

# A financing model for Spanish retail electricity providers

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## Abstract

This paper presents an alternative way of funding for retail electricity providers in the Spanish electricity sector, through securitization of future revenue streams generated by power supply. To that end, the paper provides a contextualized overview of the following aspects: the Spanish electricity market after its liberalization, with the emergence of new electricity providers; and the definition and structure of the future-flow securitization process. Due to the lack of liquidity and the difficulty of obtaining funds in the financial sector, new electricity providers have to search for alternative financing. We analyse the possibility of creating a securitization fund of future rights to supply power to their customers, who will be required to commit to a minimum contract period. Providers could implement credit enhancements by setting up a reserve fund to cover their assets, thus achieving better balance-sheet management and maybe even more affordable financing than by turning to the capital market. Finally, an example of the model of securitization is developed for a new retail provider that wants to diversify its activities in a €20mn-investment project oriented to customers for power supply of less or equal than 50kW. The economic results of the model for a new company show a net present value of €1mn with a nine-year payback and an internal rate of return of 13%. If the company's focus is only on financial cost, it would currently be more profitable to seek financing from the capital market through a syndicated bank loan than by issuing a securitization. The securitization would only make sense for high-level investments, suggesting that other companies in a similar situation should join together to launch the securitization project. If the company's focus is on transferring the risk of the payment debtors to the market, securitization offers an alternative to factoring. In any case, the best option for obtaining liquidity to invest in renewable energy will depend on the company strategy.

**Keywords:** Financing, Electricity sector, Spain, Securitization, Providers.

**JEL classification:** L94.

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# Modelo de financiación para compañías en el sector eléctrico español

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## Resumen

Este artículo presenta un modelo de financiación para las nuevas comercializadoras en el sector eléctrico español a través de una titulización de ingresos futuros generados por el suministro eléctrico. Para apoyar esta propuesta se ha puesto en contexto dos aspectos: La situación del mercado eléctrico español tras la liberalización del sector eléctrico y la aparición de nuevas empresas comercializadoras y, la definición del proceso así como la estructura de la titulización de ingresos o flujos futuros. La falta de liquidez en el mercado y la dificultad para obtener financiación en el sector ha hecho que las nuevas comercializadoras tengan necesidad de buscar alternativas de financiación. Se analiza la posibilidad de crear un fondo de titulización de derechos futuros procedentes del suministro de energía a clientes, a los que se les exigirá un período mínimo de permanencia. Las comercializadoras podrían implementar mejoras crediticias constituyendo un fondo de reserva para cubrir sus activos, obteniendo así una mejor gestión del balance y quizá una financiación más asequible que recurrir al mercado de capitales. Finalmente, se desarrolla un ejemplo de modelo de titulización para una nueva comercializadora que quiere diversificar su negocio realizando una inversión en un proyecto de renovables por importe de 20 millones de euros siendo el objeto de titulización los clientes de potencia instalada igual o menor de 50 kW. El resultado muestra que el valor actual neto de la compañía es de 1 millón de euros con un payback de 9 años y una tasa interna de retorno (TIR) del 13%. Si la empresa se centra sólo en el coste financiero, hoy sería más rentable ir al mercado de capitales a través de un sindicato bancario que emitir una titulización. La titulización sólo tendría sentido para las inversiones elevadas, lo que sugiere que otras empresas similares en la misma situación se unan al proyecto para lanzar una misma emisión. Si la empresa se centra en la transferencia al mercado del riesgo de impago de los deudores, la titulización es una de las alternativas, además del factoring. En cualquier caso, la mejor opción para obtener liquidez para invertir en renovables, dependerá de la estrategia de la empresa.

## Palabras clave:

Financiación, sector eléctrico, España, titulaciones, comercializadoras.

## ■ 1. Introduction

The liberalization of the Spanish electricity sector is one of the consequences of the signing of the Single European Act (1986) and the Treaty on European Union (1992). It is the result of adapting to the guidelines set by the European Union (EU) to continue European economic integration with the aim of consolidating a common market for goods and services.

Spanish electricity sector liberalization has led to the emergence of several mechanisms in the market aimed at improving competition, transparency and objectivity in price setting, thus giving consumers greater flexibility in negotiation. This enables electrical power to be marketed in its own market, subject to competitive rules. Thus, new retail providers, with financial needs, have emerged in the market.

On the other hand, the Great Recession has drastically reduced these companies' capability of accessing financing. Given these difficulties of obtaining funds from lenders and the lack of liquidity, these new companies have to look for alternative ways to finance their activities. In this article, we propose the creation of a cash-flow future rights securitization fund for the supply of electricity to their customers.

Therefore, electricity providers could implement credit enhancements by setting up a reserve fund to cover their assets, thus obtaining a better balance-sheet management and maybe even more affordable financing than by turning to the capital market.

The article is structured as follows: in the first section, we focus on the analysis of the electricity sector background and its development in Spain, its basic principles and the consequences of its liberalization – the emergence of new electricity providers. The second section examines the *tariff deficit*, its origin and impact on businesses and consumers. The characteristics of securitization are analysed in the third section, including the way it works, the parties involved, and the different phases, as well as its advantages and disadvantages. The fourth section proposes a model of securitization and analyses the feasibility of applying it to the power sector. The fifth section presents an example of securitization for a €20mn-investment project oriented to customers consuming for power supply of less or equal 50kW. In the final section, we outline the conclusions of the article.

## ■ 2. The Spanish electricity sector

To understand the structure of the Spanish electricity sector it is necessary to go back in time and analyse its history and background. The electrical industry has been and

remains the *wild card of Spanish energy policy* (Folgado Blanco, 2003). The structure of primary energy supply, which has required large investment efforts, has traditionally been shaped according to economic or political factors. As such, Spanish electrical energy is produced from virtually any primary source.

