



Newsletter

Power & Utilities in Europe

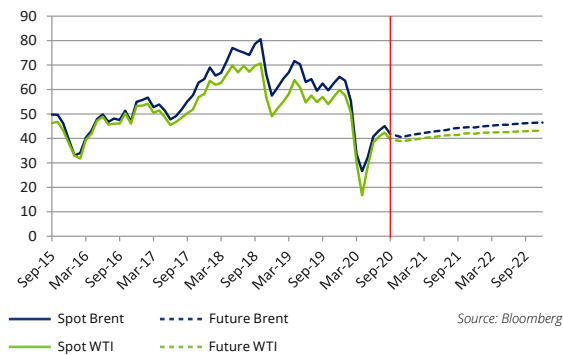
November 2020

Newsletter Power & Utilities in Europe

Commodities



Crude oil (\$/bbl)



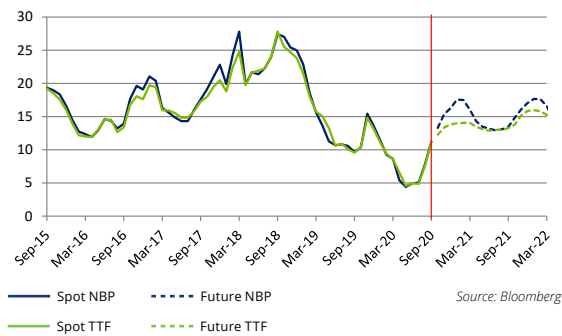
The third quarter of 2020 saw the price of crude oil rise above that recorded in Q2, with the WTI and Brent benchmarks reaching six-month highs of US\$42.39 and US\$45.02 respectively on average in August, before falling marginally in September 2020. Nevertheless, oil prices remain well below the average recorded over the past four years, despite an uptick in demand and sharp output cuts amid the ongoing COVID-19 pandemic.

In terms of demand, rebounding business activity amid easing lockdown restrictions – and travel restrictions in particular – led to greater oil consumption in the third quarter when compared to the start of the global pandemic. The recovery in demand was particularly strong in China. Nonetheless, demand for petrol in the United States remained flat despite the holiday season in the run up to Labor Day, driving down optimism among oil traders about a swift recovery.

On the supply side, whilst Hurricane Laura led to output drops in the United States, the gradual unwinding of the record supply cuts seen in May 2020 by Opec and Russia led to an overall increase in supply of crude. OECD industry oil stocks rose to an all-time high of 3.225 billion barrels in July before contracting sharply in key markets such as the United States, Japan and Europe in August.



Gas (€/MWh)

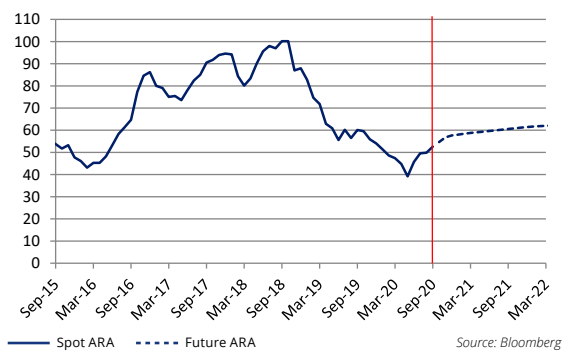


The transition towards cooler autumn weather alongside weak wind output – leading to higher demand for natural gas at gas-fired power stations in the UK – contributed to a rise in the NBP and TTF benchmarks in Q3. The price of UK NBP rose from its lowest levels recorded in over 20 years in June to €11.22/MWh in September, the highest since January 2020. The Dutch equivalent, TTF, continued to fall on average in July before rising to €11.16/MWh by September. Nonetheless, both natural gas benchmarks remained well below the long-term average when taking into account price seasonality.

Increased industrial activity amid easing restrictions in Europe alongside stronger heating demand associated with the winter months supported rising natural gas prices during the third quarter. Furthermore, the reduced supply of LNG from Asia and the United States as a result of order cancellations, alongside reduced flows from pipelines such as Nordstream and Yamal-Europe, also contributed to the rise in price of natural gas in Europe. In terms of stockpiles, gas storage at the end of the quarter amounted around 94 per cent of capacity according to GIE data, matching levels seen at the same time last year.



Coal (\$/metric ton)

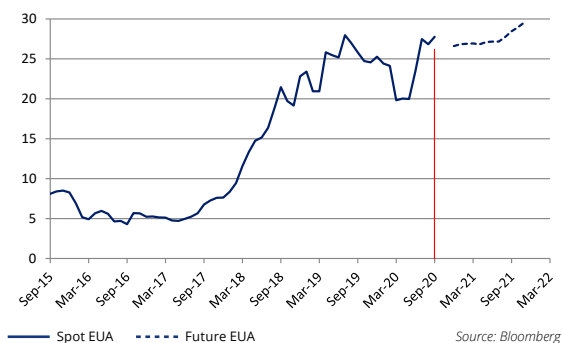


The onset of winter in the northern hemisphere, alongside stronger-than-expected demand for coal amid higher natural gas prices and weak wind output, supported European coal prices to rise to an eight-month high in September 2020. The Amsterdam-Rotterdam-Antwerp (ARA) index rose from an average of \$49.60 per metric tonne in July to \$52.60 in September. Nonetheless, when taking into account seasonality, the third quarter of 2020 remained weak in a historical context.

The third quarter of 2020 saw the demand for coal rise. On one hand, this was partly linked to rising power generation as industrial activity recovered amid easing pandemic restrictions. On the other hand, coal-to-gas switching by European power generators showed signs of reversal owing to more competitive coal-fired economics during the quarter. Meanwhile, the supply of coal from the Atlantic basin tightened as exports from Colombia fell as a result of mines remaining offline following closures in Q2 and worker strikes. This provided upward pressure to the price of European coal.



Carbon (€/ton)

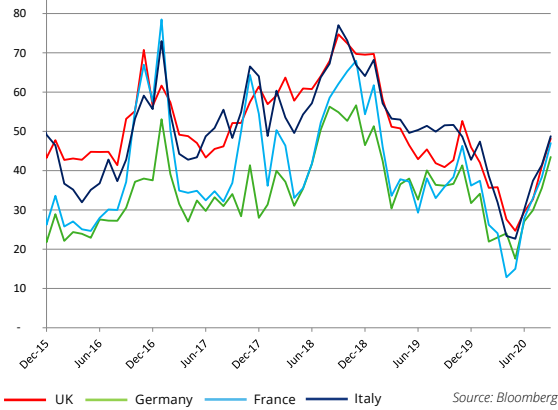


Carbon prices rallied in the third quarter of 2020, with the price of spot EUA reaching a 14-month high of €27.77 per ton on average in September 2020. Moreover, Q3 saw the strongest average price of EU Allowances since the financial crisis.

There were a number of factors behind the rise. The predominant form of carbon abatement – coal-to-gas switching in power generation – showed signs of reversal in Q3, providing upward price pressure as European energy firms looked to purchase the additional carbon credits required when burning CO₂-intensive coal. Furthermore, there remained an expectation of tighter supply in the upcoming fourth credit trading phase set to begin in January 2021, particularly given the possible addition of new sectors such as shipping and stronger European 2030 emission targets. Nonetheless, the demand for EU Allowances dampened the EU ETS pricing fundamentals in the third quarter, as European industrial output and air travel remained weak as a result of the pandemic.



Baseload Spot Day Ahead (€/MWh)



Baseload prices rose across continental Europe in the third quarter, with prices in all four countries in the panel reaching year-to-date highs. Rising carbon prices observed across the quarter, coupled with the recovery of fuel prices led to the strong upward trend observed.

Fuel price-driven trends were coupled with soaring demand for power for cooling across August and September as weather warnings were issued around Central and Western Europe, with resurging hot temperatures prevailing across the summer months.

There may also be a speculative element in the trend of spot power prices across EU countries, with leaders undecided over the decision as to which fuels will be supported in energy policy after lawmakers called for an allocation of funds towards some fossil projects in July.



Spotlight on Power and Utilities market

Capital market overview

	Deloitte Index ⁽¹⁾	Enel	Iberdrola	ENGIE	EDF	EON	RWE	Naturgy	Centrica
--	-------------------------------	------	-----------	-------	-----	-----	-----	---------	----------

Market cap. ratios

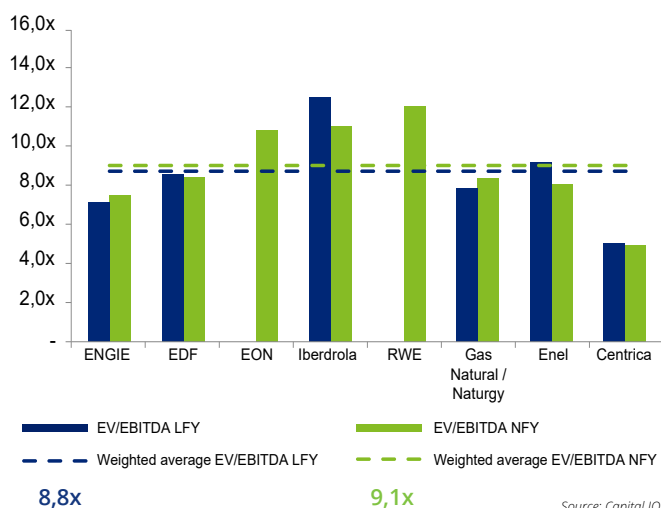
Currency		EUR	EUR	EUR	EUR	EUR	EUR	EUR	GBP
Market Cap (Sept. 20) ⁽²⁾		76 088	65 696	28 169	26 396	25 558	21 323	16 093	2 531
3m stock price performance	-5%	-7%	-3%	-2%	+2%	-8%	-1%	-0%	-4%
YoY stock price performance	+0%	+8%	+10%	-26%	-17%	+4%	+11%	-30%	-47%

Market multiples

EV/EBITDA 2019	9,1x	9,2x	12,6x	7,2x	8,6x	n/m	n/m	7,9x	5,0x
EV/EBITDA 2020	9,3x	8,1x	11,1x	7,5x	8,4x	10,9	12,0x	8,4x	4,9x
P/E 2019	12,1x	n/m	19,3x	28,6x	5,1x	16,3	2,5x	11,5x	n/m
P/E 2020	15,8x	14,9x	18,5x	15,5x	17,3x	16,1	20,9x	14,8x	9,0x
Price/book value 2019	1,7x	2,6x	1,8x	0,9x	0,6x	n/m	1,3x	1,6x	2,7x

Profitability ratios

ROE forward 12m	11%	17%	9%	18%	3%	6%	6%	11%	18%
ROCE forward 12m	6%	9%	6%	6%	3%	5%	4%	7%	8%
EBITDA margin 2019	19%	20%	26%	8%	21%	16%	-12%	19%	7%
EBITDA margin 2020	22%	23%	28%	11%	22%	17%	19%	19%	6%
EBIT margin 2019	11%	14%	16%	3%	9%	8%	-17%	13%	1%
EBIT margin 2020	13%	14%	17%	6%	7%	9%	9%	11%	2%



- (1) Deloitte Index is composed of Engie, EDF, EON, Iberdrola, RWE, Gas Natural, Enel, SSE and Centrica
(2) One-month average weighted by volume

Key messages from brokers and analysts

"Hydrogen's hype is real this time: deep decarbonisation can't happen without it, national strategies are being lined up and industry is gearing up with bigger and more ambitious projects. But there are challenges, with a decade-plus of subsidies needed and a host of other obstacles."

