

THE PROMOTION SCHEME OF THE RENEWABLE ENERGY SECTOR IN ROMANIA: A FISCAL AND ACCOUNTING APPROACH

Rodica Ailoi

“Stefan cel Mare” University of Suceava, Romania

E-mail: ailoi_rodica@yahoo.com

Said Mdarbi

Hassan II University of Casablanca, Morocco

E-mail: said.mdarbi@estc.ma

Abstract. *The sustainable development of the renewable energy sector implies encouraging small-scale production, distributed throughout Romania, and which is as close as possible to the place of consumption. Green energy production is supported, in the country, by schemes that are slightly different from those of other European countries, i.e. the green certificates.*

As is the case with any other promotion scheme, this scheme is an instrument that promotes the use of energy from renewable sources by reducing the costs of this energy, by increasing the sale price or by increasing, through a series of obligations related to renewable energy obligations or otherwise, the quantity of this type of energy that is purchased.

This mechanism consists of a mandatory quota system, combined with the trading of green certificates.

The Romanian State, through this scheme, basically turns these certificates into tradable goods, as well as assigning them a predefined value (minimum price), as shall be discussed in the following study.

Keywords: *renewable energy, green certificates scheme, subsidies, JEL Classification: M40, M41*

1. INTRODUCTION

The exploitation of renewable energy sources (RES) has enjoyed special interest in recent years, and some countries aim to replace conventional fuel with RES (Haralambopoulos, Polatidis, 2003). These are environmentally friendly and capable of replacing conventional sources in a wide array of applications.

The selection among different investment projects in the field of energy is a complex task that involves many players, conflicting priorities, with separate weights and different scenarios.

This vision has intensified in the past decade as a result of the mounted-up awareness with respect to environmental issues, as well as to the precarious nature of the dependence on fuel imports, and the emergence of renewable energy alternatives (Vac, S-C, 2012).

What are green certificates?

Green Certificates are titles certifying the production of electricity from renewable energy sources. The certificates can be traded separately from the amount of electricity that they represent, on an organised market, according to the provisions of the laws in force, and represent the support scheme promoting the production of energy from renewable sources.

Fundamentally, green certificates are *intangible assets* issued by the state authorities to the beneficiaries (Order 1802/2014).

The Green Certificate is one of the means aimed at supporting and promoting the generation of electricity from **renewable sources** (Law 220/2008).

In Romania, electricity from renewable sources has the following components (Law 220/2008:

- hydropower used in plants with an installed power of at least 10 MW;
- wind energy;
- solar energy;
- geo-thermal power;
- biomass;
- bioliquids;
- biogas;
- landfill gas;
- sludge digester gas from wastewater treatment plants.

The Green Certificates Promotion Scheme is strictly regulated through regulatory instruments and a series of Resolutions, Approvals, and Orders issued by the institutions involved.

2. REGULATORY FRAMEWORK OF THE GREEN CERTIFICATES.

The government is currently supporting the production of renewable energy through the green certificates scheme. Each producer receives from Transelectrica, a state-owned company¹ and the national electricity transmission and system operator, a certain number of green certificates for the energy produced and delivered to the grid. Electricity suppliers must purchase these certificates to meet the mandatory quotas established in order to live up to the targets set at European level. Furthermore, electricity suppliers (companies such as Enel, CEZ, or GDF Suez) recover their costs from end-users, i.e. the population and the industrial sector.

