

A LOOK AT ENERGY LAW: LEGAL CHALLENGES PRESENTED BY NEW TECHNOLOGIES

Second AIEE ENERGY SYMPOSIUM

ROME, November 2, 2017

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M&A AND ENERGY DEPARTMENT RENAWABLE & CONVENTIONAL ENERGY



ACTORS IN THE MARKET

- FUNDS AND INVESTORS
- INDUSTRIES
- BANKS /LENDERS
- PRODUCERS
- TRADERS
- CUSTOMERS/CONSUMERS
- DEVELOPER OF THE PROJECTS
- ASSET MANAGERS
- EPC CONTRACTORS
- O&M CONTRACTORS
- SUPPLIER
- OWNERS OF THE LAND
- PUBLIC ENTITIES

- ... AND



ACTORS IN THE MARKET PLANET & PEOPLE



THE PARIS AGREEMENT HOW TO REDUCE EMISSIONS



NEW TECHNOLOGIES AND NEW FRONTIERS ARTIFICIAL INTELLIGENCE IN THE EXTRACTIVE SECTOR



THE AUTOMOTIVE SECTOR



THE PAST



THE PRESENT



THE FUTURE

ARTIFICIAL INTELLIGENCE MEANS

- CONSTANT INNOVATION
 - SUBSTITUTION OF OLD EQUIPMENT BY NEW ONE
 - E-WASTE: OLD EQUIPMENT AS A PROBLEM OR AN ASSET
- THE PASSAGE FROM THE LINEAR APPROACH OF “TAKE-MAKE-USE-DISPOSE” TO THE CIRCULAR ECONOMY

MISMANAGEMENT OF WEEE

- Environmental damage;
- Health damage;
- Misuse of resources;
- Depletion of natural resources

IN THE TRADITIONAL WAY

- Wastes and WEEE were managed inappropriately and we have assisted to
- Robbery of valuable materials;
- Exportation of waste to developing countries

IN THE CIRCULAR ECONOMY

- Minimization of consumption of natural resources.
- Value and life of materials and products is maintained as long as possible.
- Resources are kept within economy once a product has ended its life to be used again to create further value.

THE CIRCULAR ECONOMY

- A circular economy aims to keep products, components, and materials at their highest utility and value at all times. A circular economy is a continuous positive development cycle that preserves natural capital and optimizes resource yields by managing finite stocks and renewable flows.

THE NEW ROLE OF THE PRODUCERS

- Implement environmentally friendly designs and manufacturing processes
- Be responsible for financing the collection, recycling and responsible end-of-life disposal of WEEE.
- Local Company producing locally.
- Foreign company producing overseas.

THE AUTOMOTIVE SECTOR: ARTIFICIAL INTELLIGENCE MEANS

- **EXCHANGING ENERGY IN FUTURE SMART CITIES**

Electric power supply, especially by renewable energy, will be increasingly distributed rather than centralized.

- **VEHICLE TO GRID (V2G) TECHNOLOGIES**

A vehicle-to-grid (V2G) system would take advantage of the fact that most vehicles are parked an average of 95% of the time.

THE AUTOMOTIVE SECTOR: ARTIFICIAL INTELLIGENCE MEANS

•VEHICLE TO GRID (V2G) TECHNOLOGIES

- During such ideal time the electricity stored in the batteries could be transferred from the to the power lines and back to the grid.
- it would also be expected that battery electric (BEVs) and plug-in hybrids (PHEVs) would have the capability to communicate automatically with the power grid to sell demand response services by either delivering electricity into the grid or by throttling their charging rate.

WHERE ARE WE GOING: ARTIFICIAL INTELLIGENCE MEANS NEW OBLIGATIONS

- **EXTENDED RESPONSABILITY FOR PRODUCERS**
- **COMPLIANCE**
- **DATA PROTECTIONS**
- **LIABILITY FOR DAMAGES**



WHERE ARE WE GOING: NEW TYPES OF NEGOTIATIONS

- THE POSSIBLE APPLICATION OF BLOCKCHAIN IN THE ENERGY SECTOR



THE BLOCKCHAIN PLATFORM

- Blockchain is a special technology relating to peer-to-peer transaction platforms that uses decentralised storage to record all transaction data.
- The first application was developed in the financial sector in connection with the cryptocurrency “**Bitcoin**”.
- Blockchain changes the approach of the transactions models shifting away from a centralised structure (banks, exchanges, trading platforms, energy companies) towards a decentralised system (end customers, energy consumers).

THIS MEANS

- In theory intermediaries represented by industries as of today are no longer required in such system.
- With this type of transaction, every participant in a network can transact directly with every other network participant, without involving a third-party intermediary.
- Notwithstanding the above, there are different legal aspects to be analyzed and solved in terms of regulatory requirements, data protections, general conditions, relating to the correctness of the information

THE NEW CONCEPT OF “SMART CONTRACTS”

- At this stage the future could be represented by a new concept of smart contracts, between, for example, an energy producer and a consumer that autonomously and securely regulates both supply and payment.
- In case the customer were to fail to make payment, the smart contract would automatically arrange for the power supply to be suspended until payment has been received....
- BUT ... Provided the parties had previously agreed to include such a mechanism in their contract.

CONCLUSIONS

NEW ACTORS IN THE MARKET

NEW OPPORTUNITIES

NEW FRONTIERS

NEW EMERGING MARKETS

NEW LEGAL CHALLENGES...

THANK YOU!



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