

Legal aspects of the regulation of renewable energies

The legal act or legal business is the fact, human, voluntary or conscious and lawful, that establishes relationships between people and creates, modifies or extinguishes rights and obligations whose effects are desired by the parties.

The opposite of a legal act is a robbery.



Erasmus+

The legal act

- To be legal, it must be sanctioned by a standard.
- A football match is a legal act because it is regulated by a rule called regulation, which is written, promulgated by some authority and is universally accepted by all involved.
- The Ludo game also, but the regulation is not published and is oral transmission and gives rise to many misunderstandings, which generates what really funny Ludo: cheating!, in my opinion.

Legal rules

- They are ordered by the issuing authority:
- The city council, the Commonwealth, the province, the federations, the autonomous community, the agencies, the State, the European Union and international organizations.
- Vehicles in Europe comply with UNECE regulations, which is the United Nations Economic Commission for Europe.
- There are many organizations and agencies around the world, to regulate everything, everything and everything.
- And when an agencies does not exist, the existing authorities are created or occupied.

The United Nations and the Climate Change Panel

- The IPCC does not carry out its own original research, nor does it itself carry out the work of monitoring climate-related phenomena.
- The IPCC provides internationally accepted authority on climate change, producing reports that have the agreement of all climate scientists and the consensus of each participating government.

The OECD and the EA

- The developed countries, have been grouped in the OECD and that in view of the needs created the Agency of the Energy.
- The Energy Agency studies energy supply problems around the world and all energy sources and produces complex reports each year.

The weather

- The weather will not disappear, but it will change the way we know it.
- The climates are, dry, humid, rainy, mediterranean, continental, arid, desert, polar, alpine, ...
- Climate change is called climate variation with respect to regional or global climate history. Such changes occur at very different scales of time and over all meteorological parameters: temperature, atmospheric pressure, rainfall, cloudiness, etc.
- In theory, they are due both to natural causes (Crowley and North, 1988) and to anthropogenic ones (Oreskes, 2004).

The DISCUSSION

- If climate change occurs for whatever cause, natural or anthropogenic, the result is that it changes.
- On the other hand, natural and artificial greenhouse gas emissions of CO₂ and CH₄ continue to increase.
- Finally, the fuels we are using for energy are polluting the planet and causing permanent damage to the soil, the sea, the water from rivers and lakes, rain, air and life as we know it.

RENEWABLE ENERGY

- It is the energy that is obtained from virtually inexhaustible natural sources, **either by the immense amount of energy they contain, or** because they are able to regenerate by natural means.
- Renewable energies include wind, geothermal, hydroelectric, tidal, solar, wave energy, biomass and **biofuels**.