The significance of this aspect largely determines the historical development of the electricity sector and illustrates the causes of its regulatory and financial ups and downs. The instrumental role played by the national energy policy is evident at all times and especially in very specific cases of rising prices of imported fuels. In the 1980s, the upswing in oil prices and subsequent global economic crisis resulted in drastic governmental decisions requiring agreements to be made between electrical companies and the Administration. The goal at that time was the replacement of oil, making substantial investments in order to modify the structure of generating capacity, enabling the widespread use of alternative fuels and particularly coal, both domestic and imported. These investments had to be made in an unfavourable environment, with double-digit inflation rates, a very weak internal capital market and the consequent need to borrow in stronger foreign currencies, subjecting companies to exchange rate losses due to successive devaluations. The magnitude of the financial effort, with investments in ongoing work of around 100% of turnover for some companies, was the source of significant economic and financial imbalances in the electricity sector, which shaped its future evolution.

Thus, major administrative and regulatory activities were carried out: The Nuclear Moratorium, established as a political objective, or the modification of the Accounting Plan of the Electricity Sector, allowing the activation of work in progress interests, among others. The entry into force of the *Marco Legal Estable*<sup>1</sup> (MLE), which represented the culmination of this process, aimed to “provide a stable reference framework relating to the income system of electricity companies”. The MLE was the centrepiece of electricity sector regulation between 1988 and 1997. In 1997, the current liberalized industrial model was enacted.

The sector liberalization was a result of Directive 96/92/EC, which sets out common rules for the internal power market. It establishes common regulations for electricity generation, transmission and distribution. It also lays down guidelines concerning the electricity sector in terms of organization and operation, market access, the criteria and procedures applicable to invitations to tender and the granting of authorizations, and exporting networks.

<sup>1</sup> Stable Legal Framework. Royal Decree 1538/1987.

Spain undertook the reform of its electricity sector by enacting the 54/1997 Electricity Sector Law<sup>2</sup>. The law not only followed the predominant liberalizing trends but also addressed the need to incorporate EU regulations, specifically Directive 96/92/EC “concerning common rules for the internal market in electricity”. It involved a radical transformation of the Spanish electricity sector, introducing competition in generation activities and completely changing the previous conceptual framework.

The guidelines of the new regulatory framework can be summarized as follows: *the removal of the principle of state intervention; the unified operation of the national electricity system through a state-owned company (Red Eléctrica de España); freedom of settlement; the development and strengthening of the transmission network subject to state planning; and the legal separation of “regulated activities” (transmission and distribution) and “unregulated activities” (production and marketing)*. In addition, *power plant operations* no longer come under the economic management of the system as a whole, under the theoretical principle of optimization. Instead, these plants are run according to the results of the organized wholesale power market; *production activities earnings are based on market prices*; and *third parties have access to transmission and distribution grids*, considering them natural monopolies. The financial fee for these activities remains administratively controlled; while *power trading* is fully identified as an independent activity in the new Act according to the principles of freedom of contract and clients’ freedom to choose their supplier.

Almost 20 years have gone by since the radical changes introduced by Law 54/1997<sup>3</sup>. But the challenges for the next decade continue to be very similar: *supply assurance; environmental sustainability and competitiveness*. And, as in the past, the modification of the electricity generation fleet to reduce foreign dependence and mitigate the greenhouse effect – by moderating the use of coal – remain cornerstones of the national energy policy<sup>4</sup>.

The main consequence of this liberalization process has been to enable electrical power to be marketed in its own market subject to competitive rules. In addition, mechanisms have emerged to improve competition, transparency and objectivity in price setting, giving consumers greater flexibility in negotiation. In this regard, it is worth highlighting the *wholesale market*, centralized pool or auction system called *Mercado Diario*<sup>5</sup>, where generators present their energy offer on a daily basis and providers purchase it for next-day delivery, and a *retail market*, offering consumers freedom of choice<sup>6</sup>.

<sup>2</sup> <https://www.boe.es/buscar/act.php?id=BOE-A-1997-25340>

<sup>3</sup> Additional legal changes have been implemented. Vela (2015) details all of them and comments on the regulatory changes introduced by the government in the period 2013-2014.

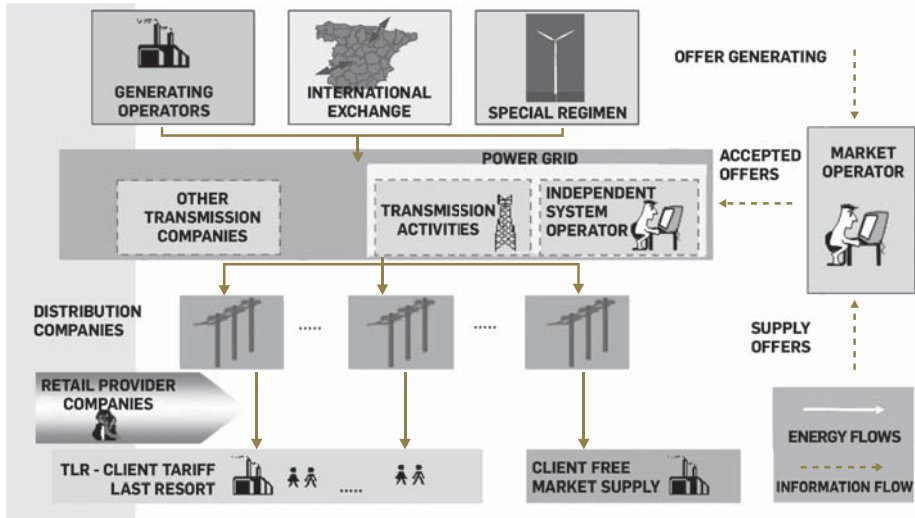
<sup>4</sup> The “Third package of liberalization measures” of the electricity sector and the “Green package of environmental sustainability” are aimed at achieving the 20-20-20 objective (20% reduction in greenhouse gas emissions from 1990 levels; 20% of the supply from renewable energies and energy savings of 20% to be reached by 2020)

<sup>5</sup> Royal Decree 2019/1997, art. 6. In fact, there is a Daily Market; an Intradaily Market and a Complementary Services Market. See Vela (2015), pp. 27-28.

<sup>6</sup> The definition of retail provider is included in art. 3. Since the end of 2000, individual firms have not been permitted to simultaneously generate and distribute energy, although different firms belonging to the same business group can do so.