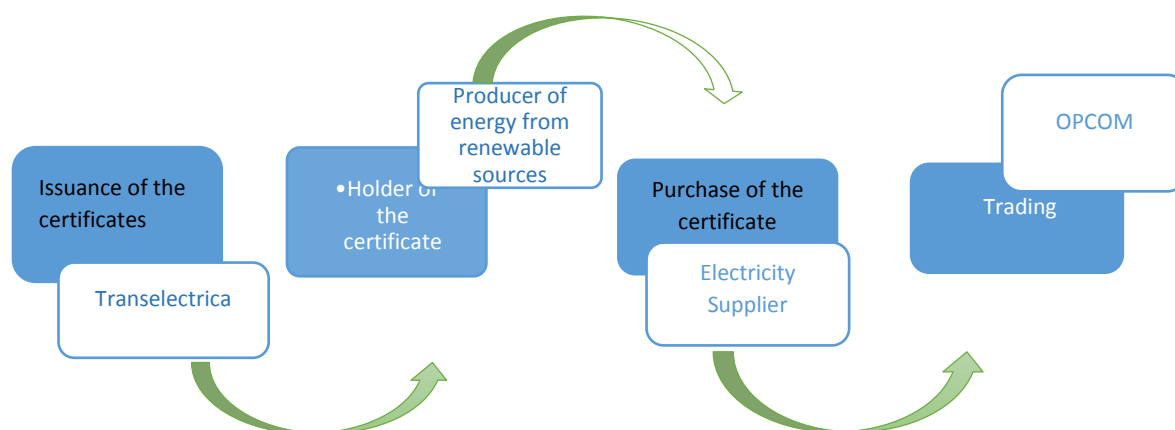
According to the initial support scheme, for each MWh of energy produced, two green certificates were issued in the wind energy sector, three in the micro-hydropower sector and six in the photovoltaic sector, as mentioned in the Romanian regulations².

Figure 1 presents the movements of these certificates through the national system, as an operating mechanism.

¹ Transelectrica SA is the Romanian electricity transmission and system operator, having a key role on the Romanian electricity market. It manages and operates the electricity transmission system and ensures the exchanges of electricity between Central and Eastern European countries, as a member of ENTSO-E (European Network of Transmission System Operators). It is responsible for the transmission of electricity, the operation of the system and of the market, and for ensuring the safety of the National Electricity System (NES). It is also the main link between electricity demand and supply, constantly balancing energy production with the demand (source - official website: <http://www.transelectrica.ro>)

² The support scheme was amended by the Emergency Ordinance no. 57/2013

Figure 1 The Green Certificate Support Scheme



Source: own interpretation

According to the laws in force³, electricity suppliers **must**:

- invoice and highlight separately, in the electricity bill sent to the final consumers, the value of the green certificates. In the electricity bill sent to the final consumers, the value of the green certificates is invoiced separately from the rates/prices for electricity, stating the legal basis. This value is the product of the value of the annual mandatory certificate procurement quota (GC/MWh) estimated by ANRE⁴, the amount of electricity billed (MWh) and the price of the green certificates, calculated as the weighted average price of the transactions on the anonymous centralised spot market of green certificates in the month preceding the billing month or the last available monthly weighted average.

- regulating the value of the billed green certificates. Until September 1st of each year, at the latest, the electricity suppliers and manufacturers must regulate, in equal instalments, the value of the green certificates for the previous year, depending on the annual quota established by ANRE, the electricity billed and the weighted average price of the green certificates used by the supplier for the fulfilment of the annual mandatory procurement quota of green certificates for the previous year, which cannot exceed the weighted average price of the transactions on the anonymous centralised spot market of green certificates in the previous year.

Figure 2 presents, as a diagram, the way in which the cost of green certificates is recovered.

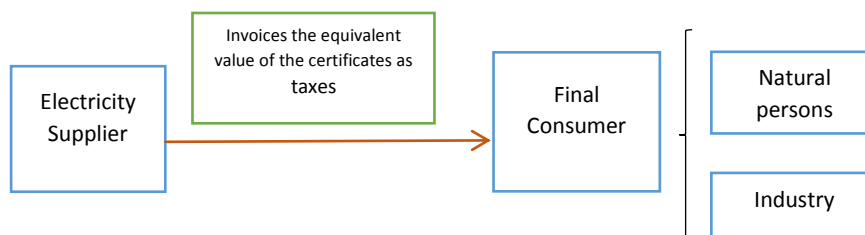
The weighted average price of the green certificates, valid starting on 01.02.2018, amounts to RON 134.3021/GC, as communicated by ANRE. The unit value calculated for Green Certificates