(Exane BNP Paribas – October 8, 2020)

"Carbon capture is a necessity if UK is to achieve Net Zero by 2050"

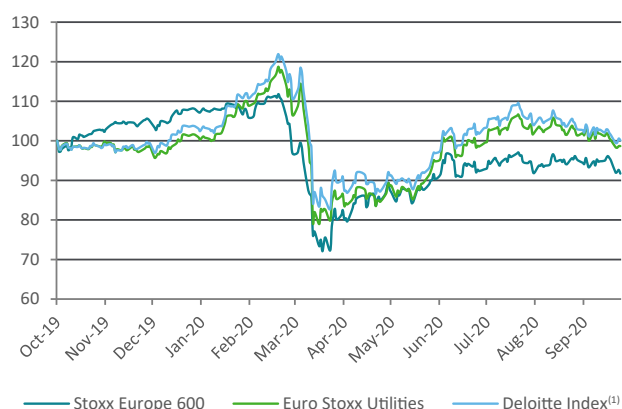
(Credit Suisse – September 30, 2020)

"New Renewable target is positive for developers, while higher carbon price should drive power prices upside"

(Morgan Stanley – September 22, 2020)

"Rising share of renewables risks putting pressure on power prices. Using LCOE for renewables on our merit order analysis, we see power prices falling €/MWh between 2020 and 2030"

(JP Morgan Stanley – September 15, 2020)



M&A Trends

Transactions involving power and utilities companies

Equinor, Norwegian oil and wind company, sold a **50% stake in two wind offshore developments**, the Empire Wind project (Long Island, US) with a 2GW capacity and the Beacon Wind project (Massachusetts) with a **2.4GW** capacity, to the **BP** for **\$1.1 billion**. Pending customary regulatory approval. (See MarketLine – September 11 2020)

Total acquired the Spain based **Energia de Portugal Commercializadora**, Portuguese electricity and gas distribution company, for an amount of **€515 million** including 2.5 million B2C customers and two gas-fired combined cycle power plants with a total capacity of **850 MW**. Pending regulatory approval. (See Key Energy News – September 1, 2020)

China Three Gorges Europe, a subsidiary of the Chinese builder and manager of hydraulic plants **China Three Gorges**, has acquired a portfolio of solar photovoltaic power projects with a combine capacity of **over 500MW** in Spain from the Spanish solar power project developer **X-Elío** for **€500 million**. (See Awareness Times Newspaper – August 20, 2020)

Energie de Portugal Renovavais, Portuguese renewable energy company, sold an operating onshore wind portfolio with **242MW** of installed capacity on Spain to **Finerge Group**, one of the Portugal largest renewable energy producer, for **€426 million**. Pending regulatory approval. (See Platts European Power Daily – August 12, 2020)

RWE Renewable has acquired from the **Nordex Group**, a German wind power generation company, a **2.7GW** development pipeline of onshore wind and solar projects in Europe for about **€400 million**. Pending regulatory approval. (See MarketLine – August 3, 2020)

Aker Carbon Capture ASA, a Norwegian carbon capture technology company, has signed a **\$187 million** framework deal with **Norcem HeidelbergCement**, Norwegian cement producer, for the **delivery of a CO2 capture plant in southern Norway**. (See Dow Jones & Company – September 21, 2020)

Doosan Heavy Industry & Construction Co., Korean power plant builder, and its German affiliate **Doosan Lentjes** has signed with **Dobra Energia**, Polish energy company, a **\$185.6 million** deal to build a power plant using waste in Poland which will provide **12MW** worth of electricity and heat. (See Yonhap English News – August 11, 2020)

Urbasolar, French solar power generator company, has completed its project financing of **€124 million** for the construction and development of 37 new solar power projects with a combined installed capacity of **143 MW** situated in France. (See Financial Deals Tracker – July 29, 2020)

Veolia has agreed to take over for an undisclosed amount **100% share of Prazska Teplarenska**, Czech specialized company in urban heating network, and **95,62% share of Budapesti Erőmű Zrt**, Hungarian gas heating company which supplies 56% of the heat consumption in Budapest, both subsidiaries of **Energetický a Průmyslový Holding**, Czech energy conglomerate. Pending regulatory approval. (See SeeNews – September 8, 2020)

Transaction involving equity funds

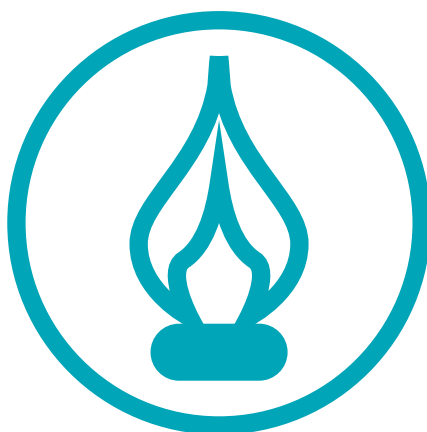
Energias de Portugal, Portugal's largest utility, has agreed to **acquire 75.1% stake in Viesgo**, Madrid-based electricity company, from **funds managed by Macquarie Infrastructure and Real Assets**, in a deal worth **€2bn** including debt. Pending regulatory approval. (See Financial Deals Tracker – July 18, 2020)

Connor, Clark & Lunn Infrastructure, Canadian investment fund, has agreed to buy 80% equity stake in a **563MW** US wind and solar portfolio from **Energia de Portugal Renovaveis**, Portuguese renewable energy company, for **\$676 million**. (See SA News Editor – September 3, 2020)

Greencoat UK Wind, a British investment company specialized in UK wind farms, acquired a 25.1% stake, in the Walney offshore wind farm (92 MW capacity), from **Scottish and Southern Energy** for **£350 million**. (See Power-technology.com – September 2, 2020)

Fortum Oyj, Finland energy producer, sold its district heating business in the Järvenpää Tuusula area for a total of **€375 million** to a consortium composed of **Vantaan Energia**, Finland energy producer and supplier, **Infranode**, Swedish investment company, and **Keva Investment**, Finland public pension fund. (See SNL Power Daily – August, 20 2020)

Carlyle Group, US assets management company, through its affiliate **Acadia Renewable Energy LLC**, acquired a portfolio of solar development projects expected to generate **100MW** in the state of Maine (US) from **BNRG Renewable**, Irish solar energy developer, for **\$130 million**. (See M-Brain – August 25, 2020)



European Power and Utilities companies wrap-up

European utilities are facing a significant drop in energy demand compared to previous years with moderate recovery signal compared to first quarter 2020. This is a combination of unprecedented adverse conditions with Covid-19 disease and warmer than usual temperature.

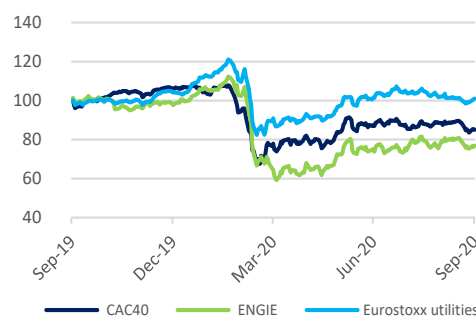
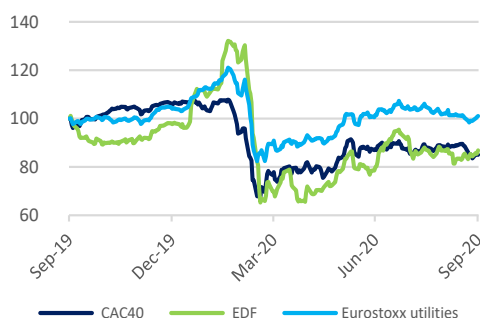
Production also dropped especially nuclear production in France due to extended outages, which may represent a threat to network balance during winter period. Compared to last quarter power prices are in a backdrop improvement, particularly for gas.

In the context of Covid-19 disease most of major European Power Utilities released updated guidance for FY20.





Share Price Perf. Sept. 2019 Sept. 2020



Key Reported Financials

In billion of €	HY20	HY19 *	Var.
Sales	34.7	36.5	-5%
EBITDA	8.2	8.4	-2%
Operating Income	1.6	3.7	-56%
Recurring net income Gr	1.3	1.4	-10%
Net Income Gr Share	-0.7	2.5	n.m
Operating CF	0.6	2.5	n.m
Net Capex***	-5.9	-5.7	+3%
Net debt***	-42.0	-41.1**	+2%

* The data published for the 2019 fiscal year (except NFD) have been restated for the impact of the change in the scope of the ongoing E&P disposal.

** As of Dec. 31, 2019.

*** Excluding 2019-2020 disposals, Hinkley Point C and Linky.

In billion of €	HY20	HY19	Var.
Sales	27.4	30.2	-9%
EBITDA	4.5	5.3	-15%
Operating Income	2.2	3.1	-29%
Recurring net income Gr	0.7	1.5	-53%
Net Income Gr Share	0.0	2.1	n.m
Operating CF	3.0	2.7	+11%
Net Capex**	-3.0	-5.5	+45%
Net debt	-25.1	-25.9*	-3%

* as of Dec. 31, 2019.