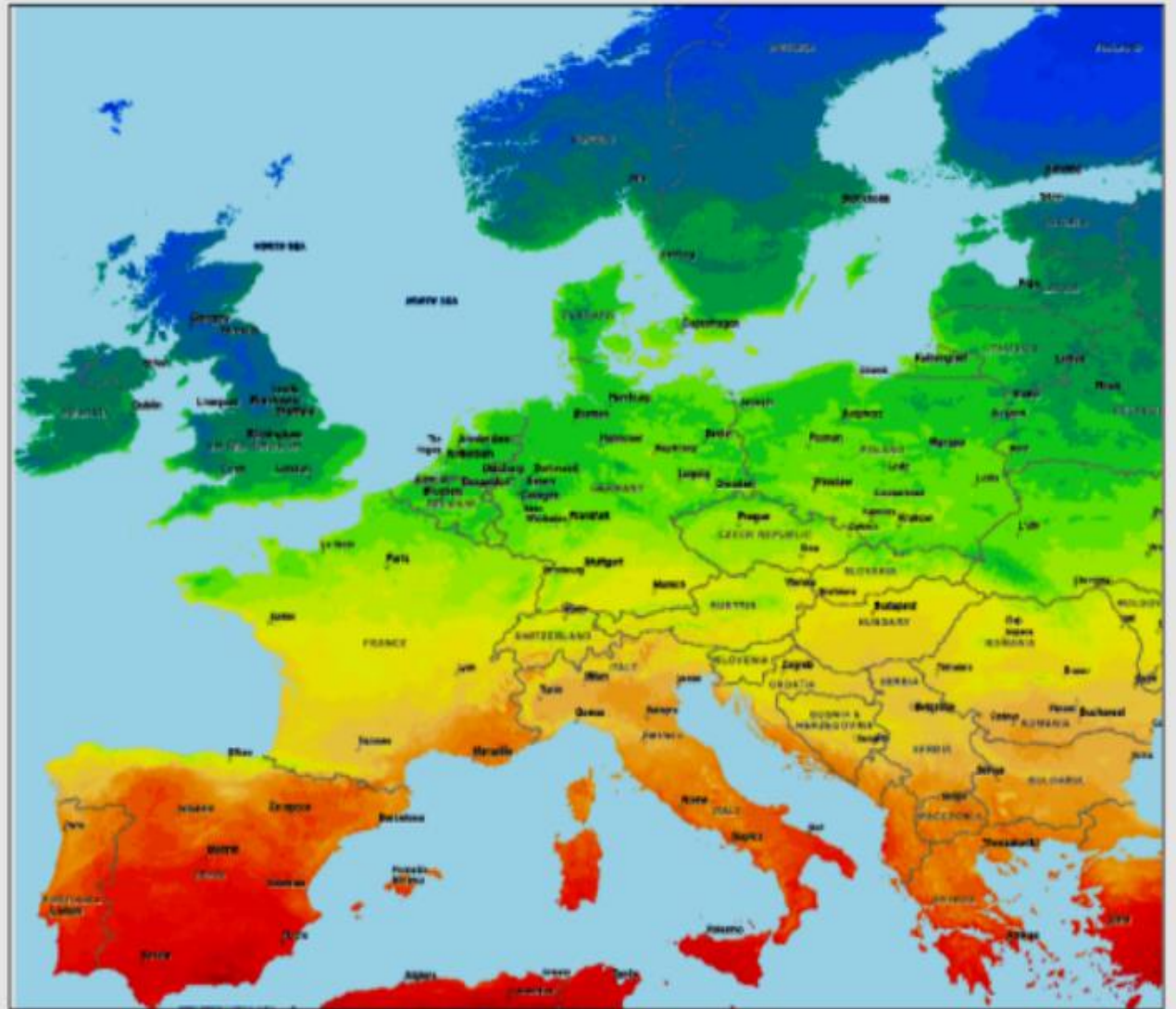
ENERGY in SPAIN

- The energy sector in Spain accounts for about 2.5% of the country's GDP, but its importance goes beyond its share of total production, since it is a STRATEGIC sector that all branches of economic activity need, And this is necessary for any kind of production of goods and services.
- Precisely one of the myths that has limited the economic development of Spain has been the scarcity of energy resources.
- Spain now exports electricity to France, Morocco and Portugal, so the myth collapses.
- We can not talk about scarcity, when we are wasting enormous amounts of solar energy, wind, geothermal and wave energy.

Production in Spain

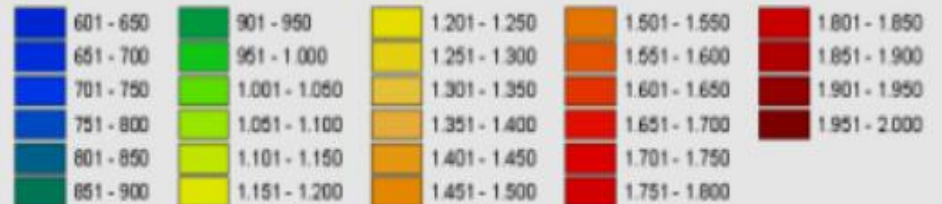
- Spanish photovoltaic potential is the largest in Europe by extension in time (hours) and surface.
- The photovoltaic equipment correctly installed in Spain is more profitable than the same equipment installed in other countries.

Solar radiation kWh/m²



Radiación Solar 2008
kWh/m²

mar



How much electricity can we produce and how much can we consume?

- Installed power:
102.259 MW at the end of 2014
- Maximum instantaneous power consumed:
 - 45.450 Mw Dec 17, 2007
 - 38.948 Mw Feb 4, 2014
- Surplus power:
40.000 MW at the end of 2014



CONCLUSIONS

- In Spain, there is more installed power than necessary
Spain exports electricity to Morocco, Portugal and France.
- What facilities are left over?
- The most polluting?
- The masks?
- The most dangerous?
- The oldest ones?
- The worst situated?
- The most irregular?
- Renewables?

We already have our Ledo

- What plants do we install?
- Who can install?
- How many will we install?
- How much will it cost us?
- How are we going to close the old plants?
- To answer all these questions, the Government draws up a National Plan.
- The European Union proposes the European renewable energy plan, which complies with the CO₂ emission plan and other objectives, such as efficiency and savings...

Let's install more power

- What plants do we install?
 - Wind, land or sea
 - Solar thermal
 - Photovoltaic solar
 - Hydraulic, small or large (50 Mw)
 - Geothermal
 - Wave energy
 - Atomic, uranium, thorium, fusion.
 - Cogeneration
 - Biomass
 - Biogas

The new energies

- Wave energy: it is obtained from the marine currents, the tides and the waves of the sea. The Strait of Gibraltar and the Galician streams are optimum places.
- Geothermal: it is used more and more, but it is not available in all the places of the Earth.
- The small hydraulics has the great advantage that can be stored and the quick availability when it is necessary.
- The great hydraulics like Assuan, the Three Gorges or Iguazú, are not understood as renewable for irreversibly altering the aquatic environment, the soil, the ecosystem and for having the life limited by the necessary sediments downstream.

