



An Overview of the Renewable Energy Market in Romania



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The Liberalized Energy market

History

The Energy Charter Treaty was ratified by the Parliament in 1997.

The Government Ordinance (GEO) 29/28 regarding the setting up to organize the functioning of the National Electricity and Heat Regulatory Authority (ANRE). ANRE was set up in order to create and implement a national-wide regulatory system to ensure an efficient, transparent and stable functioning of the electricity and heat while protecting the interests of consumers and investors.

In 2002, the Government appointed consultants to advise the Romanian National Energy Authority:-

1. on options for the future structure of the Wholesale Energy market
2. to assist in the development of the chosen option

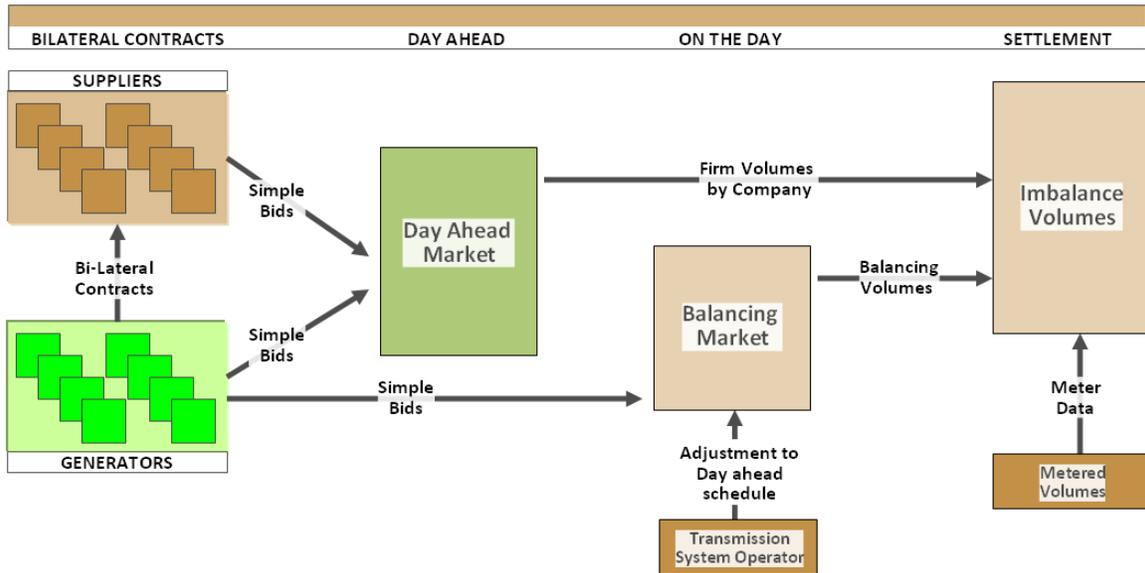
The Wholesale electricity market design was planned to meet the following objectives:

- a. to provide effective mechanisms to ensure that the short-term scheduling and despatch of energy from the generator to meet demand is done at the lowest cost;
- b. to provide an appropriate framework, through price signals, on which long-term investment decisions in the sector (in generation, demand and networks) can be made in an optimal manner by the sector participants acting on an independent basis. This also applies to decisions to decommission plant from service;
- c. to ensure the security of supply of the system in real time by properly allocating responsibility for system operation and the provision of ancillary and balancing services; and
- d. ensure that the supporting regulatory arrangements protect captive consumers whilst allowing them to benefit from competition wherever possible.

A detailed overview of the development objectives of Romania's liberal Energy market is available on the ANRE website - http://www.anre.ro/documente_tot.php?id=151



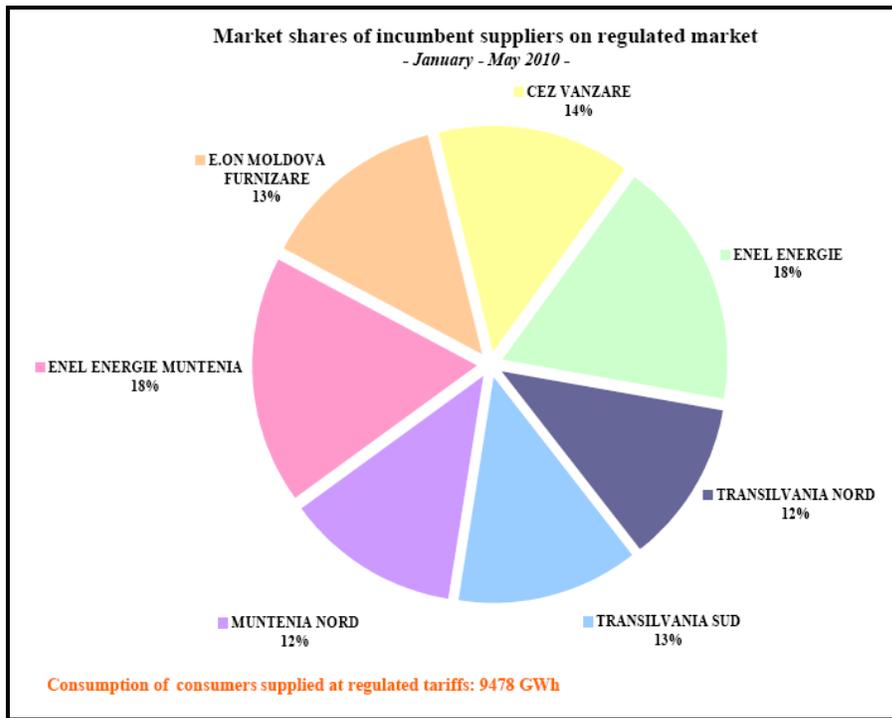
Market Structure



Source: - ANRE & Invest East

International Energy Utility Companies on the Romanian market

In 2010, International utility companies have established a significant place on Romania's energy market. It is worthwhile noting there is no dominant player that might create a market distortion.



Source: - ANRE & Invest East

Snapshot of Romania's Electricity Wholesale Market in May 2010

It is considered useful to analyse the Wholesale & Day Ahead Markets during a period of low economic activity, during which industrial activity is well below normal levels. The impact on energy demand and pricing should establish a firm baseline on which future energy pricing forecasts can be derived.

The current pricing of wholesale market for medium to long term bilateral contracts should provide investors in the energy sector a trusted guideline on which to base their forecast budget revenues. The Spot market, known in Bucharest as the Day Ahead Market (DAM) is a base price marker.