** Net of income from disposals under the DBSO (Develop, Build, Share & Operate) scheme and the tax equity scheme.

HY20 Highlights

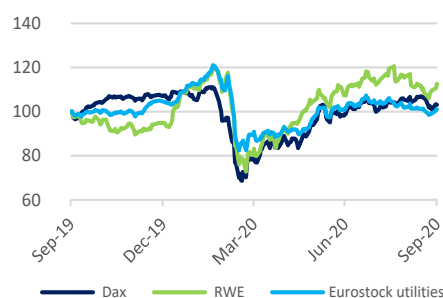
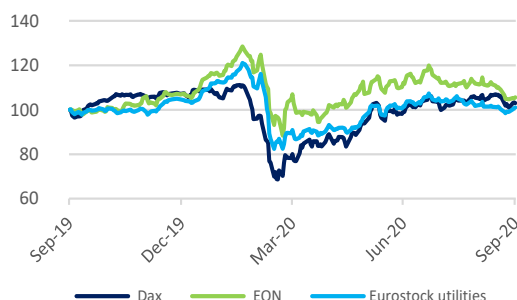
- **Sales amount to €34.7bn, -5% vs HY20 due to :**
 - a decrease of nuclear output both (i) in France for 29.7 TWh and (ii) in UK for 1.8TWh related to the outages of Hunterston B and Dungeness B;
 - slightly balanced by an increase in hydropower in France (+5.9TWh).
- **Ebitda amounts to €8.2bn, -2% vs HY19, due to:**
 - The Covid crisis impact (estimated €1bn at end of June 2020);
 - Partly offset by positive impacts of better price conditions in UK and France as well as better hydrological conditions.
- **Impairment** have been recorded for **€738m** (€45m in HY 2019) notably related to nuclear generation in UK.
- **The net income totals €-0.7bn, compared to €2.5 in HY19**, notably due to a degradation of the financial result: €-2.3bn HY20 vs €0.1bn HY19. This results mainly due to the negative change in fair value of the dedicated assets portfolio (€2.6bn) in a context of deteriorated financial market.
- **Operating cash flow amounts to €0.6bn, compared to €2.5bn in HY19**, mainly due to the deterioration in working capital requirements.
- **Planning** application for a **Development Consent Order** for the **Sizewell C** project in the United Kingdom.
- Issue **green bonds convertible** into new shares for **€2.4bn**.
- Issue of **€2.1bn hybrid bonds**
- **Sales amount to €27.4bn, -9% vs HY19 due to:**
 - (i) A negative foreign exchange effect, mainly due to the depreciation of Brazilian real and Argentine peso, (ii) a negative scope effect due to Supply BtoC activities in UK in 2020 and Glow disposal in March 2019 and (iii) the COVID-19 impact on Solution Clients and Supply activities.
 - These impacts were partly offset by (i) the appreciation of the US dollar and (ii) the acquisitions in Client Solution in France and US,
- **EBITDA reaches €4.5bn -15% vs HY19, due to:**
 - A decrease of mark-to-market on commodity contracts other than trading instruments (-€0.7bn)
 - A decrease of Current Operating Income (-€0.3bn)
- **The Covid crisis impact on operating income is estimated at -€0.85bn.**
- **The net income Group Share amounts to €0.0bn, compared to €2.1bn in HY19 due to:**
 - (i) decrease of income from disposals and (ii) negative impact of mark-to-market of nuclear provision funds and financial derivatives;
 - Partly offset by positive effect of mark-to-market of raw material vs HY19.
- **Net Capex amounts to €3bn, down €2.5bn vs HY19** due to a decrease of acquisitions of investments in equity method entities and joint operations (-€1.1bn) and acquisitions of equity and debts instruments (-€0.8bn).
- **Engie has sold its investment in Suez (29.9%) for €3.4bn to Veolia.**

FY 2020 Outlook

- **FY 2020 guidance updated:**
 - EBITDA between €15.2 – 15.7bn vs €17.5 – 18.0bn announced in February.
- **FY 2020 guidance updated:**
 - EBITDA: between €9.0bn to €9.2bn vs €10.5bn to €10.9bn previously
 - Recurring net income Gr: between €1.7bn and €1.9bn vs €2.7bn and €2.9bn previously
 - Net investment: €7.5bn to €8.0bn



Share
Price Perf.
Sept. 2019
Sept. 2020



Key Reported
Financials

In billion of €	HY20	HY19	Var.
Sales	30.5	16.1	+89%
EBITDA	3.2	2.3	+39%
Operating Income	1.6	1.0	+60%
Recurring net income Gr	0.9	0.9	-
Net Income Gr Share	0.4	0.4	-
Operating CF	1.3	0.5	n.m
Net Capex	-1.4	-1.3	+8%
Net debt	-43.1	-38.9*	+11%

* as of Dec. 31, 2019.

In billion of €	HY20	HY19*	Var.
Sales	6.5	6.4	+2%
EBITDA	2.3	0.5	+360%
Operating Income	1.6	0	n.m
Recurring net income Gr	0.8	0	n.m
Net Income Gr Share	1.0	0.8	+25%
Operating CF	1.2	-1.1	n.m
Net Capex	-1.0	-0.5	+100%
Net debt *	-7.8	-6.9**	+13%

* Prior year figures restated, following the IFRS IC agenda decision on the consolidated financial statement of RWE.

** as of Dec. 31, 2019.

HY20
Highlights

- Sales amount to €30.5bn, +89% vs HY19 due to:
 - Innogy acquisition with impacts on Energy Network especially in Germany (+€3.9bn), Customer Solutions in Germany (+€7.1bn), in the UK (+€3.6bn) and Netherlands/Belgium (+€1.5bn);
 - The increasing of sales in Non-Core Business because PreussenElektra benefited from higher sales prices as well as increased sales volume at Brokdorf nuclear power station;
 - Partly offset by the decline in sales resulting from the transfer of stakes in power stations to RWE in September 2019.
- First-half operating income increases by €0.6bn primarily due to:
 - The inclusion of Innogy businesses: (i) on the Energy Network (+€0.6bn), (ii) on Customer Solutions (+€0.2bn) thanks to cost saving in the UK and a better gross margin in Romania;
 - Partly offset by (i) a decline of sales due to weather factors and COVID-19 in the UK and Germany, (ii) adverse new regulated period beginning in Sweden and (iii) the transfer of Renewable segment to RWE.
- The Covid crisis impact on EBITDA is estimated at -2%.
- The net income amounts €0.4bn, stable vs HY19 due to:
 - An increase in depreciations linked to Innogy acquisition (+€0.7bn)
 - Offset by the decrease in depreciation (-€0.7bn).
- Increase of the net debt of €4.2bn due primarily to bonds issued by Innogy (+€2.3bn).
- Offer to Innogy bondholders to transfer c. 11.5bn of bonds to E.ON

- Sales increase by 2% to €6.5bn vs HY19 due to
 - (i) the increase in electricity revenue with additional onshore Wind/Solar capacity following the acquisition of E.ON's renewable energy business;
 - Partly offset by gas revenue markedly down with lower sales on wholesale market.
- EBITDA amounts to €2.3m, +360% vs HY19. This is due to (i) acquisition of E.ON's renewable energy business, (ii) stronger performance of offshore wind due to above average weather condition for onshore wind/solar, (iii) production plan updated after lignite phaseout agreement and higher realised generation margin for outright position for coal/nuclear.
- Quantified impacts of Covid-19 are not disclosed.
- Net income Group share increase by €0.2bn to €1bn due to effects explained above, partly offset by the state of Innogy classified in discontinued operations for €1.3bn in 2019.
- Asset swap with E.ON finalised: RWE takes ownership of innogy's renewable energy business: on 30.06.2020, E.ON returned to RWE parts of the innogy portfolio.
- Construction of German North Sea wind farm Kaskasi with an installed capacity of 342 MW and scheduled to start in 2021.

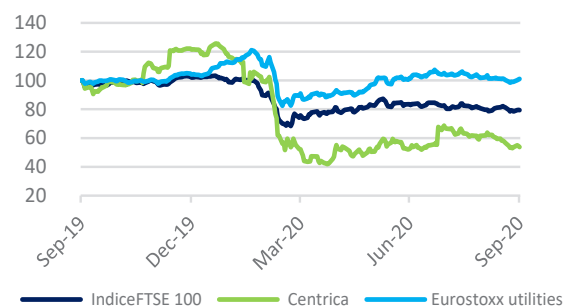
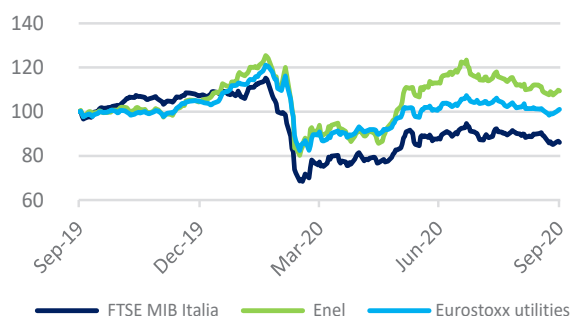
FY 2020
Outlook

- 2020 guidance updated
 - EBITDA: €6.8bn to €7bn vs €7.1bn to €7.3bn
 - EBIT: €3.6bn to €3.8bn vs €3.9bn to €4.1bn previously
 - Adjusted net income: between €1.5bn vs €1.7bn vs €1.7bn-€1.9bn previously
 - Net investment: around €4.2bn instead of €4.5bn previously

- 2020 guidance confirmed:
 - Adjusted EBITDA: €2.7 - €3bn
 - Adjusted EBIT: €1.2 - €1.5bn
 - Adjusted net income: €0.8 - €1.2bn



Share Price Perf. Sept. 2019 Sept. 2020



Key Reported Financials

In billion of €	HY20	HY19	Var.
Sales	33.3	40.9**	-19%
EBITDA	8.6	8.9	-3%
Operating Income	4.5	5.2	-13%
Recurring net income Gr	2.4	2.3	+4%
Net Income Gr Share	1.9	2.2	-14%
Operating CF	2.0	4.6	-57%
Net Capex	-4.1	-4.2	-2%
Net debt	-50.4	-45.2*	+12%

* as of Dec. 31, 2019.

** First half 2019 restated of IFRIC interpretation (no impact on margins) on purchase and sales contracts for commodities measured at fair value through profit or loss.

