its own green electricity. The company is probably also the largest recipient of certificates⁴. There are a few other large certificate recipients in addition to Electrabel, and many smaller ones. Hence there is a concentration on the supply side of the certificate market. Exactly how many of the certificates are allocated to Electrabel (or affiliated companies) is not public knowledge, but we estimate that this is at least one third of the total. This means that Electrabel is still required to purchase approximately half of the certificates it needs on the certificate market. This also makes Electrabel a dominant player on the demand side of the certificate market, along with a limited number of other major players. Hence, there is also a concentration on the demand side of the certificate market. This concentration on both the supply and demand sides is a problem for the proper functioning of the certificate market.

In the first place, the quota system puts smaller suppliers without their own green electricity production capacity at a disadvantage with respect to the dominant integrated suppliers. All suppliers are subject to the quota requirement, but it is easier for the dominant integrated supplier to meet this requirement. Not only is the dominant integrated supplier – with its own green electricity production capacity – guaranteed a significant portion of its supply of GCs in the case of scarcity, it is also able to obtain GCs at more favourable conditions than its competitors. It after all has access to quite a few, cheap green electricity installations (among others via co-firing of biomass in existing coal-fired power stations) from which it is able to obtain GCs at cost. While other suppliers must either pay the higher price on the certificate market, or obtain permits and build their own (often substantially more expensive) installations. This makes the increasing quota requirement an ever greater obstacle for (the addition of) new suppliers without green electricity production capacity. A certificate surplus is also to the advantage of integrated suppliers: they – as producers – are able to have certificates purchased at the minimum price by distribution system operators, and then buy these back at the lower market price. Suppliers that are not producers are unable to use this quick-win trick.

³ We are not the only and not the first to make this point. To quote Prof. A. Verbruggen: “It is not because you call something a “market”, that is it a functional market” (*Trends*, 24/10/2008). See e.g. Verbruggen, A., 2004 and 2011.

⁴ Up-to-date figures in this regard are not available because VREG only publishes figures on installed power output, not on real production, and releases no data on the share of the dominant player with respect to certificates allocated.

Second, the quota system places smaller or independent green electricity producers at a disadvantage with respect to green electricity producers that are also affiliated with a (dominant) supplier. Green electricity producers integrated with (or linked to) a supplier are always guaranteed a market for their certificates, even in the case of a surplus of certificates such as is presently the case. This is less the case for small or independent producers. Moreover, they are in a weaker negotiating position. Small producers are primarily interested in adequate cash flow to pay back their borrowed capital and are placed under pressure by the financial institutions to sell their certificates to reliable (read: chiefly large) buyers, via more stable long-term contracts, albeit at prices that are less interesting than those on the more volatile certificate market. Thus, in fact, they are not really able to participate in the market. For them, the administrative effort required to contact electricity suppliers, explore and monitor the certificate market, negotiate a price and sell, is too great in proportion to the amount they receive in the end. This results in especially supplier-buyers dominating the certificate market and obtaining lower prices. This buyer dominance can also be seen in the contracts that set prices at a fraction of the penalty price, with suppliers passing on the burden of the uncertainty to the green electricity producers.

Third, attempts to correct the imbalances on the certificate market often also favour the larger integrated player. Quotas, for example, can be increased to create a certificate shortage in times of surplus. Smaller (new) suppliers without their own renewable production capacity find it more difficult to deal with such quota increases than dominant integrated players do. They have less information with which to see automatic quota adjustments coming, and fewer possibilities to anticipate them. In any case, in a saturated market, dominant integrated suppliers that expect quota increases can purchase extra certificates at low prices. Especially retroactive quota adjustments can lead to financial problems for smaller suppliers. Non-retroactive (or late) quota adjustments in turn harm smaller, less cash-rich renewable energy producers that are strongly dependent on the income from their certificates. In the case of a temporary surplus, these players will find it more difficult than large players to bank their certificates for one or more years.

Fourth, we see that the quota obligation encourages large installations and further increases in scale and concentration. Larger installations are able to produce more efficiently, and a quota system rewards the cheapest means of production with higher windfall profits (greater financial yields due to the greater difference between the real producer price and the market prices of the certificates). What's more, larger players are better able to handle the uncertainty of a market system. In other words, the market system works to the advantage of large, financially strong players and investment companies willing to take risks, to the detriment of small-scale players and initiatives, and collective systems and participative projects.

Finally, the certificate market is not transparent and the market indicators obscure. This too favours dominant players that have a better view of the market and thus are able to anticipate its movements, or

that are even able to influence the market indicators due to their size. Consequently, the figures on traded volumes published by Flemish electricity and gas market regulator VREG are less relevant, since certificates can be traded more than once, but also because many certificates – such as the certificates allocated to producers that are also obliged to submit certificates – are not traded at all. These certificates are largely invisible, except to the integrated players themselves. The reported average prices of traded certificates are also not good market indicators. Because the trades take place principally 'over the counter' via bilateral transactions based on long-term contracts, average prices reflect a changed market situation only with great delay. Thus for example, the average market prices for GCs is only now decreasing, while there has been a certificate surplus for years. Prices can also conceal the fact that certain suppliers are simply unable to sell their certificates. In fact, prices of newly concluded long-term contracts are a better market indicator. This data, however, is not available to the public, but of course is known to the suppliers concluding the new contracts. Furthermore, the selling prices can strongly deviate from the average prices, and reported selling prices can deviate from the actual selling prices because VREG does not compare the reported data with data from the tax authorities. Hence it is possible for players to report higher selling prices for strategic reasons in order, via these higher average market prices, to place suppliers with purchase contracts based on the average market prices at a disadvantage.