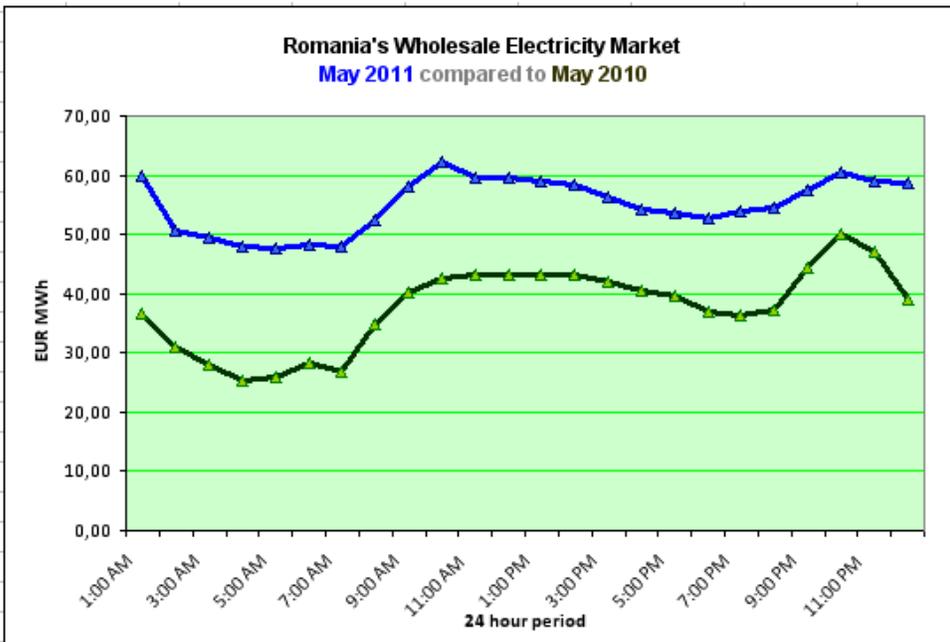
Romania's Wholesale Energy Market

At the time of writing this report, an analysis of the latest market data has been evaluated. All data is provided from historical data supplied by the National Electricity and Heat Regulatory Authority (ANRE). <http://www.anre.ro/>

Our analysis of the Day ahead market (DAM) in reveals that 2010 demand volatility between peak and off peak demand has now stabilised and in 2011 energy pricing across the 24 hour day has significantly lower variability

In May 2011, an average Peak price of EUR 62.15 was recorded at 10.00 am against an average Off peak price of EUR 47.59 recorded at 05.00 am

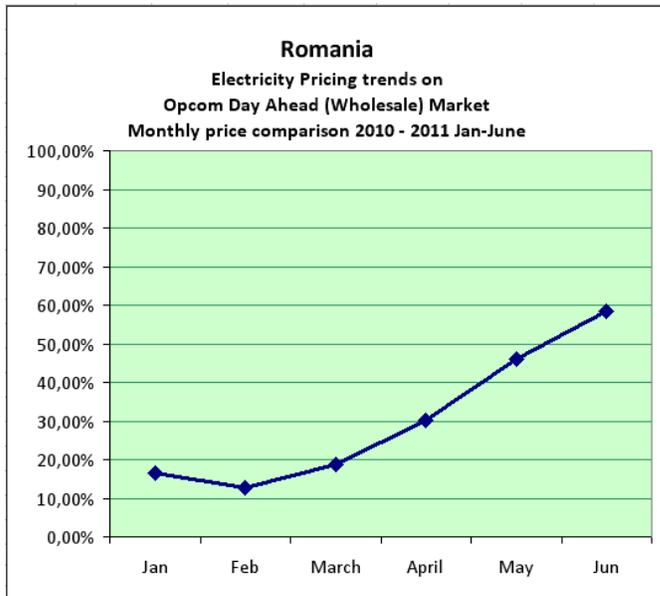
In May 2010, an average Peak price of EUR 42.74 was recorded at 10.00 am against an average Off peak price of EUR 25.87 recorded at 05.00 am



Our analyses are conducted using historical reports of Opcom, the regulatory authority responsible for both the DAM market and the Green Certificate markets.

In addition, significant year on year price increases have been recorded on the Day ahead market that in June 2011 peaked at a 58% increase over previous year.

Monthly Year on Year Price change % on Opcom Market - Comparing 2010 to 2011



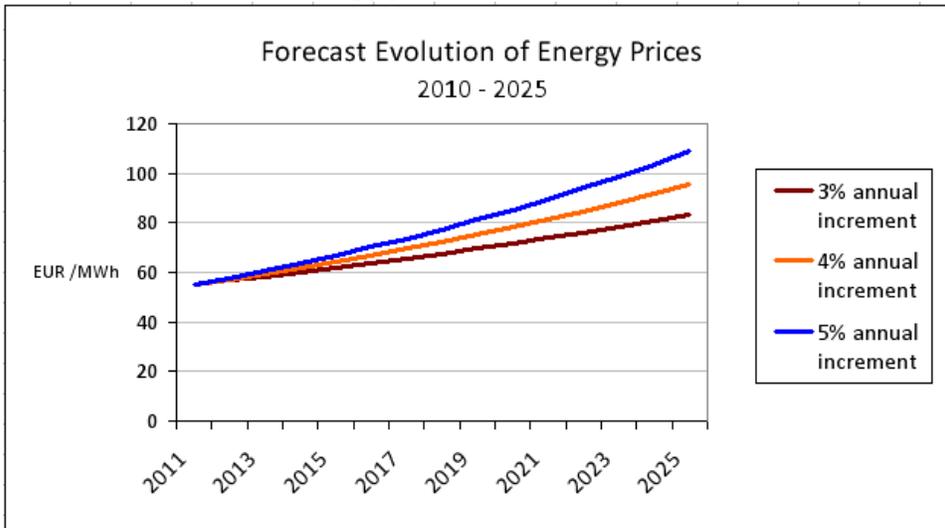
Source: - OPCOM

We believe that the current level of Energy price increases cannot continue at the same rate as seen in the first half of 2011, however it is equally unlikely that price trends will reverse significantly.

It is perceived that Romania's energy pricing is in process of "catch-up" with other EU countries whose markets have also seen significant increases in 2011.



Forecast evolution of energy prices



Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
€/MWh	55,00	57,20	59,49	61,87	64,34	66,92	69,59	72,38	75,27	78,28	81,41	84,67	88,06	91,58	95,24

Source: - Invest East

Decommissioning Program for Lignite, Coal & Oil Thermal Power Stations

There are more than a few power stations that are approaching the end of their viable economic life, and European laws further dictate near term decommissioning dates.

Of the above, the most modern facility, Turceni, out of the above list was commissioned in 1978, and many of the remainder were built in the 1950s.

The most significant facilities that are listed for decommissioning total 5,500 MWe.