³ Art.8 of Law 220/2008, as amended by Emergency Ordinance no. 24/2017

⁴ ANRE – the National Regulatory Authority in the Energy Sector - is an autonomous administrative authority, having legal personality, under parliamentary control, fully financed out of its own revenues, which is independent from a decision-making, organizational and functional standpoint, and which has as object the preparation, approval, and monitoring of the enforcement of the national mandatory regulations required for the functioning of the electricity, thermal and natural gas sector and market, observing all the requirements in terms of efficiency, competition, transparency, and consumer protection. In order to exercise its authority in the national territory, the structure of ANRE includes territorial offices without legal personality. Its **attributions** include issuing, amending or withdrawing permits and licenses; issuing technical and commercial regulations, ensuring the access and connection to the electricity and natural gas grids; issuing and approving pricing and tariff setting methodologies; approving prices and tariffs; monitoring the operation of the electricity and natural gas markets; promoting the production of energy from renewable sources and cogeneration (source: official website <http://www.anre.ro>)

that will be applied to the amount of electricity consumed since 01.02.2018 amounts to RON 0.0457/kWh.

Figure 2. Recovery of Green Certificate Costs



Source: own interpretation

3. FISCAL IMPLICATIONS AND ACCOUNTING RECORDS.

In Romania, the accounting regulatory framework applicable to the categories of people whose securities are not admitted for trading on a regulated market is established by *the Order of the Minister of Finance No. 1802/2014*).

The renewable energy producers that benefit from having access to **green certificates** issued by the transmission and system operator (Transelectrica), under the law, must keep a monthly record of the **right** to receive green certificates.

The green certificate claim is valued according to the number of green certificates to be received and the trading price in force on the date such right was established, published by the electricity market operator - OPCOM SA⁵.

For the purposes of recording this transaction, the date on which the right is established shall be the last day of the month in question, unless there are other elements used to establish the date of the entitlement.

Figure 3 describes the method used to record these certificates in the producers' accounting systems.

The green certificates received are valued at the transaction price valid on the date of receipt, published by the electricity market operator (OPCOM S.A.).

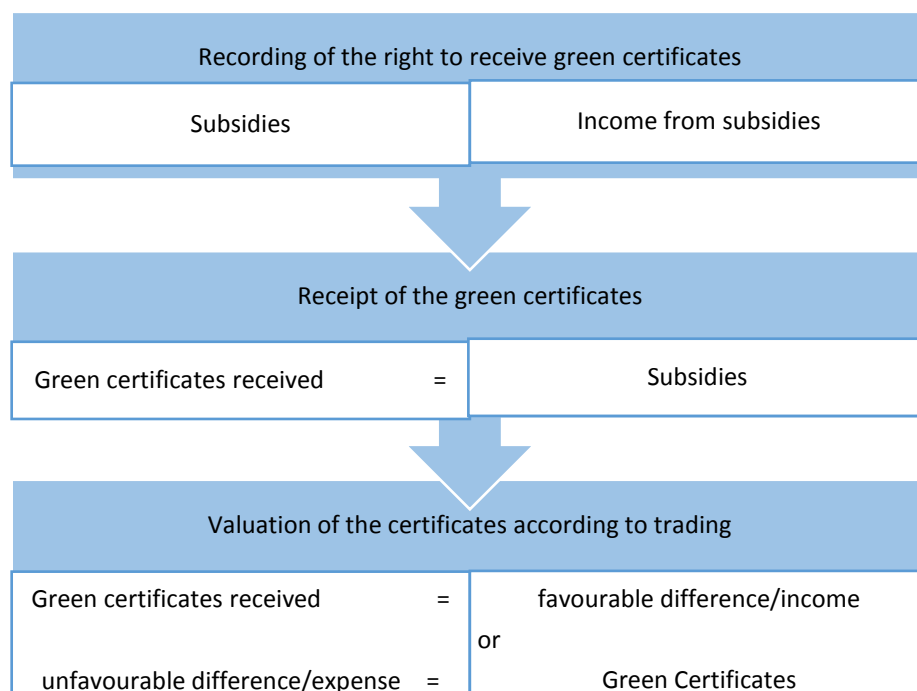
The difference between the value of the green certificates recorded in the subsidies account (in a separate analytical record upon establishing the right to receive green certificates) and their value at the date of receipt, determined on the basis of the trading price valid on the date of receipt, represents a financial income or a financial expense, as the case may be.