In billion of €	HY20	HY19	Var.
Sales	12.5	13.8	-9%
EBITDA	0.9	1.1	-18%
Operating Income	0.3	0.4	-25%
Recurring net income Gr	0.1	0.1	-
Net Income Gr Share	-0.2	-0.6	+67%
Operating CF	1.0	0.7	+43%
Net Capex	-0.2	-0.1	+100%
Net debt	-2.8	-3.4*	-18%

* as of Dec. 31, 2019.

HY20 Highlights

- **Sales amount to €33.3bn, -19% vs HY19, due to a** (i) lower volume of electricity sold in Italy and Spain due to the COVID-19 outbreak, (ii) the decline in trading activities, reflected by the decrease in Thermal Generation and Trading activities and (iii) the application of IFRIC interpretation, and specially the adverse exchange rate developments in Latin America
- **EBITDA decreases to €8.6bn, -3% vs HY19 due to:**
 - A negative impact from Covid-19 on End-user markets and Infrastructure/Networks;
 - Partly offset by improvement in the performance of Enel Green Power as well as Thermal Generation and Trading
- **Quantified impacts of Covid-19 are not disclosed.**
- **Impairment have been recorded for €759m (€369m in HY19)** mainly on the coal asset, Bocamina II plant, in Chile for €364m.
- **Increase of the net debt of €5.2bn compared to FY19 due to**
 - (i) capital expenditure for the period (€4.1bn), (ii) the payment of 2019 dividends (2.6bn€) and (iii) extraordinary transactions for the acquisition of additional equity in Enel Américas and Enel Chile (€1bn);
 - While operating cash flow is €2bn lower than in 2019 due to adverse impacts of Covid-19 on working capital.
- Enel has increased its stake in **Enel Américas to 65%** (+2.7%).
- Submission of a **binding offer by Macquarie for the acquisition of the 50% stake held by Enel in Open Fiber** for a net consideration of c. 2.7bn€.
- **Repurchase in cash hybrid bonds for 250m€**
- **Sales reduce by £1.3bn to £12.5bn** largely driven by lower demand for energy from businesses due to Covid-19.
- **EBITDA amounts to £0.9bn, -18% vs HY19 due to:**
 - A (i) decrease in volume of electricity sold due to COVID-19 crisis, (ii) fall in commodity prices which has impacted the Upstream Division (£-0.2bn) and (iii) a warmer than normal weather impacting the energy supply business (£-0.1bn)
 - Partly offset by (i) mitigation actions (£0.2bn) such as waving to pay senior management bonuses related to 2019 performance, discretionary cost savings and use of government job retention scheme (ii) improvement of gross margin in US, and (iii) a strong trading performance in Energy Marketing & Trading.
- **Quantified impacts of Covid-19 are not disclosed**
- **Net income Group share remains negative but increase by £0.4bn vs HY19 to £-0.2bn due to**
 - A pre-tax exceptional charge of £1bn recognised in HY20, including restructuring costs, impairments of E&P assets and investment in Nuclear totalling £0.9bn;
 - Partly offset by a gain on certain assets fair value re-measurements for £0.5bn after tax.
- Agreement to sell **North American subsidiary company Direct Energy to NRG Energy, Inc.** for \$3.625 billion in cash (approximately £2.85 billion) on a net debt free basis.
- Agreement to **acquire the energy supply customers of Robin Hood Energy Limited** for an undisclosed sum.
- Agreement with **Shenergy on a bidding 15-year sales and purchase agreement** to supply 0.5m tonnes per annum of LNG to deliveries expected to commence in 2024.

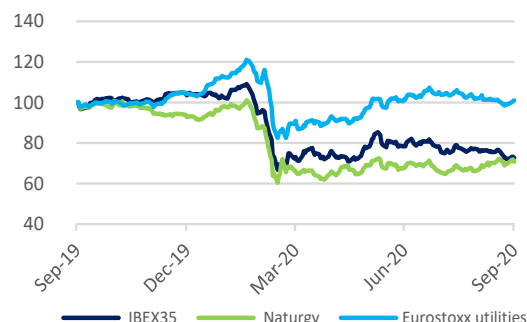
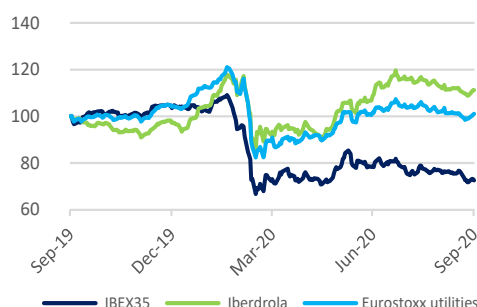
FY 2020 Outlook

- **2020 guidance updated**
 - EBITDA: about €18bn – €18.6bn previously
 - Net ordinary income: €5.0bn-€5.2bn vs €5.4bn previously
 - Net financial debt: €48.0bn-€49.0bn vs €46.8bn previously

2020 guidance removed



Share
Price Perf.
Sept. 2019
Sept. 2020



Key Reported Financials

In billion of €	HY20	HY19	Var.
Sales	16.5	18.3	-10%
EBITDA	4.9	5.0	-2%
Operating Income	2.7	3.0	-10%
Recurring net income Gr	1.7	1.8	-6%
Net Income Gr Share	1.8	1.6	+13%
Operating CF	3.9	3.9	-
Net Capex	-3.6	-3.5	3%
Net debt	-37.6	-37.8*	-1%

* as of Dec. 31, 2019.

In billion of €	HY20	HY19	Var.
Sales	8.7	11.6	-25%
EBITDA	1.9	2.2	-14%
Operating Income	1.0	1.3	-23%
Recurring net income Gr	0.5	0.8	-38%
Net Income Gr Share	0.3	0.6	-50%
Operating CF	2.0	2.5	-20%
Net Capex	-0.6	-0.7	-14%
Net debt	-14.9	-15.3*	-3%

* as of Dec. 31, 2019.

HY20 Highlights

- **The sales decrease by 10% to €16.5bn due to**
 - the COVID-19 crisis with the following impact: (i) lower electricity demand especially on the two most relevant market of Iberdrola, Spain and Italy and (ii) the fall in commodity prices, which have exerted downwards pressure on the spot prices in wholesale markets.
 - Partly offset by (i) purchases made by liberalised supply businesses, and (ii) the existence of fixed price sales contracts (PPAs).
- **EBITDA amounts to €4.9bn, a decrease of -2% vs HY19**, mainly due to COVID-19 impacts (€0.2bn) and exceptional positive impacts recorded on HY19 period. Stripping out these impacts, EBITDA is up by 4.2% thanks to (i) cost containment measures and efficiency plans, (ii) positive impact in exchange rate and, (iii) improvement of gross margin in Renewable and Generation and Supply activities.
- **The variation in net income** is partly offset by non-recurring items and especially a €485m capital gain with the sale of Iberdrola's stake in Siemens Gamesa.
- **Net investment** in the period amounted to €3.6bn mainly in the Network and Renewable businesses with 1,600MW of new capacity installed over HY20.
- **Disposal of Iberdrol's stakes in Siemens Gamesa (8,07%)** totalling €1,1bn.
- **Project to build and operate the world's largest on site photovoltaic self-consumption system for SABIC** with instal capacity 100MW.
- **Sales decrease by 25% to €8.7bn** mainly due to COVID-19 impacts such as (i) lower energy demand, (ii) lower energy prices and (iii) macro uncertainty which has had a negative impact on the evolution of Latin America currencies.
- **EBITDA amounts to €1.9bn**, -14% in respect to HY19 due to adverse impacts mentioned above lower contribution from infrastructure Business in EMEA, and lower gas demand in Spain.
- **Quantified impacts of Covid-19 are not disclosed**
- **Net debt decreases by -14% to €0.6bn** mainly due to lower investments in Spanish Gas Network as a result of lockdown and a slow down of renewable developments in Spain.
- **Sale of 47.9% of Ghesa Ingeniera y Tecnologia and Iberafrica Power** in Kenya.
- **Acquisition of 34.05% stake in Medgaz** has been completed in July 2020.

FY 2020 Outlook

2020 guidance confirmed: Iberdrola targets 2020 net profit will exceed that of 2019

2020 guidance updated
EBITDA: around €4.0bn vs €4.7bn previously

Is hydrogen the next big thing in energy?

Author

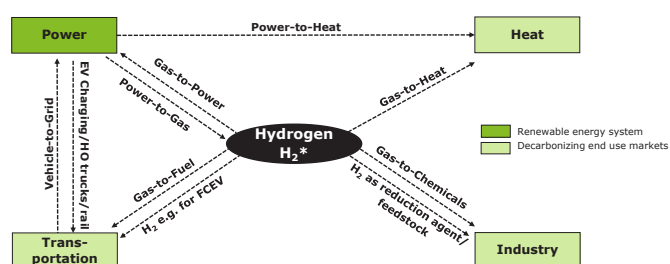


Johannes Trüby
Director Economic Advisory,
Deloitte France

Hydrogen is not only the lightest element but also the most abundant substance in the universe. At least in Europe (and in Japan), hydrogen is currently also the biggest generator of enthusiasm in the energy sector. Hydrogen is not new though. For instance, town gas – the origin of today's gas industry – was a fuel rich in hydrogen and the airships of the 1920s and 1930s – the origin of intercontinental aviation – were flying long distances thanks to hydrogen. Hydrogen has also been important in fueling all sorts of rockets or upgrading petroleum products but despite persistent attempts by individual interest groups over the last decades, hydrogen never became mainstream. Today's push for hydrogen is underpinned by ambitions to decarbonise the energy sector quickly. However, waves of excitement about hydrogen have been coming and going since the existence of a modern energy sector – why could this time be different?

Firstly, hydrogen's value proposition is clear: its use emits neither direct greenhouse gases nor air pollutants and its chemical properties allow it to be used in all energy consuming sectors – industry, transport, power or buildings – in a similar way natural gas is used today (see figure 1). It is therefore an obvious, albeit still relatively costly, solution to tackle emissions from hard-to-abate sectors and energy uses like high-temperature heat in industry, seasonal space heating or heavy-duty transport. Hydrogen derivatives are a promising candidate for clean aviation fuels.