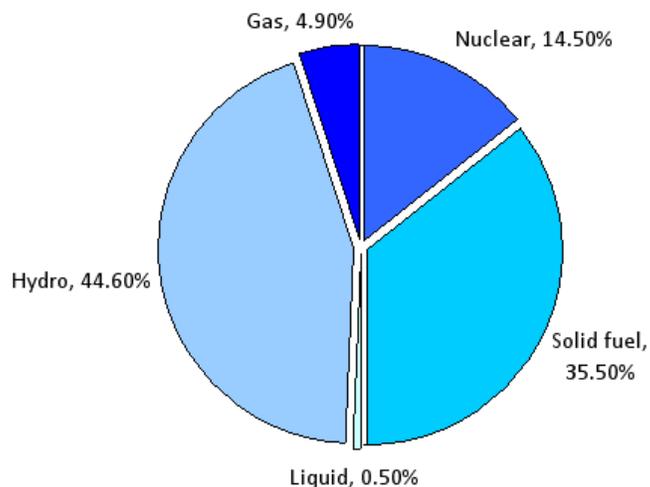
Power Station	Unit(s) (MWe)	Total (MWe)	Primary Fuel(s)	Year(s) Commissioned
Turceri	7 x 330	2,310	lignite	1978-1987
Rovinari	4 x 330 2 x 220	1,720	lignite	1972-1979
Craiova	2 x 315 2 x 100 1 x 55 3 x 50	1,035	lignite	1965-1976
Doicești	2 x 200 6 x 20	520	lignite	1952-1978
Brazi	2 x 200 2 x 105 6 x 50	910	oil/gas	1961-1986
Braila	1 x 330 3 x 210	960	oil/gas	1973-1979
Borzești	2 x 210 1 x 60 2 x 50 3 x 25	655	oil/gas	1955-1969
București Sud	2 x 100 2 x 50	550	oil/gas	1956-1975
Galati	3 x 105 1 x 100 2 x 60	535	gas/coke gas/furnace gas	1969-1984
Paroseni	1 x 150 3 x 50	300	black coal	1956-1964
Mintia	6 x 210	1,260	black coal	1969-1980

Source: - US Dept.of Energy

Evolution of Energy Production in Romania

Since 2000, there has been a significant change in market segmentation for Romania's energy production, and it is expected that reliance on solid fuel Thermal Power stations will be further reduced as significant levels of Renewable energy sources come on stream.

Electricity Production by Primary Resources
May 2010



Source: - ANRE

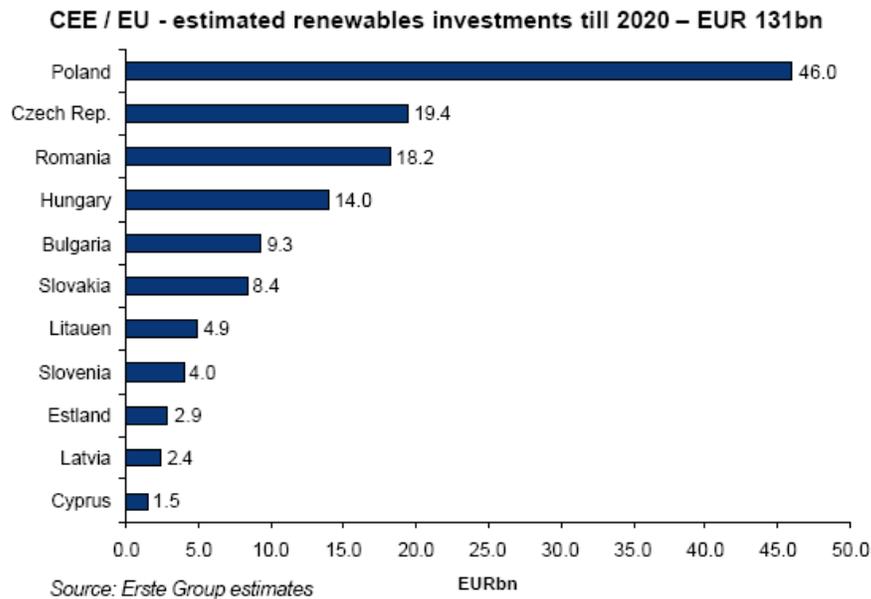
Renewable Energy Sources (RES):

Qualifying sources of Renewable Energy (determined in Law 220/2008 & Law 139/2010)

Definition:- renewable energy sources (Law 139/2010)

Non-fossil energy sources, namely: wind, solar, geothermal, hydrothermal and ocean energy, hydro, biomass, landfill gas, known as gas storage and gas from sludge digestion sewage treatment plants and biogas.

- Wind
- Small Hydro Plants (<10MW)
- Solar PV
- Biomass & other Biofuels
- Geothermal
- Hydrothermal
- Wave energy



Source: - Erste Bank & EIA



The key to commencing a successful development of renewable energies in Romania has required a combination of political commitment and decision making as well as support mechanisms that are now set in law and are comprised within Law 220/2008 & more recently further modified beneficially in Law 139/2010.

The Energy laws promoting production of renewable energy have set well defined targets for all types of renewable energy production.

The total rural population, together with the urban population living in medium-sized towns will be considered as the primary market segment for RES applications (about 61% of a total population of 22.8 million).

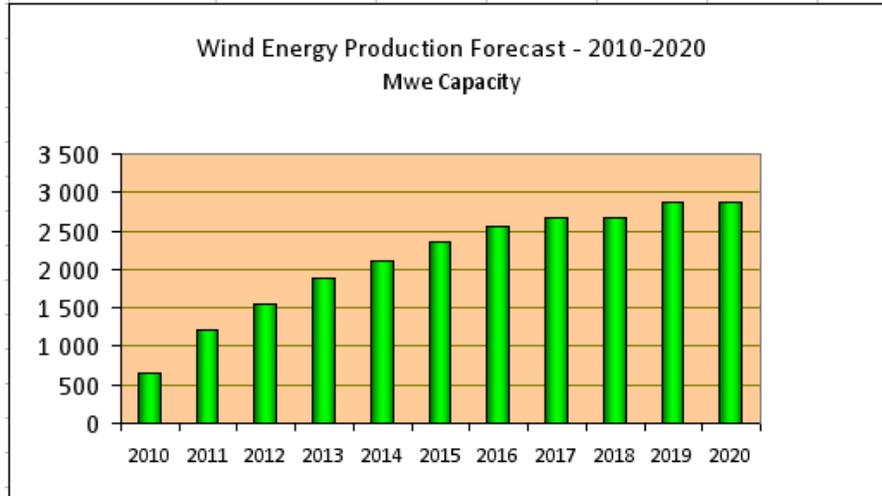
Historically, Romania's domestic energy production from coal, lignite, oil, gas and hydropower, covered about 70% of the energy needs. In 2002, the share of RES to the primary energy consumption was less than 1% excluding large hydro facilities (> 10MW).

The average figure for the European Union is about 4% (including large hydro) with increasing trends in all RES sectors, especially in wind energy. RES project implementation will reduce the dependency on energy imports and consequently improve the balance of payments for the energy sector. Moreover, efforts will primarily focus on decentralized RES systems targeting the growing domestic, industrial and agricultural energy demands for thermal and energy needs.