The current Spanish Electricity System market organization and operation is shown in the following figure:

**Figure 1. Spanish Electricity Sector Structure. Functioning of the Market**

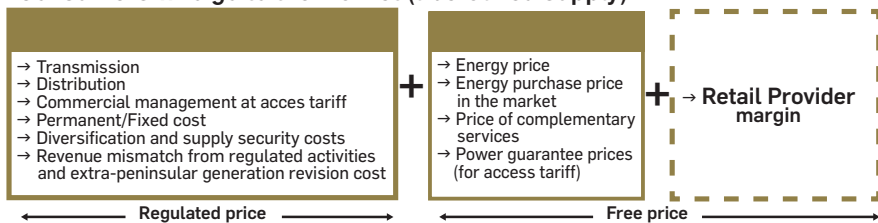


SOURCE: COMISIÓN NACIONAL DEL MERCADO Y DE LA COMPETENCIA (CNMC). WWW.CNMC.ES

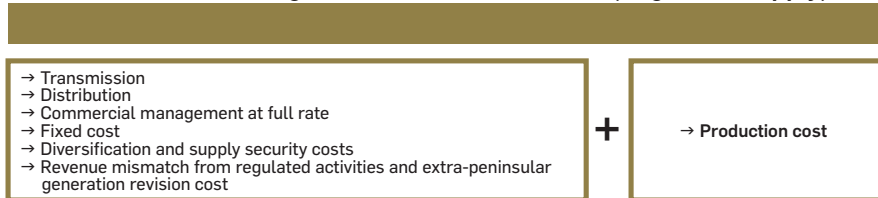
**Figure 2. Cost of electricity service for consumers**

### Impact of the service cost to the consumers: Full Tariff and Access Tariff

**\*Consumers who go to the market (liberalized supply)**

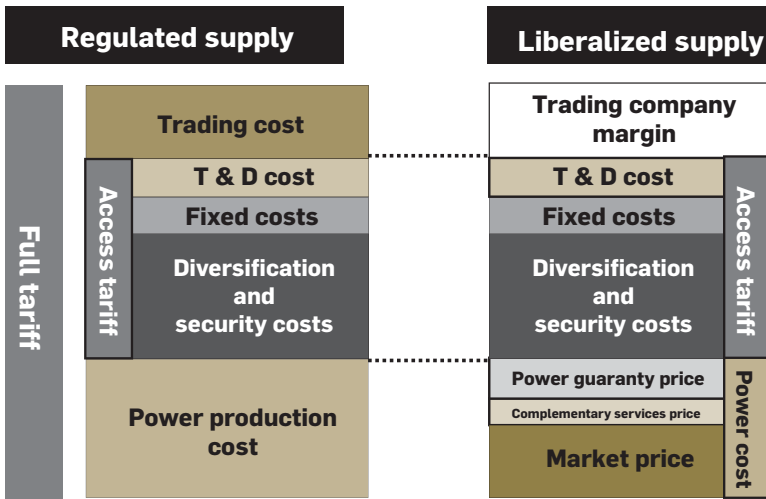


**\*Consumers who don't go to the liberalized market (Regulated supply)**



SOURCE: COMISIÓN NACIONAL DEL MERCADO Y DE LA COMPETENCIA (CNMC). WWW.CNMC.ES

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Prices are set according to costs and demand and supply equilibrium. The prices combine a *regulated part*, established by the Government, and a *free part* based on the price of energy in the daily market and/or the futures market. The costs associated with energy provision are: generating; transport and distribution; permanent costs of the system, financing sector institutions; diversification and supply security; and retailers' marketing spend and profit margin. Figure 2 summarizes the cost of the electricity service for consumers.

Act 24/2013 on the Spanish Electricity Sector establishes economic and financial sustainability as one of the sector's guiding principles, in other words, full cost recovery (Article 13.1). This principle governs the cost level that the power system can support depending on the income level expected each year (referred to as regulatory risk).

Finally, it is worth mentioning that there are two regulatory and supervisory institutions:

- **National Commission of Markets and Competition (CNMC)**, an independent government agency that acts as a clearing house for: premiums received by renewable facilities holders; regular fees of transmission costs, supply distribution at tariff, production system costs, diversification costs, guaranty supply and temporary income imbalances<sup>7</sup>
- **Ministry of Industry, Energy and Tourism**, mainly responsible for establishing annual charges, fees and remuneration for regulated activities; imposing sanctions in the electricity sector and issuing secondary regulations (Ministerial Orders and Resolutions); and developing acts and regulations to be adopted by the Council of Ministers (Royal Decrees).

<sup>7</sup> Receivables that electricity companies have on the balance sheet are assigned to the banks in the form of non-recourse factoring (Igal, 2008). This financial product is a future credit rights/bills transfer in which collections management continues to be delegated to the assignor, without recourse by the bank. That means, in the event of non-payment by the debtor/payer, the bank could not take legal action against the invoice issuer but could act against the debtor or end payer.

### ■ 3. Tariff Deficit

Substantial investments were made in the 80s to upgrade the power generation stock of Spanish electricity firms, which were not passed on to the consumers, thereby giving rise to a debt that would have to be paid over the years through each consumer's electricity bill. Additionally, deficits increased due to the failure of the coexistence of a wholesale generation market and a remuneration system almost completely based on regulated tariffs. The combined effect of these two elements is referred to as the *Tariff Deficit*, which lasted until 2015<sup>8</sup>.

There are two reasons for the differences between revenues from regulated tariffs and actual costs: miscalculations and the political/economic objectives of successive governments, which ultimately set the regulated tariffs. Theoretically, the tariffs are determined by the sum of the costs incurred in providing the service. Since rates are set before certain costs are incurred (they are established before power is consumed), it is necessary to forecast. These forecasts are subject to estimation errors<sup>9</sup>. In Spain, since 2000, the successive tariffs approved by governments (annually until 2007 and quarterly since then) have generated uninterrupted accumulative tariff deficits (Alonso Timón, 2014).