Figure 1: Schematic overview of hydrogen's potential role in the energy sector decarbonisation



The second reason is that hydrogen has made it to the top of policy-makers' agendas. At the EU-level, since the beginning of the year, three tipping points have occurred that may well form the bedrock of a future hydrogen economy:

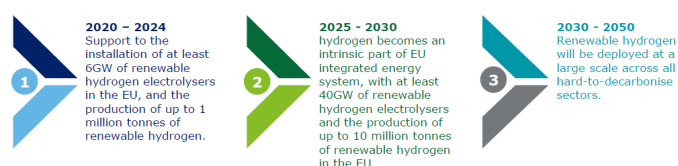
- 1) The European Green Deal from December 2019 and the strengthening of climate ambitions to net-zero by 2050 defines the objective and underscores hydrogen's value proposition
- 2) The EU Covid-19 Recovery Fund from May 2020 has a clear tilt towards the energy transition and implies that funding is available for roll-out of clean technologies

3) The Hydrogen Strategy from July 2020 makes it unmistakably clear that hydrogen is part of the solution towards a decarbonized energy sector in Europe

Moreover, these high-level directions are complemented by national hydrogen strategies that are tabled in one country after another. The Netherlands, Germany and Portugal were the first movers, recently followed by the French hydrogen strategy, and various other countries are working on directional documents. So, the contours of hydrogen's future start to become apparent but the details, which are so important for investors, are still missing. They are to be developed over the next year with the most important element being the EU's ambitious set of legislative revisions, expected for June 2021 and which will inscribe the objectives of the European Green Deal and of the Energy System Integration Strategy. Hence, the next two years will be absolutely critical for the elaboration of regulatory frameworks and the design of hydrogen markets.

Finally, major companies are opening up to hydrogen. On the energy consumption side hydrogen-powered trains, planes, cars and trucks are being developed; residential fuel cells for combined heat and power generation are commercialized; industrial processes redesigned to run on hydrogen and hydrogen-fueled gas turbines tested for electricity generation, to name but a few. On the energy production side the oil & gas and gas infrastructure companies have taken the lead. For example, Norwegian Equinor is serious about a major hydrogen project – based on methane reforming with carbon capture and storage – in the UK and British gas grid company Northern Gas Networks has assessed the feasibility of switching the entire city of Leeds from natural gas to hydrogen. Others, notably Gazprom, Wintershall Dea or OMV are looking into hydrogen production from methane via pyrolysis. Again others – especially the utilities – are counting on low-cost renewable energy to produce hydrogen from water with electrolyzers. Companies have also combined forces in key initiatives like the European Clean Hydrogen Alliance or in lighthouse projects like the Northern Netherlands Hydrogen Valley.

Figure 2: EU Hydrogen Strategy describes a three-step approach to establish renewable hydrogen at the heart of the hydrogen economy



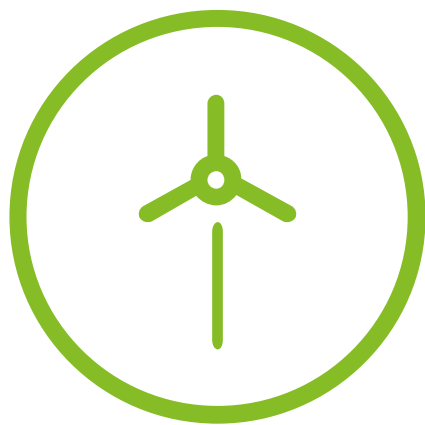
What sounds like an ideal constellation – clear value proposition, policy-support and investor appetite – is in reality much more complicated. How the hydrogen is produced, where it comes from, how it is transported, where it will be used first, how it is remunerated and which projects get financial support are subject of fierce debate and controversy. In caricaturizing a bit, one could argue that there are two camps in Europe, those who pursue hydrogen projects based on fossil fuel – e.g. blue and teal hydrogen – and those who push for green hydrogen, produced from renewable electricity via electrolysis support (see figure 3 for an overview of different hydrogen production technologies). Unsurprisingly, the big resource owners, among them Norway and Russia, fear stranded assets and are investing in steam methane reforming with carbon capture and storage or pyrolysis. Electrolysis finds strong interest among power generators, utilities, renewable energy developers and, lately, also from some major oil companies. The EU's hydrogen strategy is putting strong focus on green hydrogen without closing the door to any other low carbon hydrogen technology (see figure 2). This becomes particularly apparent when looking at the expected investment needs as outlined in the EU's strategy paper: EUR 180-470 billion to be spent on green hydrogen cumulatively to 2050 as compared to EUR 3-18 billion for fossil-based hydrogen.

Figure 3: Hydrogen production technology overview

Hydrogen [Color]	Technology	Technology readiness level [1-10]	LCOH [\$/Kg H ₂]		
			Low	Central	High
Brown	Coal gasification	9	1.0	1.4	1.9
	Steam methane reforming	9	1.0	1.3	2.2
Grey	Coal gasification with carbon capture and storage	6 to 7	1.4	2.2	3.6
	Steam methane reforming with carbon capture and storage	7 to 8	1.2	1.9	2.8
Teal	Methane Pyrolysis	3 to 5	1.0	1.8	2.5
Green	Electrolysis with solar power only	9	3.3	8.9	17.3
	Electrolysis with wind power only	9	3.6	5.2	10.8
	Biomass gasification	5 to 6	1.5	2.2	3.0
Pink	High temperature electrolysis with nuclear	3 to 4	3.3	4.6	6.0

Source: Parkinson et al. (2019)
 Note: LCOH = Levelised Cost of Hydrogen

So, whether and when the hydrogen economy becomes a reality depends on whether all forces can be mobilized to develop innovative concepts and market designs and bring the cost of new technologies down. Achieving full decarbonisation of the EU economy in just thirty years is a formidable challenge and requires the use of all available decarbonisation options. A successful hydrogen economy is likely not just green or blue but resembles a rainbow.



Reference

Parkinson, B., P. Balcombe, J.F. Speirs, A.D. Hawkes, and K. Hellgardt. "Levelized Cost of CO 2 Mitigation from Hydrogen Production Routes." *Energy & Environmental Science* 19, no. 12 (2019). <https://doi.org/10.1039/c8ee02079e>.

The Game Charger: how the rise of the rapid charging station network will trigger the competition of all against all

Authors



Guillaume Crunelle
Partner Future of Mobility,
Deloitte France



Olivier Perrin
Partner Energy, Resources
& Industrials, Deloitte France



Zaid Lamdaouar
Strategy Consultant
Deloitte France

Contributor

The transformation of global mobility is no longer a bet. With tougher regulations regarding CO2 emissions and the subsequent investments from OEMs in greener technologies, there is no doubt that the French vehicle fleet will radically transform in the coming years, making more and more room to Battery Electric Vehicles (BEV). It's a no brainer, from Internal Combustion Engines (ICE) to BEV, there is more than just a switch of engine type. The rise of the electric car will induce aftershocks beyond the OEM perimeter.

French BEV sales will indeed continue to grow in the coming years, mainly driven by regulation, a certain customer demand and the subsequent strongly adjusted OEM line-ups that will grant a bigger chunk of the global offering to BEVs.

The growing electrification of the French vehicle feet will therefore put at stake the gas station networks, that will have to face challenges at three different levels:

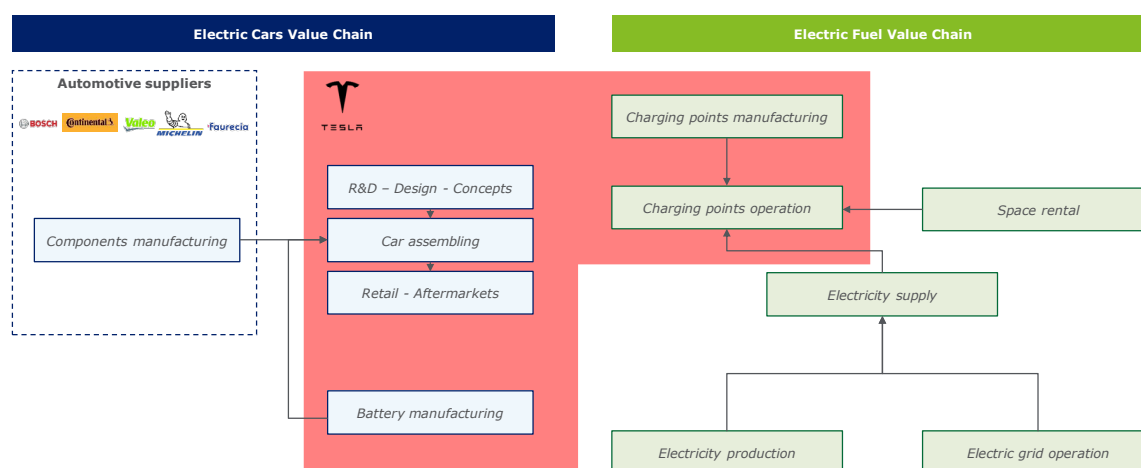
- In urban and close peri-urban areas, oil companies will have to adopt a “local consistency logic” instead of the current “territorial coverage” logic.
- In rural and far peri-urban area, oil companies will have to manage to keep the gas stations as crucial focal points.
- En route, gas stations will have to ensure the continuity of routes, regardless of the energy used.

In this context, traditional oil groups could unlock the mass BEV adoption by developing a wide en route rapid charger network, unless they let another player embark them in that journey. The BEV revolution is indeed introducing a brand-new competitive playground, where all the players won't play with the same rules and will have different value chains and interests (cf. Figures 1a. to 1d.).

Regardless of their core industry, the winners of the rapid chargers playground will be the ones that will master the big picture, understanding the crucial links between the different parts of the value chain, always with a holistic approach, in order to define “where to play” to maximize the profits through revenue and cost synergies among other things.