At the end of the financial year, the green certificates recorded in the accounts are valued at the trading price published by the electricity market operator (OPCOM S.A.) for the last transaction, reflecting, in the results of the period, the resulting differences (financial income or financial expenses, as the case may be).

When selling the green certificates, the resulting gain or loss following their sale is also recognised.

Figure 2. Recording green certificates in the producers' accounts

⁵OPCOM is the operator of the Romanian electricity and natural gas market, through which green certificates are traded. The main activities conducted by OPCOM, in accordance with the provisions of the primary and secondary legislation in force, are: organising and managing the centralised electricity markets; acting as Settlement Operator, by performing settlement transactions for the Day-Ahead Market and the Intra-Day Market, and establishing the payment obligations/collection rights for the Balancing Market and the quantitative and value imbalances of the Balancing Responsible Parties, respectively; acting as organiser and administrator of the green certificate market; acting as administrator of the Trading Platform for the Greenhouse Gas Emissions Certificates; managing the activity of the centralised markets in the natural gas sector; supervising the functioning of the administered markets; collecting and publishing market statistics, under the Energy Law (source: official website <https://www.opcom.ro>)



Source: own interpretation

Electricity suppliers and producers who must, according to the laws in force, procure annually a number of green certificates, shall record the equivalent value of the green certificates procured in their accounts under expenses for environmental protection.

If the green certificates are procured before the statutory deadlines, the value of the green certificates is recorded as accrued expenses, and the expense is actually registered upon the legal deadlines.

The equivalent value of the green certificates whose trading is deferred according to the legal provisions shall be recorded in the intangible assets account (deferred green certificates), under accrued income.

The recording of the equivalent value of the green certificates whose trading is deferred is made on the date on which the right to receive them is established, at the value determined depending on the number of green certificates and the trading price of the green certificates, published by the electricity market operator (OPCOM S.A.).

Every year, Romania faces legislative changes concerning the energy system. Thus, starting on 17 April 2017, the existing legislation was amended and supplemented (Government Emergency Ordinance no. 24). According to these changes, the green certificates issued after the effective date of the Emergency Ordinance acquire value at the time of the transaction, and the ones issued previously are governed by the legislation in force at the moment of their issuance.

As of now, these changes have not been adopted, however, a draft order was published on the website of the Ministry of Public Finance, in the Decision-making Transparency section, on 08/06/2017, for the approval of the Accounting Reporting System on 30 June 2017 of the economic operators, and for the regulation of certain accounting aspects.

This project proposes, *inter alia*, that the “green certificates received, including those whose trading was deferred, be recorded numerically off-balance after 1 April 2017; the green certificates recorded off-balance are recognised as income at the time of their trading.”

4. CONCLUSION.

Conventional sources of energy, based on oil, coal and natural gas, have proven to be very efficient drivers of economic progress, but at the same time they are harmful to the environment and to human health (Akell, A.K., Saini, R.P., Sharma, M.P., 2009)

Renewable energy sources are virtually inexhaustible, in that they represent considerable resources compared to present needs and future estimates, and they are present on the whole surface of the Earth, involving only the costs of their transformation into directly usable energy (in this case electricity and thermal energy) (Vac S-C, 2012)

The “20/20/20” European Directive of 2005 states that by 2020 the EU must reduce its emissions by 20% and generate 20% of its total energy from renewable sources.

As far as Romania is concerned, there are three types of resources that are not used to their full potential: solar, wind, and thermal.

Romania is located in an area with high energy potential, according to a study conducted by an organisation⁶. And yet, little benefit is derived from this advantage. Paradoxically, countries like Germany or Denmark have a high percentage of solar energy use, despite the fact that their skies are overcast to a higher degree. Romanian legislation is also quite rigid.