Considering the time frame in which this phenomenon has been observed, it could be concluded that the actual costs have consistently been underestimated in the forecasts. In this regard, it is often argued that the systematic divergence observed between the expected costs and those the regulator considers in determining the rates is due to, among other factors, the political cost of rate increases (especially relevant in an environment of increasing energy commodity prices), their alleged effect on inflation or the impact on the competitiveness of some energy-intensive industries. As a result, governments may have considered the “desired” costs rather than the expected costs when determining rates.

The tariff deficit has not led, however, to lower income or losses for companies that drive electricity-production activities. Indeed, for legal reasons they are paid in accordance with the established costs when they relate to regulated activities (grids), and the issuing price from the wholesale markets in unregulated activities (generation).

<sup>8</sup> The Frankenstein Report (De las Heras, 2016) provides a thorough review of the situation of the Spanish electricity system. It explains why Spain has some of the most expensive electricity bills in Europe, while the electricity system is on the verge of bankruptcy and renewable energy has gone from being a future bet to usual suspect. The book, which also addresses the relationship between the large sector corporations and the Administration, enlightens issues usually outside of public debate despite its significance.

<sup>9</sup> Examples of costs subject to associated forecast and estimation errors include:

The acquisition cost of the energy to supply consumers benefiting from the full rate. Part of the energy needed for these supplies is acquired by cash in the power market. However, rates are set prior to making such acquisitions. Thus, at the time of setting rates, companies have to forecast the spot price on the market at the time of acquisition. Obviously, this forecast is subject to error and may lead to a deficit (if the forecast is lower than the actual cost) or a surplus (if the opposite occurs).

The production volume of the Special Regime (RE, as per its initials in Spanish), which receives premiums. RE premiums cover costs of access rates. These premiums represent an amount equal to a constant premium (€/MWh) multiplied by the energy produced (MWh). Thus, at the time of setting rates it is necessary to forecast the level of production, which depends on the installed capacity (investment of producers) and the availability of primary energy (water, wind, etc. which are clearly volatile variables). Obviously, this forecast is subject to error, which in turn would result in either a deficit or a surplus.

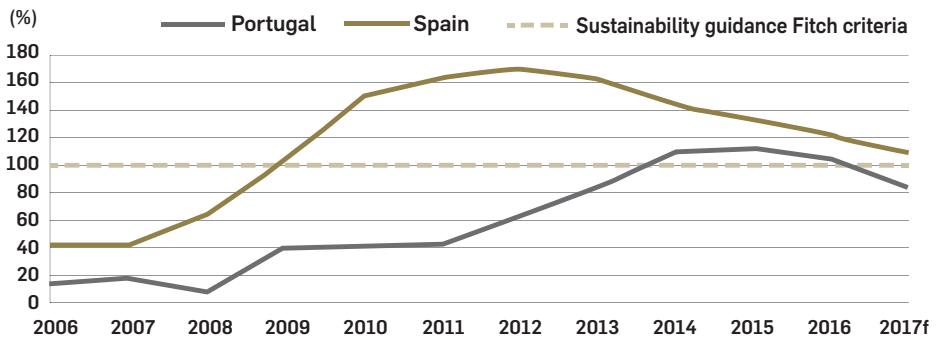


Thus, for these companies, the tariff deficit does not mean a reduction in their income but merely a deferral for an amount equal to that deficit, and, insofar as they need to be financed, an additional financial cost.

From the consumers' point of view, the tariff deficit is nothing but a debt to companies. More specifically, and to the extent that such debt would be amortized over several years, it is a debt to be paid by future consumers but caused by present consumption.

In 2009, the Ministry of Industry tried to solve the Tariff Deficit problem and created FADE<sup>10</sup>, a mechanism for securitizing the rate deficit through state guarantee. It was closed in 2013 (Corominas, 2014). It was then decided that, from 2014, the deficit would be financed by all enterprises that receive regulated revenues from the electricity sector (including photovoltaic, wind and renewable). In 2014, the FTA<sup>11</sup> was created by the Spanish company TdA<sup>12</sup> in order to securitize the tariff deficit.

**Figure 3. Forecast of Spanish and Portuguese Tariff Deficits**



SOURCE: COMISIÓN NACIONAL DEL MERCADO Y DE LA COMPETENCIA (CNMC), ENTIDADE REGULADORA DOS SERVIÇOS ENERGÉTICOS (ERSE), EDP - ENERGIAS DE PORTUGAL, S.A. AND FITCH.

#### 4. Why securitization may be appropriate for Spanish Retail Electricity Providers?

The new retail providers in a liberalized electricity sector would require funding for investments, involving large expenditures, to develop their activities. Given the lack of liquidity and the difficulty of obtaining funds in the financial sector, securitization offers an alternative source of financing. This format is widely used by financial institutions (Caparroso, 2004). What could be offered to new retail providers is the creation of a securitization fund for the future rights to their customers' power supply.

<sup>10</sup> Fondo de Amortización del Déficit Tarifario (Tariff Deficit Amortization Fund).

<sup>11</sup> "Fondo de Titulización del Déficit del Sistema Eléctrico Español" (Spanish Electricity System Deficit Securitization Fund). Last entry 12/5/2016 <http://cnmv.es/Portal/ANCV/ISIN.aspx?nif=V86082716>

<sup>12</sup> TdA. "Titulización de Activos" (Asset-backed Securitization) Last entry 12/5/2016, <https://www.tda-sgft.com/TdaWeb/jsp/home/index.jsp>

Securitization is the mechanism by which certain assets are pooled so that they can be reorganized into interest-bearing securities. The interest and principal payments from the assets are passed through to the purchasers of the securities (Asantey, 2013). This process enhances liquidity in the market (Jobst, 2008).