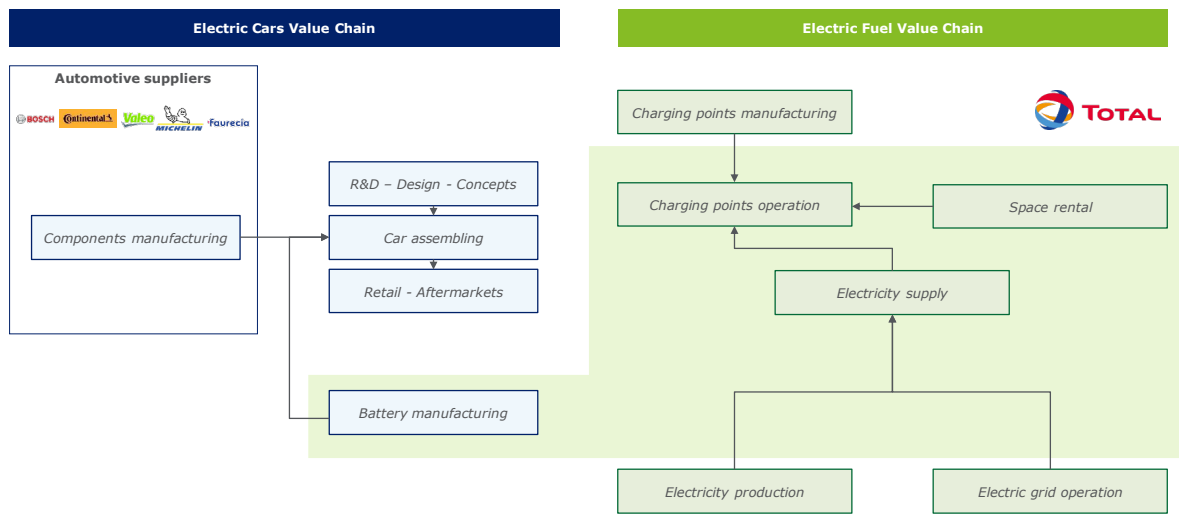
Our conviction is that specializing in battery manufacturing as well as in charging station manufacturing and operation would definitely provide a significant competitive edge in this new systemic approach.

Figure 1a. Simplified BEV and Electric Fuel Value Chains – Tesla's positioning



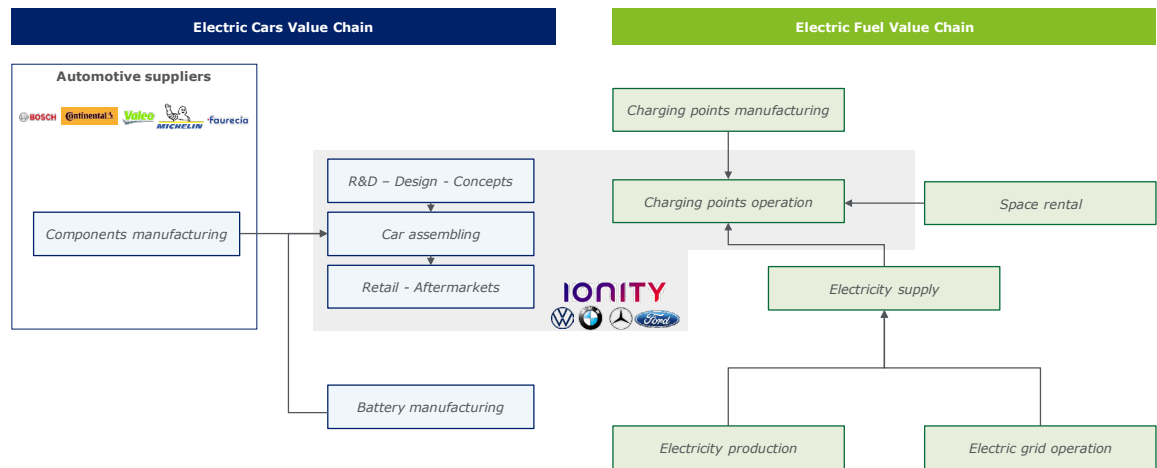
Sources: Monitor Deloitte Research & Analysis

Figure 1b. Simplified BEV and Electric Fuel Value Chains – Total’s positioning



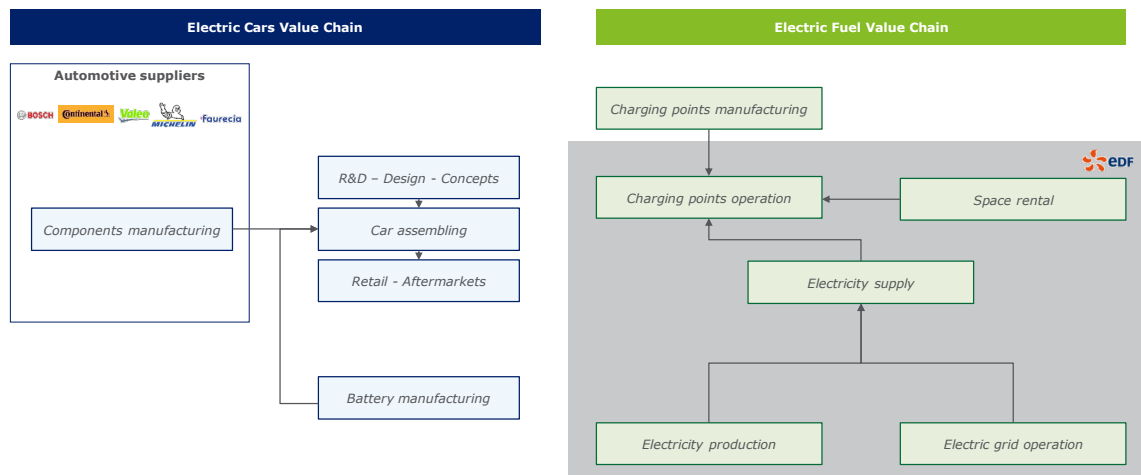
Sources: Monitor Deloitte Research & Analysis

Figure 1c. Simplified BEV and Electric Fuel Value Chains – Ionity’s positioning



Sources: Monitor Deloitte Research & Analysis

Figure 1d. Simplified BEV and Electric Fuel Value Chains – EDF’s positioning



Sources: Monitor Deloitte Research & Analysis

Policy and Regulation Radar

This section summarizes the key changes respectively in the EU or in the country regulation that may significantly affect the power and utilities companies.

What is changing in the EU regulation?

Special European Council agreed a recovery package and the 2021-2027 budget

Key features	Insights
<p>On July 21st, 2020, EU leaders agreed on a comprehensive package of €1,824.3 billion which combines the multiannual financial framework (MFF) and an extraordinary recovery effort, Next Generation EU (NGEU). The package will help the EU to rebuild after the COVID-19 pandemic and will support investment in the green and digital transitions. This follows the proposal made in May 2020 by the European Commission regarding a major recovery plan for Europe to help repair the economic and social damage brought by the coronavirus pandemic (see Q2 2020 Newsletter).</p>	<p>The new Multiannual Financial Framework (MFF) will cover seven years between 2021 and 2027. The MFF, reinforced by Next Generation EU, will also be the main instrument for implementing the recovery package to tackle the socio-economic consequences of the COVID-19 pandemic. The MFF will cover the following spending areas: (i) single market, innovation and digital, (ii) cohesion, resilience and values, (iii) natural resources and the environment, (iv) migration and border management, (v) security and defence, (vi) neighbourhood and the world and (vii) European public administration.</p> <p>In parallel, Next Generation EU will provide the Union with the necessary means to address the challenges posed by the COVID-19 pandemic. Under the agreement the Commission will be able to borrow up to €750 billion on the markets. Capital raised on the financial markets will be repaid by 2058. The amounts available under NGEU will be allocated to seven individual programmes. The program with the highest funding amount is the Recovery and Resilience Facility (RRF), with up to €672.5 billion (loans: €360 billion, grants: €312.5 billion). In September 2020, the European Commission has set out strategic guidance for the implementation of the RRF in its 2021 Annual Sustainable Growth Strategy (ASGS). In this sense, the Commission strongly encourages Member States to include in their plans investment and reforms in the following flagship areas:</p> <ul style="list-style-type: none"> • Power up: the frontloading of future-proof clean technologies and acceleration of the development and use of renewables. • Renovate: the improvement of energy efficiency of public and private buildings. • Recharge and Refuel: the promotion of future-proof clean technologies to accelerate the use of sustainable, accessible and smart transport, charging and refuelling stations and extension of public transport. • Connect: the fast rollout of rapid broadband services to all regions and households, including fiber and 5G networks. • Modernise: the digitalisation of public administration and services, including judicial and healthcare systems. • Scale-up: the increase in European industrial data cloud capacities and the development of the most powerful, cutting edge, and sustainable processors. • Reskill and upskill: the adaptation of education systems to support digital skills and educational and vocational training for all ages. <p>Next steps</p> <p>The implementation of the Facility will be coordinated by the Commission's Recovery and Resilience Task Force in close cooperation with the Directorate-General for Economic and Financial Affairs.</p>

Link: [Special European Council agreed a recovery package and the 2021-2027 budget](#)

EU Hydrogen Strategy

Key features	Insights
<p>The European Commission adopted on July 8th, 2020, a new dedicated strategy on hydrogen in Europe, in parallel with the strategy on energy system integration. This strategy intends to bring together different strands of action, from research and innovation over production and infrastructure to the international dimension.</p> <p>According to the European Commission press release, the new hydrogen strategy will explore the potential of clean hydrogen to help the process of decarbonising the EU economy in a cost-effective way, in line with the 2050 climate-neutrality goal, set out in the European Green Deal. It should also contribute to the recovery from the economic effects of COVID-19.</p> <p>The strategy will explore actions to support the production and use of clean hydrogen, focusing in particular on the mainstreaming of renewable hydrogen.</p>	<p>The EU Hydrogen Strategy as well as the Commission's economic recovery plan 'Next Generation EU' highlights hydrogen as an investment priority to boost economic growth and resilience, create local jobs and consolidate the EU's global leadership. This strategy sets a path toward a European hydrogen eco-system by following these steps:</p> <ul style="list-style-type: none"> • From today until 2024: the strategy supports the installation of at least 6 GW of renewable hydrogen electrolyzers in the EU, and the production of up to 1 million tonnes of renewable hydrogen. • From 2025 until 2030, hydrogen needs to become an intrinsic part of the EU's integrated energy system, with at least 40 GW of renewable hydrogen electrolyzers and the production of up to 10 million tonnes of renewable hydrogen in the EU. • From 2030 onwards, renewable hydrogen will be deployed at a large scale across all hard-to-decarbonise sectors. <p>The strategy considers some drivers to promote hydrogen in Europe:</p> <ul style="list-style-type: none"> • The production of clean hydrogen needs to be increased by creating a sustainable industrial value chain. • The EU should boost the demand for clean hydrogen coming from industrial applications and mobility technologies. • Clean hydrogen needs a supportive framework, well-functioning markets and clear rules, as well as dedicated infrastructure and a logistical network. • Promoting research and innovation in clean hydrogen technologies is crucial. • Europe shall secure cooperation opportunities with neighbouring countries and regions of the EU and work to establish a global hydrogen market. • The European Clean Hydrogen Alliance will help build up a robust pipeline of investments.
	<p>Next steps</p> <p>In the upcoming months, the European Commission will work to introduce a comprehensive terminology and certification, to define renewable and other forms of hydrogen. It will be based on life-cycle carbon emissions, anchored in existing climate and energy legislation, and in line with the EU taxonomy for sustainable investments.</p>
<p>Link: EU Hydrogen Strategy</p>	