Wind Energy

Forecast Growth of Wind Energy Development in Romania 2010-2020



Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
MWh	657	1206	1556	1876	2116	2366	2566	2666	2666	2866	2866

Source: - Monsson Alma

There are several influences that may impact the speed of development of commercial wind energy projects:

- Grid connected applications on a strictly commercial basis. In the past, the successful roll-out of these applications depended largely on the support structures being put in place. In July 2010, the Romanian Energy laws 220/2008 and 139/2010 have been signed by Parliament and the President. It is now anticipated that with the clarity of the support systems comprised within the Energy laws, that there are a strong reasons to support large scale commercial development of Wind energy solutions over the next 7 years. One wind developer alone has sold wind projects totalling 880 MWp. A number of Europe's leading energy utility companies have made commitments to develop large scale wind energy investments in Romania, the largest of which is the Czech Energy company, CEZ, whose wind park is the world's largest outside the USA. This is an indication of future velocities in the wind energy segment.
- Romania's potential in wind energy is considered the highest in south eastern Europe. The Moldova and Dobrogea provinces (in the southeast of the country, near the Black Sea) were considered the most appropriate areas for wind farm developments. In particular, the southeast of Dobrogea was ranked, according to different specialized studies, second in terms of potential in Europe.
- The wind potential of Romania is estimated at 14,000 MW installed capacity, equivalent to total annual production of 23 TWh. According to a development scenario proposed by the National Institute of Energy (IRE), it would be sustainable for wind farms units to make a contribution of 13 TWh in 2020, which would involve complementary development of flexible gas turbine power units up to production of 15 TWh. The anticipated implementation of up to 3,000 MW in wind farm capacity in the period up to



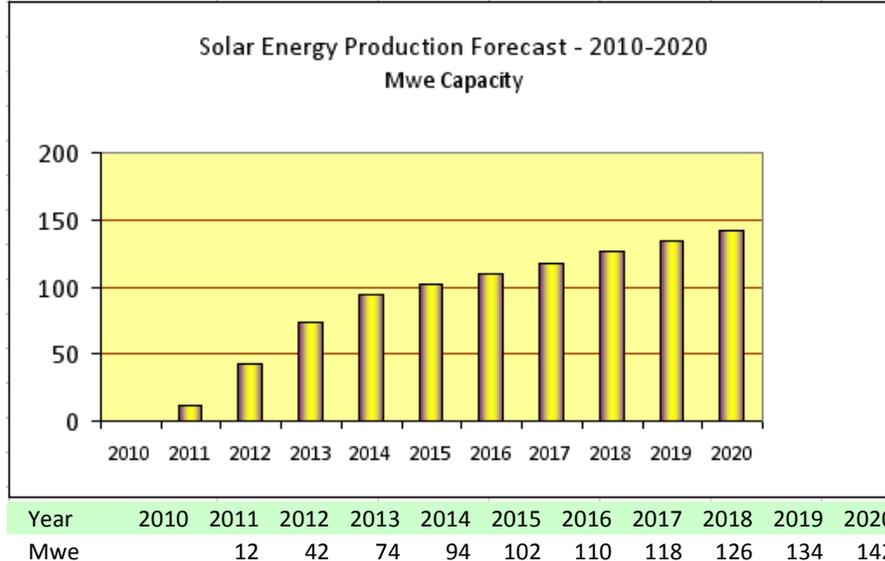
2011-15 would lead to an increase in the total investments in new capacities of over EUR 5bn (+28%).

- Romania is fortunate to have large areas of onshore locations in areas of low population that are classified as excellent on the American Wind Energy Association (AWEA) scale. The low environmental impact in these areas of low population, in a coastal belt devoid of buildings or forested areas provides optimal wind conditions for Wind energy development.
- The escalating cost of Offshore wind solutions that are being considered on the North Sea and Atlantic coasts of Europe is likely to result in a stronger focus on onshore wind locations that can provide strong year round wind speeds. A recent project in the Netherlands estimated that the construction costs of a specific offshore wind project was close to three times that of an onshore wind solution.
- Supply of isolated remote areas. If there is a political commitment to supply isolated rural towns, then small wind turbines are an economically attractive alternative in conjunction with PV systems, where wind resources are sufficient.
- There are distinct advantages to combine Wind and PV solutions to achieve important energy balancing advantages. It is likely that operators of wind farms will make a second stage investment into solar pv systems thereby increasing their energy sales on the forward markets.



Solar Energy

Forecast Growth of Wind Energy Development in Romania 2010-2020



Source: - Lumen Romania

Solar Photovoltaics (PV):

Solar PV generates electricity in well over 100 countries and continues to be the fastest growing power-generation technology in the world. Between 2004 and 2009, grid-connected PV capacity increased at an annual average rate of 60 percent. An estimated 7 GW of grid-tied capacity was added in 2009, increasing the existing total by 53 percent to some 21 GW (off-grid PV accounts for an additional 3–4 GW). This was the largest volume of solar PV ever added in one year and came despite a precipitous decline in the Spanish market relative to 2008. Solar PV accounted for about 16 percent of all new electric power capacity additions in Europe in 2009 ([Source: Renewables 2010 Global Status Report](#)).

Germany again became the primary driver of PV installations, more than making up for the Spanish gap with 3.8 GW added—about 54 percent of the global market. This was far above Spain's prior record-breaking addition of 2.4 GW in 2008, and brought Germany's capacity to 9.8 GW by the end of 2009, amounting to 47 percent of existing global solar PV capacity.

Other strong markets included the Czech Republic, which saw a nine fold increase in total capacity relative to 2008—to 411 MW—thanks to generous feed-in tariffs for solar PV, although they are not likely to remain that high after 2010. The country installed more new PV per capita than any other country except Germany. It was followed by Belgium (292 MW), France (185 MW, with and China (160 MW).

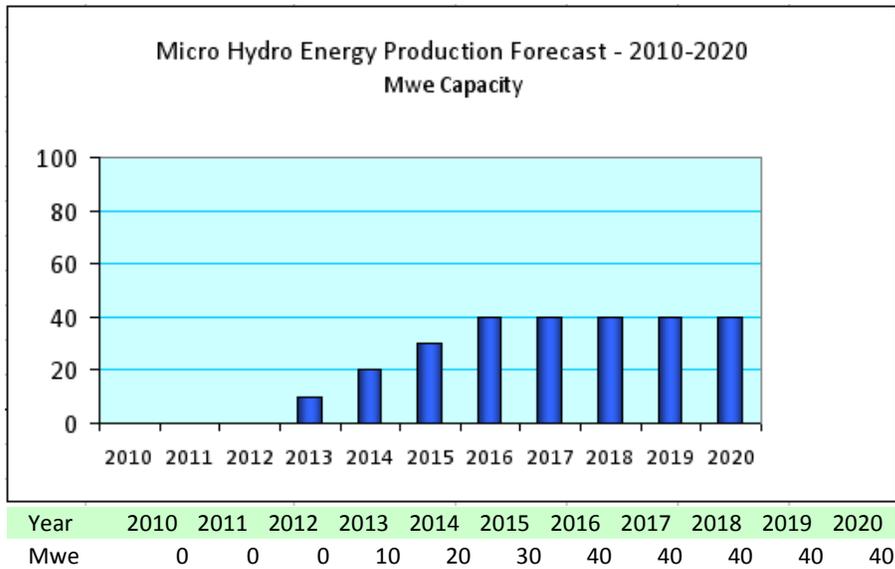
Under the current situation, a number of stand-alone PV plants could be developed within a rural electrification program supported by the State as a least cost and effective electrification solution for the rural population. In the medium term, PV applications for rural electrification could be developed with limited public funds. Other specific applications could be developed on a commercial basis without any public funds, particularly, now that the performance of Solar PV

technology has become increasingly efficient during 2009-2010 and at the same time, price performance improvements have been little short of dramatic.