4. CAN THE MARKET'S FUNCTIONING BE IMPROVED?

Diverse organisations and parties have made proposals to reform the GC system. Many of these proposals do not examine the impact on the market's functioning – nor for that matter is this functioning examined in the policy advice of market regulator VREG⁵ – and their proposed solution is one of retaining the existing system, subject to a thoroughgoing “banding” of certificates (the so-called Q option). Banding means that some technologies will receive less or more certificates than their actual production of green electricity. The intent is to avoid over-subsidisation by allocating fewer certificates to cheaper technologies. The purchase obligation at minimum support levels remains in order to provide investment certainty.

This proposal can indeed address major problems in the current system but not the problems associated with the inadequate functioning of the certificate market. Yet a quota system absolutely requires a proper functioning electricity and certificate market.

⁵ VREG/VEA (2011). *Beleidsadvies inzake de evaluatie van de certificaten systemen* (Policy advice on evaluating the certificate systems). This perhaps explains why they have formulated policy proposals whose starting point is retention of the existing hybrid certificate system with a quota obligation for the suppliers, occasionally even with variants that further degrade market functioning, such as a lowering of the penalty.

In the past, VREG has made diverse attempts to improve the market's functioning, including publication of lists of buyers and sellers of certificates, publication of average prices and volumes, and the establishment of Belpex as trading platform for certificates. The Flemish Parliament has required VREG to provide greater transparency on how suppliers pass on the costs of the quota obligation to customers. These initiatives, however, have not substantially improved the market's functioning, because they do not change the fundamentals of the market. Other proposals in circulation to improve the market's functioning also do not address changing the fundamentals: stimulating extra demand on the market by allowing companies themselves to submit certificates could reduce the concentration on the demand side, but the possibility exists that dominant suppliers, who often are the only supplier capable of delivering to large companies, will not allow these important customers to enter the certificate markets. They after all can make the offer for supplying electricity, through which the company satisfies the certificate obligation, less interesting than the offer for supplying electricity through which the supplier meets its certificate obligation. Another idea is the introduction of a clearing house where all certificates must be offered and sold, with or without established minimum and maximum prices. This can provide a solution for green electricity producers without market power and for holders of certificates without market power (such as distribution system operators). Such an obligation to offer certificates for sale, however, still does not guarantee sales. Finally, it was also proposed to bundle smaller players in order to increase their market power. This group, however, remains extremely small compared to the dominant players⁶. Thus, it is very difficult to change the market fundamentals.

5. IS THERE AN ALTERNATIVE?

There is, however, an alternative to improving the market's functioning: opting for a different support system that is also able to function in a more concentrated market. This option abolishes the quota obligation and the associated certificate market (NQ option). The support via certificates remains, as does the sale of the generated green electricity via the electricity market. The price of a certificate is then not determined by the market, but rather a guaranteed selling price is determined in approximately the same way as the minimum support is today. Monitoring progress toward the 13% objective by 2020 is done via a strict monitoring of the production and costs, and possible fine-tuning of the support or the broader policy.

The figure below indicates how the NQ option and Q options compare to the current hybrid system (quota + minimum support) and to the characteristics of a pure quota and feed-in system. Q and NQ share many

⁶ Initiatives such as group purchasing are also unable to diminish the market power. The bundles are too small; large players such as Electrabel and Luminus can afford not to compete, and the smaller players that do compete, are threatened with competing each other 'to death'.

characteristics. And neither of these options causes a ‘system shock’. Moreover, they can be implemented in such a way that they honour the support commitments to the existing green electricity installations. The main difference between the NQ option and the Q option lies in the role reserved for a certificate market.



6. CONCLUSION AND POLICY RECOMMENDATIONS

Our analysis is that important problems with the GC system are due to the choice for a market system. This choice especially favours the large players on the electricity market that are both supplier and green electricity producer (and affiliated green electricity producers). Due to their size and cost advantages, they have a dominant position on the demand and on the supply side of green electricity market. Consequently, they have a good view of the evolutions taking place in the market and are able to actively manage their certificate portfolio. They have the best negotiating position with respect to prices and quantities. The quota system even perpetuates the dominant positions on the electricity market. It makes it possible for dominant integrated players on the electricity market to duplicate their position on the certificate market and as a result – perfectly within the rules of the system – to obtain the most benefits from the system and to put other players at a disadvantage. Smaller green electricity producers, green electricity producers without a link to a supplier, and suppliers without their own production capacity are generally less well off, while in certain cases they are still able to do well with the system. The system especially penalises households and companies that, as consumer, pay for all of the inefficiencies in the system via their electricity bill; inefficiencies that are as high as 1/3 of total costs of the system. Third, in recent years the

policy has eroded support for renewable energy. Not only because the costs are higher than necessary, but also because they are not fairly distributed throughout society.

Our conclusion is that even in a thoroughly modified quota system, the proper functioning of the electricity and certificate market is an essential precondition, which is very difficult to implement in Flanders. We therefore propose a different support system that is also able to function in a concentrated market. If proper market functioning cannot be guaranteed, this option is more effective, more efficient and more just. Hence, the Flemish government should carefully consider this option. Another conclusion is that this issue points out a structural gap in policy preparation. In Flanders, the impact on market functioning is scarcely considered by VREG and the Flanders Energy Agency (VEA) when preparing or evaluating energy regulations. Nevertheless, this is essential to the ability to make good policy choices. Hence we believe that VREG as market regulator must be able to set the right priorities, and must be able to develop a capacity for addressing market functioning and market regulation.

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