

Status Quo

- A third of European grids are over 40 years old*.
- A rapid physical overhaul is impossible, so the addition of a layer of digital technologies is the key to preparing them for the distributed and intermittent generation from renewable sources
- The European Commission expects about €584bn of investment in Europe's electricity grid between 2020 and 2030, out of which a sizeable €170bn will go to digitalisation*.
- The European Commission's goal of reducing GHG emissions by 55% and reaching a share of 45% renewables in 2030 foresees a quick growth of renewables, in order to meet the climate targets and to reduce dependency on fossil fuels*.
- Furthermore, over 10 million heat pumps will have to be added over the next 5 years and electric vehicles will have to replace 30 million of internal combustion cars by 2030.
- All of these require an energy infrastructure that is ready and future-proof
- With app. € 70 trillion in assets under management, institutional investors have an major role to play.

^{*} Distribution Grid Digitalisation – benefits, policy, cost & funding December 14, 2022 by Gridspertise, https://energypost.eu/e170bn-will-be-spent-on-the-digitalisation-of-europes-grids-by-2030/

Silos of finance

- Specialist funds AUM 5 to 7 Bio.
 - Understand the Energy transition assets
 - Buy and hold strategy
- Banks Have specialised departments for energy transition with comparatively small asset allocation i.e. BNP 100 Mio
 - Not always familiar with the technology
 - · Project finance is not core to bankers thinking as it focuses on future cash flows whilst banks think in collateral
- **Pension funds** Due to regulation are limited to invest into certain asset classes
 - "sustainability" focused asset resulting from on energy transition need to be pooled into listed and rated bonds of high liquidity to become eligible
- Insurance Companies
 - Could invest into private equity which could back energy transition assets, but need to set aside large capital reserves to support Private equity
- Sharia Compliant Finance Not very much developed in Europe
 - Ideally placed for the energy transition as the base of reward is a sharing of profits between investors & promoters. At the core its values and structures are closely aligned with Sustainable Development Goals
- EU funded entities
 - High ticket size and A rating e.g. EIB needs between 30 Mio.to 50 Mio. Euro tickets and EEEF needs min single A rating and above of 10 Mio. Tickets
 - Need for a strategic shift: higher risk appetite
- Crowd funding Latest EU regulation allows for up to 5 Mio. offerings
 - The crowd likes to fund local projects and this engages the "retail clients"
 - However lacks tax incentives to further engage especially for equity offering (UK has good mechanics in place)
- What the energy transition needs are bankers like S.G. Warburg the inventor of the "Euromarket" or J.P. Morgan who lead the "railway consolidation" or Michael Milken the "junk bond king" financing the merger boom of the 1980's in the US

Institutional Investor Logic & needs

- a minimum Bond or Note issue of € 100 Mio (private debt placements of € 25 to 50)
- a minimum ticket they would be able to subscribe to of € 5 Mio.
- preferably an A credit rating (country) min BBB
- a green bond certification/ Environmental, Social and Governance compliance
- a listing
- preferably a tenore of 5 to 10 years.

Only by co-mingle assets generated by various implementers to a standardised quality and standardised legal contractual framework will we be able to reach the objective.

Standardize, warehouse & securitize

The successful market growth in the auto industry via Securitization

- In 1919 General Motors Acceptance Corp. (GMAC) started giving car loans of US\$20,000-50,000 in todays money with a tenure of 3 to 5 years
- At a certain scale, GMAC securitized the loans into bonds and placed them with end investors
- The similarities to the local energy optimisations & energy saving market are striking
- The key to its success was "standardisation of contracts" generating a "conveyor belt processing of car loans" in our case underlying PPAs & ESCO agreements & enforcement mechanics
- In Q4 of 2017 there have been US\$1.2 trillion of car loan backed securities in the US alone
- The car loan market is estimated to be \$173.2bn in 2023 familiar amounts in energy transition
- Re-payments for local energy optimisations projects are more certain and secure, and defaults are low because cash flows are derived from utility type payments (PPAs)