Active Solar Thermal Systems: Domestic Hot Water (DHW) solar systems for single or multifamily buildings and for commercial buildings (mainly hotels), drying and swimming pool heating are the most promising applications. Solar DHW systems as Demand Side Management measure for electricity or gas utilities, has gained an increasing awareness all around the world.

Small Hydro Power (SHP)

The most promising applications and priorities are presented below:
Forecast Growth of SHP Development in Romania 2010-2020



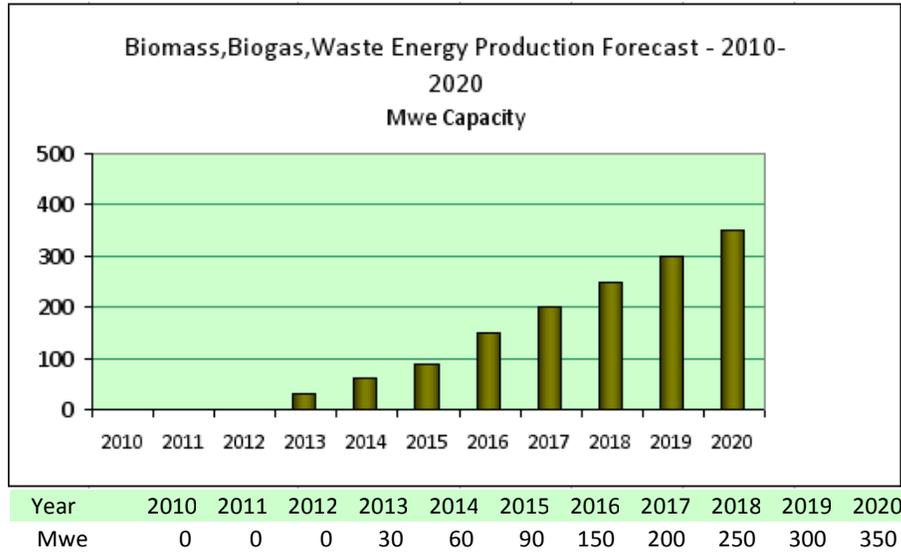
Source: - Monsson Alma

- It has been estimated that there are more than 2000 locations in the Transylvania mountains that are suited for the development of small hydro plants.
- From an economic perspective, it is considered that Greenfield developments offer greater economic returns than obtainable from renovating existing facilities.



Biomass

Forecast Growth of Biomass Development in Romania 2010-2020



Source: - Monsson Alma

Biomass Applications can be grouped into the following main market segments:

- substitution of part of the fossil fuels in existing district heating schemes (wood chips)
- enhanced uses of biomass as industrial fuels (wood chips and logs as industrial fuel for steam or hot water boilers) instead of oil
- improved uses of biomass for new district heating schemes for small towns and villages near the resources, in the countryside, where the population has no access to central co-generation or gas supply
- uses of straw and other agricultural by-products in appropriate biomass boilers for heat supply of farms and small villages (in the medium term)

Geothermal Energy

Thanks to the implementation of medium temperature power plants (binary cycle), some new locations have engaged in geothermal power plant development (especially CHP plants, due to the more economical usage). Such areas are found in the following the west of the country.

While the average temperature gradient throughout the world is around 3Co per every 100m of depth (e.g. in the Pannonian basin in Hungary), this value varies between 5 and 7 Co per 100m, which allows for cost-efficient binary plants. This is due to the fact that amortization (around 20 years) is the highest cost in the operational expenses; in other words, the initial investment is the highest cost, while the gross operating margin is very high (~90%). In terms of investment cost, drilling is very high-cost - around 30% for an HCP plant, while for a heating plant it is even higher, around 50-70% of the total investment. The drilling cost increases almost exponentially with the depth of the well. In the above-mentioned regions, at 2-3km depths, a proper (110-220 Co) temperature exists.

Estimated geothermal electricity potential

Although the utilization of geothermal energy can be considered broadly cost-competitive, it has a relatively high investment cost as one disadvantage. However, its availability is high and it has stable production. These are significant advantages compared to wind or solar power production. The lack of geological availability can be solved by the Enhanced Geothermal System (EGS), which allows for low-to-medium temperature applications via binary cycles and cascading usage.

Applications for geothermal energy can be grouped into three main market segments:

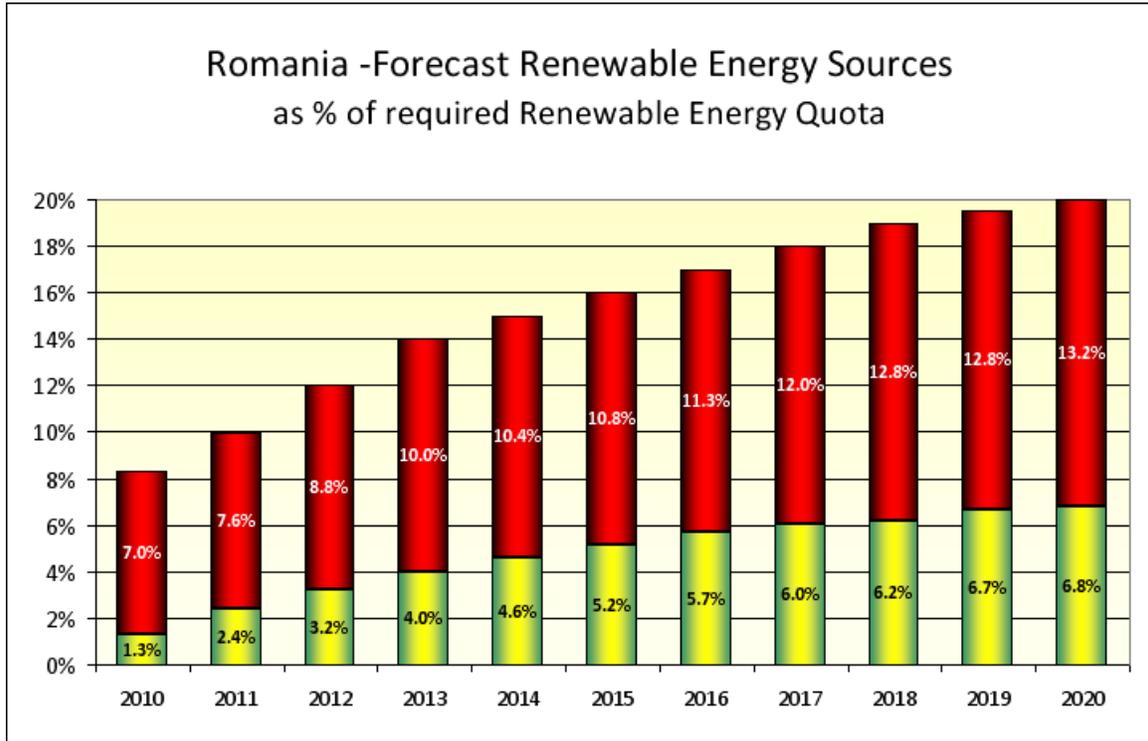
- market for district heating for urban areas and possibly for villages.
- market for thermal applications within the primary, secondary and tertiary sectors
- market for power generation connected to the grid in case of high enthalpy sources.