In any securitization transaction, the following players are involved:

- **Originator or seller.** The owner of the assets and/or rights that are irrevocably assigned to the fund. The owner usually continues to manage said assets/rights. There are three types of originator: financial entities; the public sector; and non-financial entities.
- **Vehicle or Special Purpose Vehicle (SPV).** The buyer of the rights and issuer of the securities. Since it is an independent asset without legal personality, there must be a management company that is responsible.
- **Management company of the securitization fund:** entity that represents, manages and administers the securitization funds.
- **Investors:** The buyers of the securities issued by the fund. Due to the complexity of the securities, buyers are usually institutional or professional investors.
- **Debtor:** Natural or legal person liable for the payment of the bills; in our example the final natural or legal person

The types of debt issued are:

- “**Senior debt**, borrowed money that a company must repay first if it goes out of business. If a company goes bankrupt, senior debtholders are most likely to be repaid”<sup>13</sup>;
- “**Mezzanine debt** occurs when a hybrid debt issue is subordinated to another debt issue from the same issuer. Mezzanine debt has embedded equity instruments attached, often known as *warrants*, which increase the value of the subordinated debt and allow greater flexibility when dealing with bondholders. Mezzanine debt is frequently associated with acquisitions and buyouts, where it may be used to prioritize new owners ahead of existing owners in case of bankruptcy”<sup>14</sup>;
- “**Junior debt**, is a debt that is lower in repayment priority than other debts in the event of the issuer’s default. Junior debt is usually an unsecured form of debt, meaning there is no collateral behind the debt”<sup>15</sup>.

A number of other parties that may be involved in the process include: *investment banks*, which may be involved in the portfolio selection; *stock market supervisory entities*, which authorize operations and try to ensure investor protection (in Spain, this function is performed by the National Stock Market Commission, CNMV); *insurers*, which are legal

<sup>13</sup> Senior Debt Definition | Investopedia <http://www.investopedia.com/terms/s/seniordebt.asp#ixzz4YeEpUgPQ>

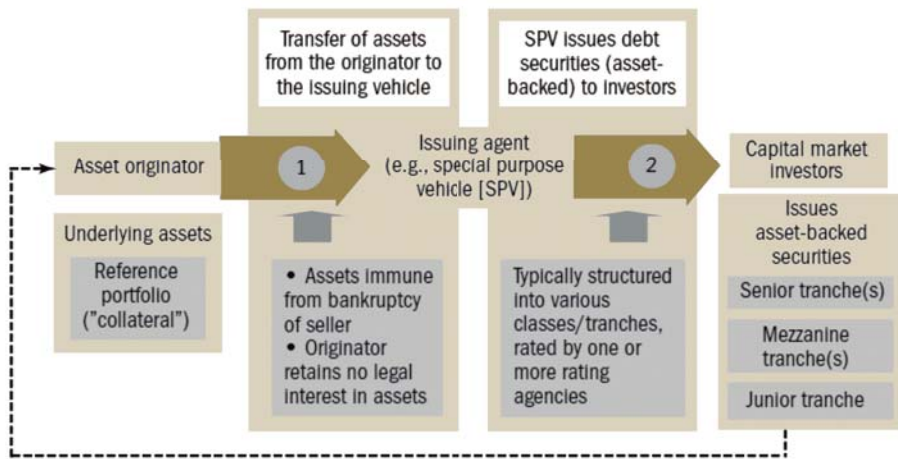
<sup>14</sup> Mezzanine Debt Definition | Investopedia <http://www.investopedia.com/terms/m/mezzaninedebt.asp#ixzz4YeDzUyQt>

<sup>15</sup> Junior Debt Definition | Investopedia <http://www.investopedia.com/terms/j/junior-debt.asp#ixzz4YeFzrXo>

agents that insure the bonds issue; *external auditors*, which conduct an annual audit of the funds; the *paying agent*, ensuring that an independent entity will take care of the financial aspects of issuance, pay bondholders, keep the fund cheque-book and take orders from the manager; the *depository*, which keeps the fund’s underlying assets and manages the securities entries and settlement; and the *rating agencies*, the entities that qualify the operational risk, define the additional warranties, and determine the necessary credit enhancements for the issuance to receive an adequate qualification, as well as the quality of the originator -the retail provider- and the fund manager.

Once it the purpose of the securitization has been established, as well as the assets that are to be transferred to the securitization fund and in what form they will be transferred, physical or synthetic, the fund manager must decide how many sections of bonds they want to issue, as well as the rating each one will receive depending on the quality of the assets. The bond ratings are reviewed periodically in light of the credit quality evolution, any credit incidents, as well as any improvements made to the portfolio. A high bond rating resulting from the securitization will allow access to cheaper financing. Securitization works as follows:

■ **Figure 4. How securitization works**



SOURCE: JOBST (2008)

First, the “asset originator” has to identify the assets that they want to remove from their balance sheet, which are structured in a “Reference portfolio”. This portfolio is then sold to an “issuing agent” through a “vehicle” which is often referred to as a “Special Purpose Vehicle” (SPV). Subsequently, the issuing agent -SPV- finances the purchase of the “Reference portfolio” through the issuance of negotiable securities that are acquired by “investors in the capital market”. Usually, the “Reference portfolio” is divided into several “tranches”, each of which has a different associated risk

level and which are sold separately to different investors. Ordinarily, there are three tranches: “Junior”, “Mezzanine” and “Senior”.

A special case is *Future-Flow Securitization*, when a company issues a debt instrument whose repayment of principal and interest is secured by payments on future-flow receivables. To issue the debt instruments, an SPV<sup>16</sup> or trust is used as a conduit. Such future receivables are expected to be generated in years to come and through the normal course of operations (Japan Credit Rating Agency, Ltd., 2016).

Companies, particularly financial institutions, use securitization to move assets credit risk from their accounting sheets to other organizations such as banks and hedge funds. They may do so for several reasons: one being that securitization is less expensive, and another that the regulator has established specific rules for those types of operations.

Why is securitization of such potential interest for Spanish retail electricity providers? As stated above, it is a financial alternative for firms. It differs from traditional financing since it does not increase liabilities or reduce assets through sale, but instead deals with the future of an existing assignment in exchange for liquidity. It is also a form of off-balance sheet financing. Finally, securitization allows firms to separate themselves from the securitized assets, making it possible for them to obtain a higher rating.