A report prepared by Deloitte Romania, a consulting company, on renewable energy in the EU, shows that *“Romania is in a favourable situation in terms of attaining its renewable energy targets for 2020, but it may have problems due to legislative uncertainties, in conjunction with a consumption that is on the rise.”*

As demonstrated in reality, the support scheme adopted by Romania is far from being perfect. We would like to mention here the implementation, in Dobrogea, of projects of tens and hundreds of megawatts, by European energy giants, that are motivated precisely by the desire to join the support scheme in question.

The sustainable development of the renewable energy sector is slowed down by the legislation. So far, the way in which the decisions on the support scheme have been adopted is a negative example of governance. The process that shaped it was opaque, with minimal consultation of the concerned parties and with decisions taken abruptly and unilaterally, to the exasperation of investors

Establishing a system based on the fair promotion of renewable energy requires establishing a dialogue between the government, the regulatory authorities, the producer associations, the municipalities, and all other relevant actors. There are those who argue that renewable energies had a bad start in Romania, mainly for economic and environmental reasons. The severe environmental issues that energy generation creates require actions on all possible fronts; as consumers, we can make quicker changes by choosing clean energy.

Reports are published yearly that alert on the health and economic consequences of air pollution caused by the energy sector. These costs can be reduced or even avoided by adopting common visions based on non-polluting alternatives.

References:

Haralambopoulos, D.A., H. Polatidis, H. Renewable energy projects: structuring a multi-criteria group decision-making framework, Renewable Energy 28 (2003) 961-973 www.elsevier.com/locate/renene University of the Aegean, Department of Environmental Studies, Xenia Building, GR-81100 Mytilene Greece, received 28 February 2002; accepted 3

⁶ <https://www.focus-energetic.ro/160-000-de-romani-vor-putea-vinde-energie-verde-48008.html>, accesat pe 30.03.2018.

June <https://www.sciencedirect.com/science/article/pii/S0960148108002073>, accessed on 27/03/2018 ;

San Crisobal, J.R., Multi-criteria decision making in the selection of a renewable energy, project in Spain: The Victor method, Renewable Energy 36 (2011) 498-502 <https://www.sciencedirect.com/science/article/pii/S0960148108002073>, accessed on 27/03/2018;

Akell, A.K., Saini, R.P., Sharma, M.P, Social, economical and environmental impacts of renewable energy systems, Renewable Energy, 34(2009) 390-396, <https://www.sciencedirect.com/science/article/pii/S0960148108002073> , accessed on 27/03/2018;

Vac S-C, Abstract of PhD thesis, The Economic and Financial Feasibility of Renewable Energy Resources, <http://www.usamvcluj.ro/files/teze/2012/vac.pdf>, accessed on 28/03/2018;

ORDER No. 1802/2014 - Part I for the approval of the Accounting Regulations on individual annual financial statements and consolidated annual financial statements;

Law 220/2008 establishing the promotion system of energy from renewable sources, republished;

<http://contabilul.manager.ro/a/21171/analiza-zilei-cu-irina-dumitrescu-noi-reglementari-privind-certificatele-verzi.html> accessed on 27/03/2018;

<https://www.digi24.ro/stiri/economie/energie/romania-in-topul-energiei-verde-publicat-de-banca-mondiala-673810> accessed on 22/03/2018

<http://rise.worldbank.org/countries>, accessed on 25/03/2018;

https://ro.wikipedia.org/wiki/Energie_regenerabil%C4%83#Energia_regenerabil%C4%83%C3%AEn_lume, accessed on 28/03/2018;

<http://www.business24.ro/energie/energie-regenerabila/greii-energiei-solare-din-romania-se-reunesc-la-bucuresti-pe-19-noiembrie-1537587>, accessed on 28/03/2018;

<http://statistici.insse.ro/shop/index.jsp?page=tempo3&lang=ro&ind=AGR308B>, accessed on 28/03/2018;

<http://www.anre.ro/ro/informatii-de-interes-public/info-piata-energie-electrica/producatori-de-e-sre-calificati-productie-prioritara>, accessed on 27/03/2018;

<https://www.focus-energetic.ro/160-000-de-romani-vor-putea-vinde-energie-verde-48008.html>, accessed on 30/03/2018.