According to the discussion on economic potentials, the top priority is the use of geothermal sources for thermal applications:

- mainly in existing district heating supply system in the cities nearby the geothermal fields and in new DH schemes for smaller towns and large villages,
- thermal applications for industrial or agricultural uses.



Summary of Renewable Development – Present Day & Forecast



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Forecast RES Production	1.3%	2.4%	3.2%	4.0%	4.6%	5.2%	5.7%	6.0%	6.2%	6.7%	6.8%
Mandatory RES Quota	8.3%	10.0%	12.0%	14.0%	15.0%	16.0%	17.0%	18.0%	19.0%	19.5%	20.0%

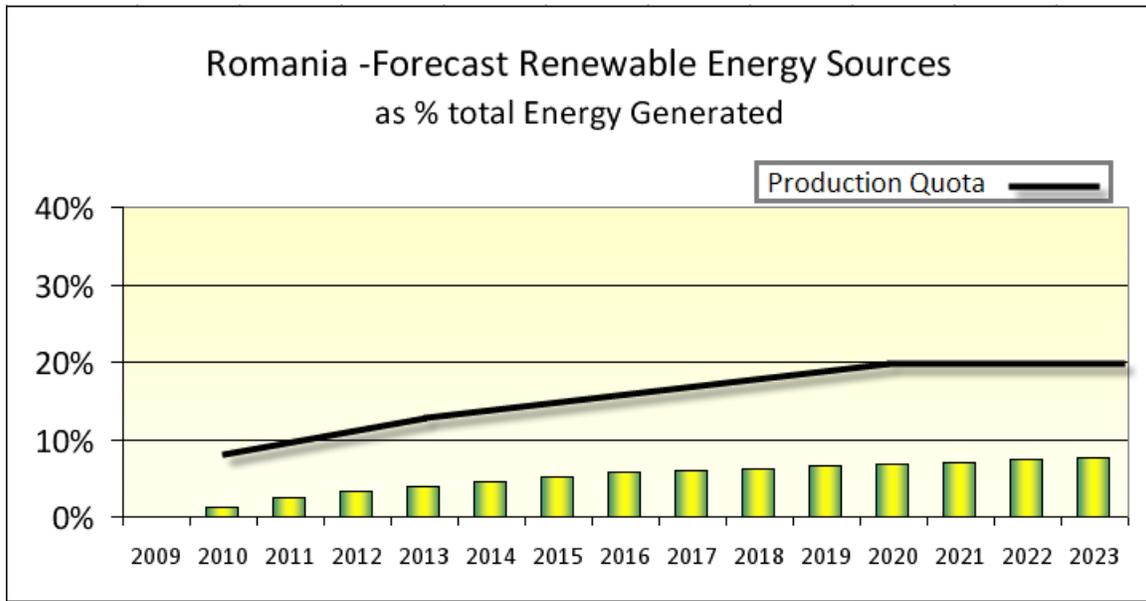
Source: - Monsson Alma

Green Certificate Market

Our take on the Green Certificate market is related to the supply /demand imbalances between the demands mandatory quota requirement and the forecast supply of Energy from qualifying Renewable Energy sources.

Our maximum Renewable Energy forecasts have been made in consultation with Romania's leading developers of Renewable energy resources, and our data is considered optimistic.

Our conclusion is that the Mandatory supply quotas imposed on all energy suppliers in the Romania market will remain out of reach during the period 2010-2023.



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Forecast RES Production	1.3%	2.4%	3.2%	4.0%	4.6%	5.2%	5.7%	6.0%	6.2%	6.7%	6.8%
Mandatory RES Quota	8.3%	10.0%	12.0%	14.0%	15.0%	16.0%	17.0%	18.0%	19.0%	19.5%	20.0%

Source: - Monsson Alma

Given the size of the gap between the mandatory renewable energy quotas imposed on energy market suppliers and the availability of sufficient volumes of Green Certificates to enable the market suppliers to meet their quota targets and avoid penalties amounting to EUR 100MWh. We anticipate a hard market in Green certificates until RES production and Quotas are near parity.

Unless RES development acquires an unforeseen acceleration and velocity, we believe that supply / demand imbalances will maintain the pricing of the Green certificate market near the top of the established price range (EUR 27-55 MWh).

Since 2009, the Green Certificate Market has been traded at its maximum range and we believe that this will continue to be the case until 2013, at which stage, we forecast a gradual reduction in the trade price of Green certificates to EUR 42 in 2018. From 2018-2022 we forecast a stabilisation of the Green Certificate pricing linked to a significant reduction in continued investment from December 2016 at which time the Renewable Energy support regime is uncertain for future projects.



Tradable Green Certificates (TGC) by energy source

Definition of “Green Certificate”:- A document - showing title to renewable energy production of a specified quantity of electricity.

For the promotion of the production of electricity from renewable energy sources, a system of Green Certificates is in place, including a purchase obligation for distribution companies and the obligation to fulfil an annual quota of purchased green electricity. At the end of each year, distribution companies have to deliver a certain amount of "Green Certificates" corresponding with the annual quota. Since October 2005, the certificates have been traded at the newly created electricity market administrator OPCOM. According to the Energy Law, all producers of electricity have equal access to the network. The tariffs are regularly adapted to the actual production costs by the Romanian Regulator.

The annual minimum and maximum values for Green Certificates trading is 27 and 55 euro/certificate, respectively, calculated at the exchange rate established by the Romanian National Bank for the last working day of the December of the previous year.

Renewable Energy Source	TGCs per MWh Energy Produced
Wind	2 till 2017 1 from 2018
Small Hydro Plants (<10MW)	3 for new SHPs 2 for renovated SHPs
Solar PV	6
Biomass & other Biofuels	3
Geothermal	3
Hydrothermal	3
Wave energy	3

Source: - Romanian Energy Laws – 220/2008 & 139/2010

Green Certificate pricing forecast

Future Green Certificate pricing will be influenced by imbalances between established mandatory supplier RES quotas and the achievement of RES generator targets.