Standardization as a key requirement

- Finance is the key to the rollout to scale of sustainable energy assets within the EU's B2C and B2B market (i.e. building sector, industry sector)
- For scaling, standardization of contractual arrangements and transferability of receivables is key.
- Standardized contracts, are the base for the aggregation of Sustainable Energy Assets as tradable securities via securitization:
 - under leadership of <u>EnerSave Capital</u> in <u>LAUNCH H2020</u> project this was successfully tackled and we secured a Big 5 sign-off as to IFRS 16 off-balance sheet compliance.
 - this standardised contract was transposed into 11 legal systems and languages and adapted to V2G technology under the <u>V2M</u> <u>H2020</u> project.
- This could be the key to:
 - accelerates deal closure and market growth within the energy optimisation arena
 - grants the aggregator the opportunity to accelerate pipeline growth,
 - deleveraging of their balance sheet, improving liquidity, and
 - reallocation of credit risks to the bond buyers

What is a Standardised contract?

- The contract terms are balanced and defined, and cannot be changed, similar to a car leasing contract
- The contract is split into a "static body" and "flexible technical schedules" providing a standard mechanic with flexibility for practitioners to describe their services
- The technical solution results in a "monetary output", which is the key driver in the final schedule of "payments and remedies"
- The non variable, standardised terms that cannot be altered by the practitioner means that the contracts can be placed in a securitisation compartment

What is an "Servitization" contract?

- Typically aggregators/technology providers sell a technology e.g. bidirectional charger, batteries, or PVs.
- In the servitization context aggregators/technology providers sell the output of charger or batteries e.g energy expressed in kWh
- The aggregators/technology provider has the responsibility of maintaining the equipment to ensure it delivers properly
- If there is a non-performance on the part of the aggregators/technology provider the client has the right to withhold payment
- Should the client not pay, aggregator/technology provider has the right to stop the supply of the services

Servitization in the V2G context

- V2Market is a H2020 project focused on the Spanish market
- Consortium partners:













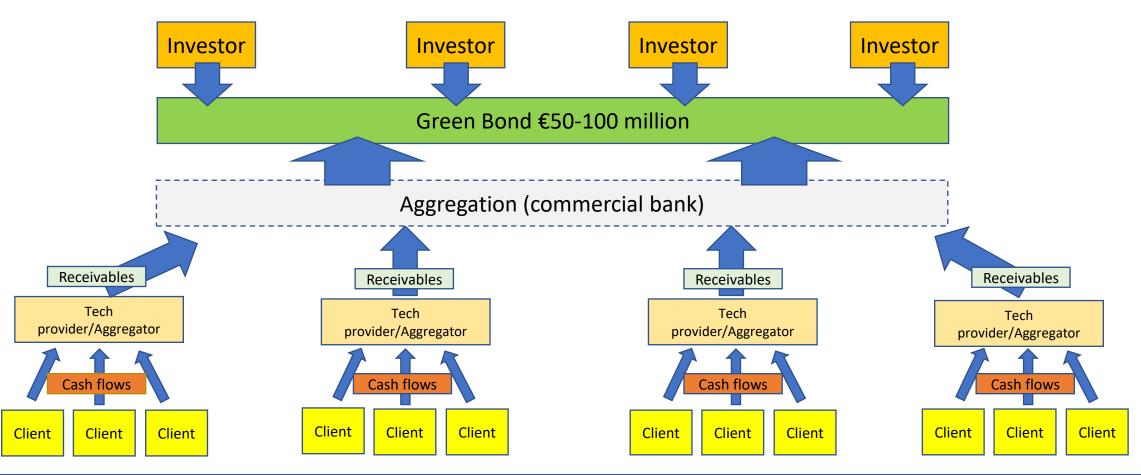






- V2Market is an innovative service to incorporate EV batteries into the electricity system as storage and flexibility capacity using Vehicle-to-Grid (V2G) and Vehicle-to-Building (V2B) technology.
- Goals:
 - Incorporate Electric Vehicles (EV2) in the electricity system as storage and flexibility capacity.
 - Offer new revenue streams for Energy Efficiency (EE) and flexibility services to EV owners via innovative business models e.g.Servitization
 - Enable the large deployment of EVs in a way that facilitates grid management and system efficiency.
 - Standardised contract between end client and aggregator/technology provider is adapted to V2G technology under the V2M H2020 project and it is transposed into Spanish law.

How does securitization work? Aggregation of projects





Thank you for listening!

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