The advantages for non-financial companies, such as the retail electricity providers, compared with traditional financing are:

- Flexibility to adapt to market conditions in terms of instalments and interest rates, helping firms to obtain funding and improve their rating
- Securitization allows firms to become independent from the financial system and its requirements
- Better balance-sheet management by releasing risks and reducing the necessity for firms to use their own resources
- Firms can compare the financing conditions offered by securitization to their current debts and choose the best alternative, restructuring their total debt

## ■ 5. A proposal for future-flow securitization for Spanish retail electricity providers

The commercial liberalization of the Spanish energy sector has triggered the arrival of new retail electricity providers, many of which have to invest large amounts of money.

<sup>16</sup> Special Purpose Vehicle

Those firms have to cope with temporary economic imbalances between the expenditure for current resources and the future income flows. To bridge this gap, we propose the introduction of a *Future Flow Securitization*.

Future-Flow Securitization involves obtaining financial resources through the transformation of future rights into negotiable securities, which are highly valued in the market due to their credit quality. Future rights are the expected income flows due to the exploitation of those rights; they might include, for example, the rights to a toll concession on a motorway, intellectual property assets, future sales of raw materials and, of course, power supply. In this specific case, future rights are supported by income flows coming from the electrical supply contract between the retailer and the final consumer, who assumes the liability for paying the service fees.

The ultimate aim of securitization is to obtain liquidity from an uncertain and long term flow, diversifying the company's sources of financing, balancing the inflow of financial resources and adopting a smooth earnings path. Otherwise, these future rights may cause unstable revenue streams, with high amounts received in some periods and smaller amounts in others, making it difficult to manage the company.

The future rights securitization fund balance sheet includes the rights of expected income (assets) and the bonds issued (liabilities). Regarding the asset, the following elements must be taken into account: the deadline for obtaining the income; the expected growth of activity; how the income flow depends on macroeconomic factors; income seasonality and regulatory risks, and whether future rights depend on administrative decisions that may limit or nullify this right. In the case of liabilities, the factors that should be considered include: whether to issue one or more series of bonds of different types, credit quality and yield; whether the bonds will follow the patterns of future rights that are securitized to make the payments; bond amortization clauses; the way interest is settled; and early liquidation of the fund and bonds due to possible incidents regarding the rights.

An example of this type of securitization and with a similarly small volume to that of the retail providers created following the liberalization of the Spanish power sector, can be found in 2006 with the management company *Ahorro y Titulización*. This company carried out an operation for €17.8mn, denominated “AyT Club de Fútbol I, FTA”. It entailed the securitization of the credit rights corresponding to the annual fee and the option to purchase the industrial property rights granted to Real Racing Club de Santander by a public company owned by the Government of Cantabria (Spain). This public company, CEP Cantabria (Regional Company for the Financial Coordination among Public Companies of the Autonomous Community of Cantabria), was created to advise regional public companies on financial matters.

With this operation, CEP Cantabria helped reinforce Racing de Santander’s financial structure by granting it an exclusive licence over Industrial Property Rights for an 11-year period in exchange for an annual fee, as well as a purchase option for rights upon completion of the license. The issue, which has an A+ credit rating, was designed by AyT and legal firms Garayar & Asociados and Lovells, and fully subscribed by the former Spanish Confederation of Savings Banks (CECA).

The *Future-Flow Securitization* we propose would work as follows:

- There would be a securitization issue of the electricity supply bills, with the originator being either individual retail electricity providers or a union of such companies.
- The fund format would be “open” by the asset side. Annual low-voltage electricity contracts, which have a practically non-existent default rate, would be securitized. This would be very positive for the credit agencies’ rating.
- An additional guarantee would be requested from the Official Credit Institute (ICO) or even from its own distributing company, if it comes from the same business group, to offer a credit enhancement of the issue and thus obtain a higher rating than the securitization originator.
- The fund is “closed” on the liability side. The type offered to investors would be estimated through a survey. This procedure is based on the fact that the issuing agency conducts a simple market survey among potential bondholders, regarding the interest rate that they would be willing to accept in order to assume the risk of the issue. This would indicate an acceptable interest rate and it could thus be determined whether the market accepts such an issuance. In any case, to be profitable the resulting rate would have to be lower than that obtained by the retail electricity provider for the investment of the liquidity obtained by the securitization.

Therefore, the retail providers could implement credit enhancements by setting up a reserve fund to cover their assets, thus achieving better balance-sheet management and maybe even more affordable financing than by turning to the capital market.

## ■ 6.A case study

In this section, we present a case study. The aim is to analyse the different alternatives on offer to a new power retailer requiring financing to invest in renewable energy. The financial item considered is an investment of €20mn.

### a. General premises

The main premises of the case study are as follows: the study has been carried out at constant prices for a five-year period with a start date of 2015; four types of clients

have been considered with power supply less than 10 kW, between 10 and 50 kW, between 51 and 451 kW and more than 451 kW; the annual customer growth forecast is steady growth; a government tax of 30% has been deducted from total income; the estimated gross margin is 0.18%; a discount rate of 0.1% has been used to actualize future money flows; the target is to obtain assignment of credit rights of the power supply contract in the tranche of consumers using less than 50 kW.

## b. Market

Some data should be considered before presenting the proposal:

1. The 2011 Population and Housing Census from the Spanish National Institute of Statistics<sup>17</sup> shows that occupied housing totals around 21.5 mn.
2. The main power retailers in the energy market, Endesa, Iberdrola, Gas Natural-Unión Fenosa<sup>18</sup>, have around 89% of all contracts.
3. The target of this case study would be to reach 75,000 potential clients, which represents 0.3% of the total existing supply points and 3.2% of the total market.

Figure 5. Forecast customer growth

Price						
Client type	Average annual incomes C/year	YEAR 1	YEAR 2	YEAR 2	YEAR 4	YEAR 5
Client < 10 kW	210	210	210	210	210	210
10kW < Client < 50 kW	1,050	1,050	1,050	1,050	1,050	1,050
50 kW < Client < 451 kW	14,000	14,000	14,000	14,000	14,000	14,000
Client > 451 kW	28,000	28,000	28,000	28,000	28,000	28,000
Average annual income	10,815	10,815	10,815	10,815	10,815	10,815

Sales Objective							
Client type	1S	2S	YEAR 1	YEAR 2	YEAR 2	YEAR 4	YEAR 5
Client < 10 kW	8,438	25,313	33,750	37,125	40,838	44,922	49,414
10kW < Client < 50 kW	4,688	14,063	18,750	20,625	22,688	24,957	27,453
50 kW < Client < 451 kW	2,813	8,438	11,250	12,375	13,613	14,974	16,471
Client > 451 kW	2,813	8,438	11,250	12,375	13,613	14,974	16,471
Total clients	18,750	56,250	75,000	82,500	90,750	99,825	109,808

The “Price” table shows the average revenue that would be obtained per customer type and year. The “Sales Objective” table shows clients/contracts expected during the first and second half-year for the company.