EU Energy System Integration Strategy

Key features	Insights
<p>As part of the European Green Deal, in order to encourage this smart sector integration, the Commission presented an EU strategy for energy system integration on 8 July 2020.</p> <p>The energy system integration will be facilitated by the correct and timely implementation of the eight legal acts of the Clean energy for all Europeans package, adopted in 2018-2019.</p> <p>The new EU strategy - in synergy with a new dedicated strategy on hydrogen in Europe - will lay the foundation for the decarbonised European energy system of the future.</p>	<p>This strategy aims at profoundly reforming the European energy system. The European Commission is designing a more efficient and integrated system that links energy sources and infrastructure to support decarbonisation and build a climate neutral EU by 2050. According to the European Commission, the strategy will help to build modern infrastructure, make European industry more sustainable and competitive, create jobs and provide clean energy for citizens. The main points of the proposal are the following:</p> <ul style="list-style-type: none"> • Create a more circular energy system, by promoting energy efficiency, encouraging the reuse of waste heat from industrial sites and a data centres, improving synergies between energy infrastructures with the revision of the Trans-European Network in Energy Regulation and incentivising the use of agriculture residues to produce sustainable biogas and biofuels. • Accelerate the use of electricity produced from renewable sources, by increasing the generation and use of renewable electricity and accelerating the development of charging stations for electric vehicles and the injection of renewable electricity in the network. • Promote renewable and low-carbon fuels, including hydrogen, for sectors that are hard to decarbonise. This goal will be completed by, among other measures, unlocking the potential of sustainable biomass and biofuels, green hydrogen and synthetic fuels as well as enabling carbon capture, storage and use to support deep decarbonisation. • Adapt energy markets and infrastructure to a more complex, integrated energy system, in which consumers and investors should be able to choose the option that best matches their need, based on prices that reflect the true cost and efficiency and with an increase of digital energy services
	<p>Next steps</p> <p>The strategy will be discussed by the Council and the European Parliament in the coming months with a view to guiding the Commission on future concrete legislative and non-legislative action.</p>

Link: [EU Energy System Integration Strategy](#)



United Kingdom			
Topic	Key features	Insights	Next Steps
Consultation on a Green Gas levy	<ul style="list-style-type: none"> The UK Government has published a consultation to seek views on policy options for the Green Gas Levy (GGL) The consultation document sets out: <ul style="list-style-type: none"> the proposed design of the GGL proposals for the budget control and financial management of the GGL the expected impact on gas bills for customers (domestic and non-domestic) outlines the proposals regarding the administration, compliance, and enforcement of the scheme sets out how payments will be made on the Green Gas Support Scheme ahead of the first GGL collection future transition to a volumetric approach to the design of the GGL 	<ul style="list-style-type: none"> Decarbonising head in the UK is seen as a key challenge in achieving net zero greenhouse gas emissions by 2050 The objective of the Green Gas Levy is to fund the new Green Gas Support Scheme which will incentivise to increase the proportion of green gas on the network through the injection of biomethane into the gas grid The scheme and the levy are expected to be launched in autumn 2021, with the levy being placed on licenced gas suppliers, with the expectation that this additional cost will be passed on through the gas bill to domestic and non-domestic customers 	<ul style="list-style-type: none"> Parties are invited to respond to the consultation which closes on the 2 November 2020 Government will then consider the responses before finalising its proposals in early 2021
Reviewing the potential impact of COVID-19 on the default tariff Cap – Ofgem Consultation	<ul style="list-style-type: none"> Ofgem issued a consultation in mid-September 2021 on whether (and how) the tariff cap methodology should be updated to account for the impact of COVID-19. COVID-19 has potentially changed the costs faced by suppliers in a way that the current methodology does not take into account Ofgem is considering each component of the price cap and how COVID-19 may have impacted them, either by increasing or by decreasing costs Ofgem's initial view is that the only material costs that might require adjustments relate to additional bad debt-related costs The view is that other costs are already allowed for through the existing methodology or are not material enough to require adjustment 	<ul style="list-style-type: none"> Ofgem's consultation is particularly targeted at energy suppliers and consumer groups Where companies have a different view on other costs that should be considered or are material, then they should submit a response to Ofgem and provided the necessary evidence to support their view In particular, energy suppliers may view that the headroom allowance under the cap, or the adjustment mechanisms that exist in the tariff methodology, are not sufficient to cover additional costs incurred as part of their response to COVID-19 	<ul style="list-style-type: none"> Ofgem has set the deadline for responses on 12 October 2020 Ofgem will then look to publish its substantive proposals for changes to the methodology in November 2020 for further consultation
Consultation on the draft determination for the RII0-2 price control re-view (Ofgem)	<ul style="list-style-type: none"> Ofgem published its draft determination for the next price control review period for gas distribution, gas transmission, electricity transmission and electricity system operator in Great Britain Key headline points made by Ofgem's draft determinations include: <ul style="list-style-type: none"> Baseline allowances to facilitate decarbonisation: £3bn (e.g. connecting low carbon generation) Package of uncertainty mechanisms Innovation funding - £630m minimum >£500m to support companies reduce their own impact on the environment Increased service standards (higher consumer payments is standards not met) Approximately £6bn funding to maintain, replace and repair ageing network assets, and further funding for network resilience (including physical security, IT and cyber-security upgrades) 	<ul style="list-style-type: none"> The proposals have been seen by the regulated companies as excessively challenging, with many of them objecting to a number of elements of the draft determination, including the cost assessment and financeability Companies have submitted their response to Ofgem's draft determination and have published these responses on their respective websites Companies will look to make additional representations to Ofgem over the period to November 2020 and seek to provide evidence to support their own views 	<ul style="list-style-type: none"> Ofgem is currently considering the responses received to the RII0-2 draft determination consultation The current expectation is that Ofgem will publish its final determinations in December 2020

United Kingdom

Topic	Key features	Insights	Next Steps
	<ul style="list-style-type: none"> Ofgem has also made some significant cost efficiency challenges, with total expenditure (totex) allowances being reduced by between 20% and 45% relative to the business plans submitted by the companies Allowed return on capital: 2.63%, average, over the 5 year period with an allowed equity return of 3.95% 	<ul style="list-style-type: none"> Ofgem will review the responses ahead of publishing its final determinations, which are expected in December 2020 In the event that companies are not satisfied with the final determination, they will have the option to reject them and refer specific issues to the Competition and Markets Authority for a final decision on specific issues raised. 	

Germany

Topic	Key features	Insights	Next Steps
Amendment of the Renewable Energy Sources Act (EEG 2021)	<ul style="list-style-type: none"> The amendment formulates for the first time the goal of greenhouse gas neutrality before the year 2050 for the electricity generated and consumed in Germany. At the same time, the steps necessary to achieve the target of 65 percent renewable energies by 2030 are set out. 	<ul style="list-style-type: none"> The acceptance for the expansion of renewable energies is increased. This enables the municipalities to participate financially in the expansion of wind power on land. The Federal Ministry of Economics and Energy ("BMWi") is paying attention to the urgently needed synchronization between renewable energy and grid expansion. The amendment wants to secure the competitiveness of the electricity cost-intensive industry by making adjustments to the special equalization scheme ("Besondere Ausgleichsregelung"). The amendment wants to integrate Renewable Energies further into the electricity system. 	<ul style="list-style-type: none"> On 23.9.2020, the German government ("Bundesregierung") adopted the draft for the 2021 amendment to the EEG. The aim is to conclude the legislative procedures before the end of this year.
Regulation to limit the apportion-ability of CO2 pricing	<ul style="list-style-type: none"> The German government's climate protection program 2030 plans to examine the law to limit the apportionability of CO2 pricing to the tenants. The cabinet resolution on the government draft for a law to standardize the energy saving law for buildings (GEG) extends this examination mandate to energy law regulations. 	<ul style="list-style-type: none"> This regulation intends to help ensure that the incentive effect intended by the introduction of CO2 pricing also reaches landlords and provides impetus for energy-efficient renovation and replacement of heating systems. Display of the CO2 price in the fuel delivery invoice: the CO2 price share shall be separately listed in the fuel invoice. Fuels covered: fuel oil and natural gas will be covered from the regulation as the scope of the national emissions trading system (nEHS) in the first two years (2021 / 2022) is also limited to these fuels, which are used particularly frequently in buildings. Inclusion of all tenancies: The limitation on apportionment shall apply to all tenancies, i.e. also to commercial tenancies. Tenancy agreements of persons receiving housing benefit under the Housing Benefits Act will also be included. 	<ul style="list-style-type: none"> So far, there is no existing draft law. The planned regulation is based on a key points paper by various ministers