All indications are that Renewable Energy targets of 20% by the year 2020 will fall short by approximately 60%. Note:- These estimates exclude all energy from Hydro production sources > 10 MW, whose facilities are not included in the Romanian Renewable Energy targets.



National Target Quota for Renewable Energy Production (Excluding large Hydro >10MW)

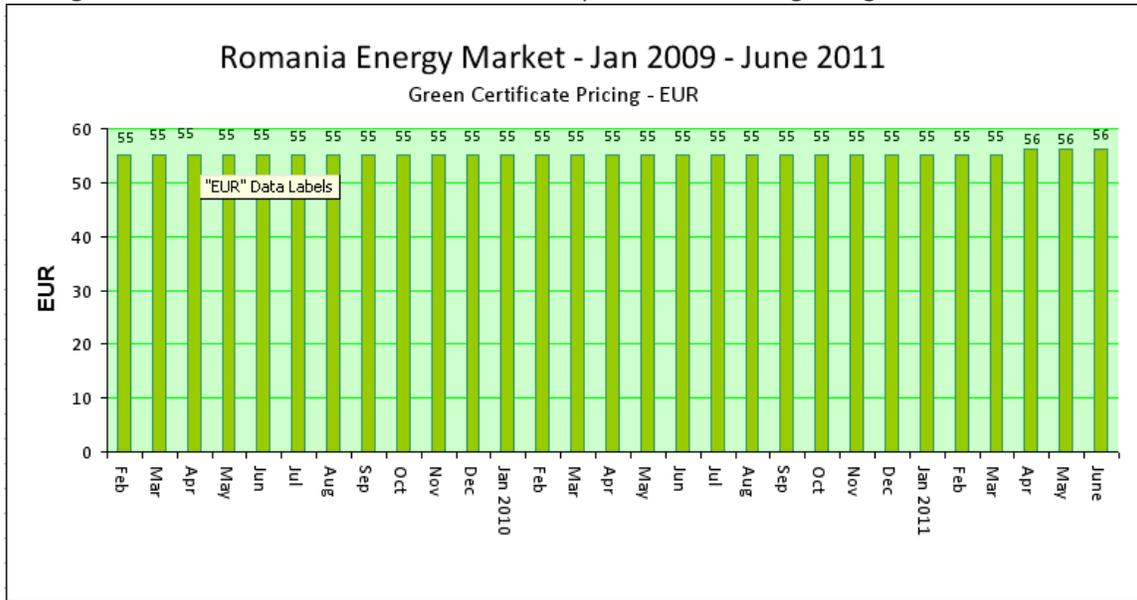
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
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Mandatory RES Quota	8.3%	10.0%	12.0%	14.0%	15.0%	16.0%	17.0%	18.0%	19.0%	19.5%	20.0%

Source: - Monsson Alma & Romanian Energy Laws – 220/2008 & 139/2010

1. Renewable energy production remains at less than 33% of the National Target Quota
We forecast that TGC pricing will remain in a band of EUR 48-55.
2. Renewable Energy production > 50% & <65% of the National Target Quota
We forecast that the TGC market will soften slightly to a band of EUR 38-50
3. As Renewable Energy production above 65% of the National Target Quota becomes closer to the Mandatory quota targets, the TGC market will gradually soften until 85% of quota when prices may fall to the lower end of the TGC price range (EUR 27).

History of Traded Green Certificate Pricing

Pricing has remained at the maximum tradeable price since the beginning of 2009



Forecast of Pricing of Tradeable Green Certificates

Our pricing forecasts are based on optimistic levels of investment in Renewable Energy Projects with consideration given to limitations of Grid Capacity constraints and the level of investment required to remove Grid limitation issues from the equation.

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
€/ MWh	55,00	57,00	58,00	50,00	50,00	48,00	48,00	42,00	42,00	40,00	40,00	40,00	40,00	40,00	40,00



EU Regulatory Framework for Renewable Energy

Romanian Regulatory Framework

For the promotion of the production of electricity from renewable energy sources, a system of Green Certificates is in place, including a purchase obligation for distribution companies and the obligation to fulfil an annual quota of purchased green electricity. At the end of each year, distribution companies have to deliver a certain amount of "Green Certificates" corresponding with the annual quota. Since October 2005, the certificates have been traded at the newly created electricity market administrator OPCOM. According to the Energy Law, all producers of electricity have equal access to the network. The tariffs are regularly adapted to the actual production costs by the Romanian Regulator.

For the period 2010-20, the annual minimum and maximum values for Green Certificates trading is 27 and 55 euro/certificate, respectively, calculated at the exchange rate established by the Romanian National Bank for the last working day of the December of the previous year.

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Mandatory Quota %	8%	10%	12%	14%	15%	16%	17%	18%	19%	19.5%	20%

Source: - Romanian Energy Laws – 220/2008 & 139/2010





EUROPEAN COMMISSION - PRESS RELEASE

State aid: Commission approves Romanian Green Certificates renewable energy support scheme

Brussels, 13 July 2011 - The European Commission has found Romania's plan to support the production of energy from renewable energy sources in line with EU state aid rules, in particular, because it creates clear incentives for an increased use of renewable energy, while containing safeguards to limit distortions of competition. The scheme is designed to assist Romania in reaching by 2020 the mandatory national renewable energy target set under EU legislation.

"The green certificate scheme is a market based mechanism, which will encourage investments in renewable energy in Romania. It will thus support Romania's objective to reach the 2020 renewable energy targets without unduly distorting competition", said Commission Vice-President in charge of competition policy Joaquín Almunia.

The Commission found the proposed scheme in line with the [2008 Environmental Aid Guidelines](#) rules concerning operating aid for renewable energy sources.

Green certificates are granted to electricity producers for each MWh generated from wind, hydro, biomass, landfill gas, sewage plant treatment gas or solar. If the energy is produced in high efficiency co-generation plants, a bonus is applied. The certificates issued by the State to the producers can be sold to the energy suppliers on a specific market (independent of the electricity market). The electricity suppliers have the obligation to acquire annually a certain number of green certificates. If they fail to do so they must pay a penalty. The penalties are collected by the transmission system operator and transferred to the Romanian Environmental Fund, which will use them for support to small individual producers of electricity from renewable sources.

The beneficiaries of green certificates will be able to enter the scheme until 31 December 2016.