## c. Financial proposal

The finance proposals would be a securitization of credit rights of the power supply contract in the below-50 kW tranche of consumers and a syndicated loan, which means that several banks jointly provide finance to a company, sharing the risk and fees. One of the banks is named as the overall finance coordinator and its function is to coordinate financial operations between the customer and the rest of the banks.

<sup>17</sup> [http://www.ine.es/censos2011\\_datos/cen11\\_datos\\_inicio.htm](http://www.ine.es/censos2011_datos/cen11_datos_inicio.htm) read 15th May 2016

<sup>18</sup> EP (2015): “Iberdrola, Endesa y Gas Natural Fenosa concentran el 89% del mercado de luz y gas” Expansión (19th May 2015)

The retail provider's Balance Sheet and Profit-and-Loss Account and five-year forecast is:

**Figure 6. Balance sheet and profit-and-loss account**

<b>BALANCE SHEET(C)</b>						
	ANO 0	ANO 1	ANO 2	ANO 3	ANO 4	ANO 5
<b>ASSETS</b>						
Short term deposits	2,400	2,400	2,400	2,400	2,400	2,400
Cash	3,914,250	3,384,298	3,550,193	3,758,751	4,014,263	4,321,392
Trade receivables debtor		47,602,110	52,362,321	57,600,615	63,359,499	69,693,873
Insolvency provision		-476,021	-523,623	-576,006	-633,595	-696,939
<b>Inventories</b>						
Total current assets	3,916,650	50,512,787	55,391,290	60,785,759	66,742,567	73,320,727
Gross fixed assets	42,800	42,800	42,800	42,800	42,800	42,800
Provisions		8,560	17,120	25,680	34,240	42,800
Total Non current assets	42,800	34,240	25,680	17,120	8,560	0
<b>Total Assets</b>	<b>3,959,450</b>	<b>50,547,027</b>	<b>55,416,970</b>	<b>60,802,879</b>	<b>66,751,127</b>	<b>73,320,727</b>
<b>LIABILITIES</b>						
Trade receivables supplier	0	46,650,068	51,315,075	56,448,602	62,092,309	68,299,996
Total Current Liabilities	0	46,650,068	51,315,075	56,448,602	62,092,309	68,299,996
Total Current and non current Liabilities	0	46,650,068	51,315,075	56,448,602	62,092,309	68,299,996
Share Capital	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000
Result	-40,550	-62,490	204,936	252,381	304,541	361,913
Acumulative result		-40,550	-103,040	101,896	354,277	658,818
Total Equity	3,959,450	3,896,960	4,101,896	4,354,277	4,658,818	5,020,731
<b>Total Liabilities</b>	<b>3,959,450</b>	<b>50,547,027</b>	<b>55,416,970</b>	<b>60,802,879</b>	<b>66,751,127</b>	<b>73,320,727</b>

The “Balance Sheet” shows how the assets and liabilities of a new retail power provider are structured. On the asset side, the most significant items are the customers/debtors. On the liability side, for the first few years, the most important item is the capital, although this is surpassed by suppliers over the following four years.

**Figure 7. Income statements**

<b>INCOME STATEMENTS (C)</b>						
	YEAR 0	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
Revenues	579,159,000		637,074,900	700,807,481	770,873,905	847,942,124
Client < 10 kW	7,796,250	1.35%	7,796,250	1.22%	9,433,620	1.22%
10kW < Client < 50 kW	21,656,250	3.74%	21,656,250	3.40%	23,822,400	3.40%
50 kW < Client < 451 kW	173,250,000	29.91%	173,250,000	27.19%	190,582,000	27.19%
Client > 451 kW	346,500,000	59.83%	346,500,000	54.39%	381,164,000	54.39%
Cost of sales (margin 0,18%)	568,734,138	-	625,289,014	687,842,542	756,612,738	832,255,195
Personal Cost	314,051	-	330,301	330,301	330,301	330,301
Establishment Cost	40,550	-	-	-	-	-
Other operating expenses	9,688,720	-	10,650,153	11,713,563	12,882,657	14,168,578
Insolvency provision	476,021	-	523,623	576,006	633,595	696,939
<b>EBITDA</b>	<b>-40,550</b>	<b>-53,930</b>	<b>281,808</b>	<b>345,068</b>	<b>414,615</b>	<b>491,111</b>
Provision	0	8,560	17,120	25,680	34,240	42,800
<b>EBIT</b>	<b>-40,550</b>	<b>-62,490</b>	<b>273,248</b>	<b>336,508</b>	<b>406,055</b>	<b>482,551</b>
Financial cost	-	-	-	-	-	-
Earning Before Income Taxes	-40,550	62,490	273,248	336,508	406,055	482,551
Taxes	-	-	68,312	84,127	101,514	120,638
<b>RESULT AFTER INCOME TAXES</b>	<b>-40,550</b>	<b>62,490</b>	<b>204,936</b>	<b>252,381</b>	<b>304,541</b>	<b>361,913</b>