Biogas in WWTS and family biodigesters

- Low cost family biodigesters benefit of anaerobic digestion of organic waste to obtain methane that can be used for energy production or heating.
- Waste Water Treatment Plants (WWTP) produce biogas that they use to produce electricity at a low economic performance, but with a good social return.
- Investments in biodigesters and wastewater plants generate:
 - Job opportunities
 - Clean and purified water that can be reused
 - Collection of waste.
 - Production of fertilizers, composting and soil amendments.
 - Energy, fuels and heating.
 - They are ideal for the rural environment.

BIOMASS

- Biofuels have a low energy return and a low social return, because as is now obtained biodiesel, palm oil, forests are deteriorating around the world and there is no social return.
- The surplus biomass, which does not serve to feed people or animals, if it can and should be used for energy.

Cogeneration

- Cogeneration is the process by which electrical energy and useful thermal energy (steam, hot water) are simultaneously obtained. If there is also cold (ice, cold water, cold air, for example) is called trigeneration.
- The advantage of cogeneration is its greater energy efficiency as it takes advantage of both the heat and the mechanical or electrical energy of a single process, instead of using a conventional power plant and for the heat needs of a conventional boiler.
- Another important advantage is that when producing electricity near the point of consumption, changes in voltage and long distance transport are avoided, which represent a remarkable loss of energy due to Joule effect (it is estimated that in large networks this loss is between 25 And 30%).

Renewable energy

- The small hydraulics.
- The land and sea wind.
- High-temperature solar thermal, obtained by mirrors that concentrate sunlight
- The low temperature solar thermal, which heats an antifreeze liquid in closed circuit and provides us with hot water.
- The photovoltaic of all, the most simple and easy to handle, with accumulation by batteries
- The photovoltaic without accumulation, by assignment to the network.

Atomic energy

- The power of atomic energy is enormous:
 - Fission of uranium, plutonium and its oxides
 - Fission of thorium, which does not serve as an atomic explosive
 - Hydrogen fusion (ITER project)
- Huge construction costs
- Lack of transparency in the whole process
- Pollution by uranium mining
- Radioactive waste
- Leaks
- In Spain can be dispensed with nuclear energy representing about 10 Mwh. The problem would be the electrical generation equipment and distribution networks of that nuclear energy that we obviously have left over.

National plans

- They consist to determine in advance the sufficient production resources, distribution and consumption of energy.
 - Interruption and non-interruptibility.
 - Quality in service.
 - The renewal of systems.
 - The management, stop and start up.
 - The interconnection of systems (gas, oil, coal, uranium,...)
 - The distribution, between different zones and regions.
 - Discharges and excesses.
 - The sale of electric power.

Can you argue?

- The answer is who can discuss?
- If we can not discuss, what can be done?
- What do we do? We will do PATH.
- In rural areas, we have the opportunity to do everything we need.
- Produce, interconnect, distribute and consume changing game instead of changing the rules of the game.

William Alexander (Netherlands)

- During his coronation on April 30, 2013, he said that the welfare state is over, that we are now in the state of participation.
- We have to participate. In which? **THROUGHOUT**
 - We have to organize ourselves as a society of societies.
 - Consumer cooperatives
 - Distribution Cooperatives
 - Water pumping stations, sewage plants and heating by biomass, use of biogas.
 - Urbanizations, villages, communities of neighbors,
 - Cooperatives of production.

Societies of Participation

- I can not invite in an act like this to disobedience, although I would like to, because disobedience has consequences
- I, from the rostrum that you offer me so kindly and for which I give you the most sincere thanks, today I have to attend to the words of the King of Holland and invite you to PARTICIPATION, to create paths, to solve your needs and not let others Come and solve them.
- Because if you do not make your policy, others will come to do theirs.

The Valencian Community

- The Valencian Community is a pioneer in the number of electrical cooperatives in the Spanish State.
- They started the road some more than 100 years ago.
- The Federation of Cooperatives of the Valencian Community exists and is in: <http://coopelectricas.ecsocial.com/>

The new game

- Let's know through the Federation of Electric Cooperatives of the Valencian Community the world of Electric Cooperativism and the history of companies dedicated to the distribution, commercialization and production of electrical energy, within the field of Social Economy.
- Cooperatives with 100 years of history that fought and fight for their localities, offering good services, low prices and quality, with full dedication to its partners and subscribers. These Cooperatives had to join, not to be absorbed by the great company, which never wanted to invest in the development of our peoples, trying to move them without shame. But the union, the effort and the constancy has ended putting each one in its place.

Salvador Escutia Carrasco

Finally, I want to thank you

- To Som Energy for offering me the opportunity to be here today.
- To the organizers of the event, to rely on Som Energy which is a cooperative of consumers and producers and hopefully someday we have our own distribution networks
- To the authorities here present
- To all the people who have attended this event and for the time and attention you have given me.