Renewable Energy Promotion Policies

Country	Feed-in tariff	Renewable Portfolio Standard/quota	Sales tax, energy tax, excise tax, or VAT reduction	Tradable RE certificates	Public investment, loans, or financing
EU-27					
Austria	X			X	X
Belgium		(*)	X	X	
Bulgaria	X				X
Cyprus	X				
Czech Republic	X		X	X	
Denmark	X		X	X	X
Estonia	X		X		
Finland	X		X	X	
France	X		X	X	X
Germany	X		X		X
Greece	X				X
Hungary	X		X		X
Ireland	X			X	
Italy	X	X	X	X	X
Latvia	X		X		X
Lithuania	X		X		X
Luxembourg	X		X		
Malta			X		
Netherlands			X	X	
Poland		X	X	X	X
Portugal	X		X		X
Romania		X	X	X	X
Slovakia	X		X		X
Slovenia	X		X	X	X
Spain	X		X	X	X
Sweden		X	X	X	X
United Kingdom	X	X	X	X	X

(Source: Renewables

[2010 Global Status Report](#))



Annex – Market Participants The Participants

ELECTRICITY GENERATING COMPANIES

SC CET BACĂU SA
SC CET BRAȘOV SA
SC CET GOVORA SA
SC CET IAȘI SA
SC CET ORADEA SA
SC ELECTROCENTRALE BUCUREȘTI SA
SC ELECTROCENTRALE GALAȚI SA
SC DALKIA TERMO PRAHOVA SRL
SNP PETROM SUCURSALA PETROBRAZI
SC TERMICA SA SUCEAVA
SC TERMoeLECTRICA SA
SPL DE TERMOFICARE PITESTI
SC UZINA TERMICĂ GIURGIU SA
SN NUCLEARELECTRICA SA
SC CE ROVINARI SA
SC CE TURCENI SA
RAAN
SC CE CRAIOVA SA
SC CET ARAD SA
SC ELECTROCENTRALE DEVA SA
SC HIDROELECTRICA SA

Source: - ANRE

TRANSMISSION SYSTEM OPERATOR

CN TRANSELECTRICA SA

DAY AHEAD MARKET OPERATOR

SC OPCOM SA

DISTRIBUTION NETWORK OPERATORS

SC CET BACĂU SA
SC CET BRAȘOV SA
SC CET GOVORA SA
SC CET IAȘI SA
SC CET ORADEA SA
SC ELECTROCENTRALE BUCUREȘTI SA
SC UZINA TERMICĂ GIURGIU SA
SN NUCLEARELECTRICA SA
SC CE ROVINARI SA
SC CE TURCENI SA
RAAN
SC CE CRAIOVA SA
SC CET ARAD SA
SC ELECTROCENTRALE DEVA SA
SC HIDROELECTRICA SA



ELECTRICITY SUPPLIERS ACTING EXCLUSIVELY ON THE WHOLESALE MARKET	
ALPIQ ENERGY SE	SC GLOBAL ELECTRIC TRADING SRL
SC AMV STYLE SRL	SC GRIVCO SA
CEZ AS	SC INVEST DINAMIC PROJECT SRL
SC CEZ TRADE ROMANIA SRL	SC JAS BUDAPEST ZRT
EDISON TRADING SPA	SC KORLEA INVEST SRL
SC ENCAZ SRL	MVM PARTNER ENERGY TRADING LTD
SC ENEL TRADE ROMANIA SRL	SC RE ENERGIE SRL
SC ENERGY MARKET CONSULTING SRL	SC ROMELECTRO SA
E.ON ENERGY TRADING SE	SC RUDNAP SRL
SC EZPADA SRL	SC RBS SEMPRA ENERGY EUROPE LTD
EZPADA SRO	STATKRAFT MARKETS GMBH
SC GDF SUEZ ENERGY TRADING ROMANIA SRL	SC STATKRAFT ROMANIA SRL
SC TRANS ELECTRIC POWER SRL	SC TEN TRANSILVANIA ENERGIE SRL
GEN-I BUKAREST ELECTRICITY TRADING AND SALES	
DISTRIBUTION NETWORK OPERATORS	INCUMBENT SUPPLIERS
SC CEZ SA	SC CEZ VANZARE SA
SC ENEL BANAT SA	SC ENEL ENERGIE SA
SC ENEL DISTRIBUTIE DOBROGEA SA	SC E.ON MOLDOVA FURNIZARE SA
SC E.ON MOLDOVA SA	SC ENEL ENERGIE MUNTENIA SA
SC ENEL DISTRIBUTIE MUNTENIA SA	SC FFEE ELECTRICA MUNTENIA NORD SA
SC FDEE ELECTRICA MUNTENIA NORD SA	SC FFEE ELECTRICA TRANSILVANIA SUD SA
SC FDEE ELECTRICA TRANSILVANIA SUD SA	SC FFEE ELECTRICA TRANSILVANIA NORD SA
SC FDEE ELECTRICA TRANSILVANIA NORD SA	
ELECTRICITY SUPPLIERS	
SC ALPIQ ROMENERGIE SRL	SC ENNET GRUP SRL
SC ALPIQ ROMINDUSTRIES SRL	SC ENOL GRUP SA
SC ALRO SA	SC EURO-PEC SA
SC ARCELORMITTAL GALATI SA	SC FIDELIS ENERGY SRL
SC ARELCO DISTRIBUTIE SRL	SC GDF SUEZ ENERGY ROMANIA SA
SC ATON TRANSILVANIA SRL	SC GENERAL COM INVEST SRL
SC BENY ALEX SRL	SC GEVCO SRL
SC BIOL ENERGY SRL	SC HIDROCONSTRUCTIA SA
SC EFE ENERGY SRL	SC ICCO ENERG SRL
SC EGL GAS & POWER ROMANIA SA	SC ICCO SUPPLY SRL
SC ELCOMEX EN SRL	SC ICPE ELECTROCOND TECHNOLOGIES SA
SC ELECTRICA SA	SC LUXTEN LC SA
SC ELECTRICOM SA	OET OBEDINENI ENERGINI TARGOVTSI
SC ELECTROMAGNETICA SA	SC PETPROD SRL
SC ENERGOTRANS SRL	SC RENOVATION TRADING SRL
SC ENERGY DISTRIBUTION SERVICES SRL	SC TINMAR IND SA
SC EFT ROMANIA SRL	SC TRANSENERGO COM SA
SC ENERGY HOLDING SRL	SC TOTAL ELECTRIC OLTENIA SRL
SC ENERGY NETWORK SRL	SC UCM ENERGY SRL
SC ENEX SRL	

Source: - ANRE



Energy unit conversion table

Conversion factors

Terawatthour:	1 TWh = 1 Mrd. kWh
Gigawatthour:	1 GWh = 1 Mio. kWh
Megawatthour:	1 MWh = 1.000 kWh

Units for energy and power

Joule	J	for energy
Watt	W	for power, current
1 Joule (J) = 1 Newtonmeter (Nm) = 1 Wattsecond (Ws)		

Cross rates

		PJ	TWh	Mio.t SKE	Mio.t ROE
1 Petajoule	PJ	1	0.2778	0.0341	0.0239
1 Terawattstunde	TWh	3.6	1	0.123	0.0861
1 Mio.t black coal (unit)	Mio. t SKE	29.308	8.14	1	0.7
1 Mio.t crude oil (unit)	Mio. t ROE	41.869	11.63	1,429	1