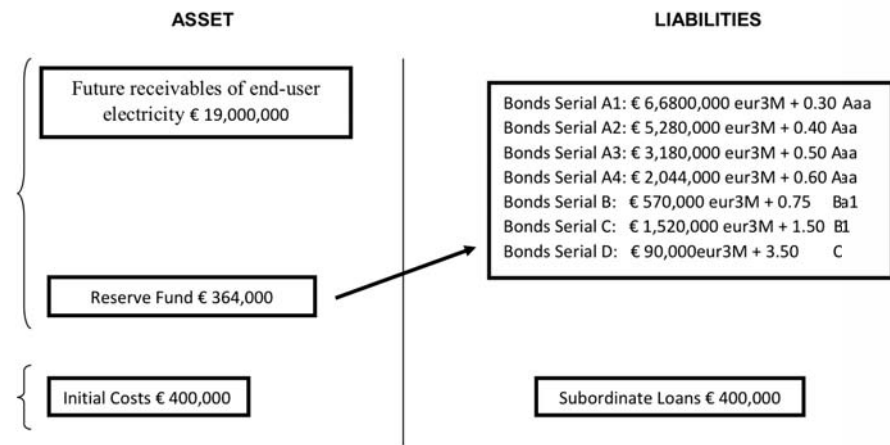
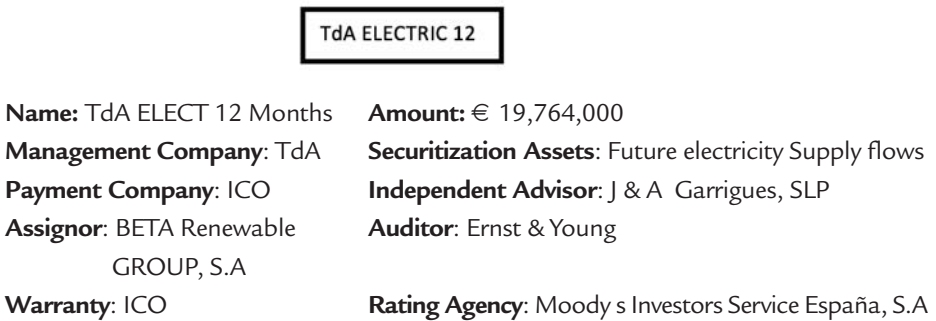


Income Statements show the incomes and expenses that the new power retailer would have in its first live year and the forecast for the following 5 years. According to the model, the company would have positive EBITDA<sup>19</sup> after the second year, so it would appear to be a viable business.

Let us now turn to the possibility of securitizing the credit rights of the power supply contracts in the below-50 kW tranche of consumers.

#### d. Analysis of the proposal

**Figure 8. Analysis of the securitization of credit rights of the power supply contracts. Tranche: consumers using less than 50 kW**



The securitization fund management company is TdA SGFT, SA; ICO could be proposed as the paying agent. ICO has a BBB+ rating (Fitch Rating since May 2015). As in other securitizations, the other actors involved in the process could be J & A Garrigues, SLP as an independent advisory, Ernst & Young, S.L. as the auditor and Moody's Investors Service Spain, SA as the rating agency assessing the bonds issued.

<sup>19</sup> EBITDA: Earnings before interest taxes depreciation and amortization

Having defined what agents are involved in the process, we now examine the assets and liabilities of the fund:

- **Assets:** futures receivables of end-user electricity bills assigned by the retail providers worth €19mn
- **Liabilities:** different bond issues, with different ratings depending on the credit risk assumed

The reserve fund required by the rating agency will consist of the D-series underwriting bonds, which are the worst credit quality.

The establishment of the fund involves some initial expenses (lawyers, advisers, rating agencies, etc.) to be paid out of a subordinated loan that the assignor itself grants to the fund.

### e. Comparison of securitization vs. Syndicated Loan Cost

■ **Figure 9. Comparison of securitization vs. Syndicated Loan Cost**

ISSUE COST OF SECURITIZATION			COST OF SYNDICATE		
Total Issue Bonds (€)	20,000,000		Total Amount (€)	20,000,000	
% Cost by issue	3.20%		% Cost by issue	2.50%	
	€	% cost		€	% cost
Fee Management	70,000	4.0%	Fee Global Coordinator	550,000	40%
Notary	31,380	1.8%	Fee Book Runner	412,500	30%
Rating Agencies Fee	546,360	31.1%	Structured Fee	137,500	10%
Brochures and registration of admission to trading of bonds	48,033	2.7%	Notary	275,000	20%
Iberclear	53,940	3.1%			
Underwriting and commissions	934,125	53.1%			
Others Fee	74,410	4.2%			
	<b>1,758,248</b>			<b>1,375,000</b>	

Figure 9 shows the cost details for the different financial alternatives, which reveal that a syndicated loan costs less than issuing a securitization.

### f. Evaluation

This case study analyses the different alternatives on offer to a new power provider seeking financing in the market to invest in renewable energy.

If the company is focused only on financial cost, it would be more profitable to access the capital market through a syndicated bank loan than by issuing a securitization. The securitization would only make sense for high-level investments, so it might be worth several power providers joining together to make the issuance.

If the company aims to transfer the risk of the payment debtors to the market, securitization provides an alternative to factoring.

## ■ 7. Conclusions

Asset securitization as a financing alternative for companies differs from traditional financing since it does not entail an increase in liability or a reduction in assets through sales, but instead deals with the future of existing rights assignment in exchange for liquidity. It is a form of off-balance sheet financing. Securitization allows a company to separate itself from the assets to be securitized, thus making it possible for that asset to achieve a higher rating than the company itself.


The advantages of securitization for non-financial institutions compared to traditional financing include the flexibility to adapt to market conditions in terms of time and interest rate, helping firms to obtain funding and improve their rating; independence from the financial system and its conditions; better balance-sheet management by releasing risks and reducing the need for a company to use its own resources or debt restructuring.

The commercial liberalization of the Spanish energy sector in 2009 prompted the emergence of new retail electricity providers. Those companies face a temporary disconnect between the current expenditure and the future income flows. To bridge this gap, in this article we propose a *Future-Flow Securitization*.







This *Future-Flow Securitization* will work as follows: there would be a securitization issue of the electricity supply bills, with the originator being either the individual retail electricity provider or a union of such companies; the fund format would be “open” on the asset side and “closed” on the liability side. Additionally, it should be borne in mind that a certain level of issuances will be required due to the high fixed costs associated with this process.









In short, the main aim of the article has been to propose a financing option available to new participants in the Spanish electricity market, considering the possibilities of developing a securitization alternative for small issuances.

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