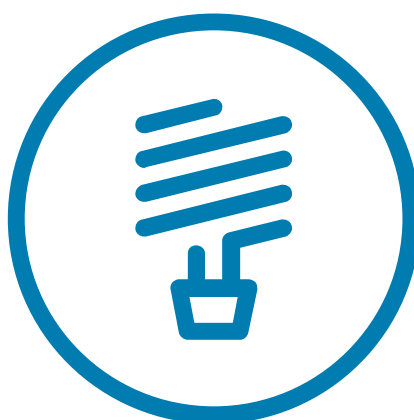
Italy			
Topic	Key features	Insights	Next Steps
Superbonus for energy efficiency interventions	<ul style="list-style-type: none"> The law has increased to 110% the tax deduction for expenses incurred from 1 July 2020 to 31 December 2021, in relation to specific interventions for: energy efficiency, reduction of seismic risk, installation of photovoltaic systems, charging infrastructure for electric vehicles in buildings (so called “Superbonus”). The beneficiary may choose alternatively: i) to use the tax deduction (from its income tax) in 5 annual instalments with equal amount; ii) to have a discount on the invoice of the company who executes the interventions; iii) to assign the tax credit to other parties, including banks, with the chance of a subsequent assignment. 	<ul style="list-style-type: none"> The new tax deduction aims at promoting energy efficiency interventions on buildings in order to increase the energy efficiency capacity of the Italian buildings. The Revenue Agency and ENEA (the National Agency for New Technologies, Energy and Sustainable Economic Development) issued specific resolutions on Superbonus. 	An extension of the tax benefit for the expenses of energy efficiency interventions is expected at least until the year 2022.
Simplification measures for Environment and Green Economy.	<ul style="list-style-type: none"> Environment - Amendment of some provisions of the Italian Environmental Code regarding: <ul style="list-style-type: none"> Environmental Impact Assessment (EIA), specifying that the applicant of an EIA must submit the technical and economic feasibility project or the final one and have to complete the environmental impact study (EIS); Remediation procedures for polluted areas, specifying that energy plants can be realized on such areas, without prejudice to the approved remediation plan. Green Economy: i) Renewable Energy Sources (RES): in case of interventions of revamping and repowering of RES plants, the environmental impact assessment concerns only the variations (and not the whole project). A favor to keep the granted feed-in tariff to RES plants is confirmed; ii) Charging Infrastructures: simplifications of the existing procedures for the construction of charging points/ stations for electric vehicles and for energy infrastructures. 	<ul style="list-style-type: none"> The new regulation aims at achieving the simplification of the procedures regarding the environmental impact assessment (EIA), the restoration of polluted areas and the interventions regarding renewable energy plants and charging infrastructures. 	New provisions for the simplification of the authorization procedures for projects subject to EIA and the construction/ repowering of renewable energy plants are expected.
Renewable energy and self-consumption communities.	<ul style="list-style-type: none"> The decree defines the new incentives for collective self-consumption power systems and energy communities from renewable sources, to facilitate the energy and ecological transition of the electric system, with environmental, economic and social benefits. The incentives are granted for a period of 20 years and managed by the Manager of Energy Services (GSE). 	<ul style="list-style-type: none"> The Italian Regulatory Authority (ARERA) adopted a resolution regarding the incentives to collective self-consumptions power systems or shared energy, part of a renewable energy community. 	<ul style="list-style-type: none"> The decree will enter into force upon the publication in the Official Journal that is expected soon.

Italy			
Topic	Key features	Insights	Next Steps
The calls for tender of the fourth procedure granting incentives to renewable energy plants –	<ul style="list-style-type: none"> The fourth procedure for the admission to the Registers and Auctions dedicated to the 4 groups of plants, regulated by Ministerial Decree 4 July 2019 granting incentives to renewable energy sources, has started on 30 September 2020. The GSE published specific calls for tender for each group of plants and an update of the Regulation for the access to such incentives. 	<ul style="list-style-type: none"> Plants with power capacity higher than 1 kw and less than 1 MW must apply to the Registers, while plants with power capacity higher than 1MW must apply to Auctions. 	<ul style="list-style-type: none"> The registration will end on 30 October 2020 and consequently the GSE will publish the list of entities admitted to Registries and Auctions.

Spain			
Topic	Key features	Insights	Next Steps
The Spanish Government announces the National Recovery, Transformation and Resilience Plan	<ul style="list-style-type: none"> On August 31st, 2020, the President of the Spanish Government announced the guidelines of the National Recovery, Transformation and Resilience Plan, which aims at achieving several transformations that, according to the Spanish Government, are 'more necessary than ever' after the outbreak of the global pandemic that has hit the world, including Spain, at a health, social and economic level. This Plan would be proposed to European Commission in the context the obligations for the countries of EU according to Next Generation agreement. 	<p>The Plan will be presented to the European institutions and is based on the 2030 Agenda and the Sustainable Development Goals of the United Nations. Some of its core transformations are the following:</p> <ul style="list-style-type: none"> The digital transformation, as a roadmap and to boost the capabilities of the Spanish citizens and the potential of local companies. The ecological transition, due to the climate emergency and also because of the changes that will derive from clean energies, which shall boost the economy. The social and territorial cohesion, which shall close the gaps that cause inequality. The gender equality, which must reduce the differences between men and women. 	<ul style="list-style-type: none"> In upcoming months, this Plan will receive further comments from different stakeholders. Further details shall be presented in October 2020 and it is expected to be completed by the end of 2020. Additionally, it is expected to serve as a basis to develop several policies that aim at facing the recovery after the global pandemic.



Spain			
Topic	Key features	Insights	Next Steps
The Spanish Government approves the National Climate Change Adaptation Plan 2021-2030 (PNACC) and the Spanish Science, Technology and Innovation Strategy for 2021 to 2027	<p>The National Climate Change Adaptation Plan 2021-2030 is considered as a basic planning tool to promote actions from a crosscutting, multilateral and multilevel approach. It aims at facing the risks and hazards derived from climate change in several fields.</p> <p>The Plan defines goals, criteria, application fields and actions to build resilience, anticipate and minimize suitable harms as well as define the guidelines for the economy and the society. It covers the period 2021-2030 and defines an initial set of 30 indicators that shall provide a dynamic vision of the effects derived from climate change as well as the adaptation-related achievements.</p> <p>In parallel, the Spanish Science, Technology and Innovation Strategy for 2021 to 2027 was approved on September 8th, 2020. This strategy aims at doubling the amount of public and private investment to 2.12% of GDP by 2027 (investment in this field stood at 1.24% of GDP in 2018).</p>	<p>The Plan defines 81 sector-specific guidelines organized in 18 work areas such as human health, water, natural heritage, biodiversity, marine environment, forest protection, etc. Additionally, it proposes, among others, the following key work lines:</p> <ul style="list-style-type: none"> • Social and territorial vulnerability, as extreme events affect in a different way depending on the social and territorial conditions. • Cross-border effects, as external climate change consequences beyond local borders may also have an impact on Spain. • Gender perspective. • Costs and benefits of adaptation and inaction. <p>Regarding the Spanish Science, Technology and Innovation Strategy for 2021 to 2027, “Climate, energy and mobility” is considered one out of the six priority sectors for the strategy, along with Health, Culture, creativity and inclusive society, Security for society, the Digital world, industry, space and defense and Food, the bio-based economy, natural resources and the environment.</p>	<ul style="list-style-type: none"> • The Plan is part of a series of energy and climate planning tools aimed at preventing or reducing the effects of climate change according to energy and climate policies. Meanwhile, the Spanish Science, Technology and Innovation Strategy for 2021 to 2027 will take part of a series of policies aimed at supporting the country's reconstruction.



Snapshot on surveys and publications

Deloitte

Nudging residential energy consumers: Influencing energy management behaviour in different consumer personas – September 2020

With the COVID-19 pandemic sending the economy into recession, energy and resource use by US businesses and residential consumers are bound to be affected. Deloitte Resources 2020 Study, as well as historical data over the past nine years, look to identify trends that offer a glimpse into the future of energy and resource management.

[Link to the survey](#)

The utilities driving decarbonization – September 2020

The power, utilities, and renewables sector is the focus on this transition: Its decarbonization will enable that of other sectors that are electrified or electrifying.

[Link to the survey](#)

Oil, gas, and the energy transition – August 2020

Despite the current downturn and uncertainty brought on by COVID-19, oil and gas companies continue to make progress toward a lower-carbon future, in line with the broader energy transition taking place across the entire energy, resources, and industrials sector.

[Link to the survey](#)

Energy management: Paused by pandemic, but poised to prevail – July 2020

With the COVID-19 pandemic sending the economy into recession, energy and resource use by US businesses and residential consumers are bound to be affected. We look at the Deloitte Resources 2020 Study—as well as historical data over the past nine years—to identify trends that offer a glimpse into the future of energy and resource management.

[Link to the survey](#)

Energy as a service – September 2020

Energy-as-a-Service (EaaS) is a delivery model that combines hardware, software and services. Solutions should combine demand management and energy efficiency services, facilitate the adoption of renewables and other decentralized supply sources and also optimize the balance between demand and supply. The attached document provides a summary of EaaS and explains how it can help.

[Link to the survey](#)

Agencies or research institutes

International Energy Agency

CCUS in clean energy transitions – September 2020

The report examines in detail the role for Carbon Capture Utilisation and storage (CCUS) technologies in clean energy transitions. It considers innovation needs across CCUS technologies and applications. It includes new geospatial analysis of power and industrial emissions in key regions and their proximity to potential geological storage.

[Link to the survey](#)

The role of CCUS in low-carbon power systems – July 2020

This report exposes how decisions makers can collectively support a rapid shift to low-carbon generation while meeting strong growth in energy demand in order to meet climate and energy goals, and which role the Carbon capture, utilisation and storage (“CCUS”) technology can play in this transformation.

[Link to the survey](#)

Implementing Effective Emissions Trading Systems: Lessons from international experiences – July 2020

This report identifies key energy-related challenges drawn from “real world” experiences, deeply examine technical issues, draw lessons for designing and implementing effective emission trading systems and review key lessons and questions relative of this implementation in the energy sector.

[Link to the survey](#)

European Union 2020 Energy Policy Review – June 2020

This report provides a review of European energy policies and recommends possible solutions to help it to achieve a secure and sustainable energy future.

[Link to the survey](#)

In order to gain access to studies and analysis from IEA you have to create an account to be able to download the above publications.

European Commission

The future of renewable energy communities in the EU - An investigation at the time of the clean energy package – September 2020

This report explains how the Clean Energy Package (CEP), which should be transpose into national legislation starting 2021, will provide the framework helping European Renewable Energy Communities (REC) to promote and develop their actions in larger scale.

[Link to the survey](#)

EU energy in figures – Septembre 2020

The energy sector is one of the pillars of growth, competitiveness and development for modern economies. To keep up with the ongoing transformation of the energy sector in Europe, data accurate and up-to-date is necessary. This publication provides an overview of the most relevant annual energy-related statistics for the European Union as a whole and for each of its Member States.

[Link to the survey](#)

Energy consumption and energy efficiency trends in the EU-28, 2000-2018 – September 2020

This study explores the energy consumption progress from 2000 to 2018 in the four main sectors of industry: residential, tertiary, transport and industry and underline the last efforts provided by the European Union to cut down on energy consumption and improve energy efficiency.

[Link to the survey](#)

Compressor station facility failure modes – August 2020

This report addresses the failure modes of compressor stations as key facilities of gas transmission networks. This is done by finding possible failure causes, establishing a taxonomy and identifying possible effects.

[Link to the survey](#)

Connecting Europe Facility energy – August 2020

This study presents the Connecting Europe Facility (CEF) program which support the development of high performing, sustainable and efficiently interconnected trans-European networks in many sectors.

[Link to the survey](#)

The EU electricity network codes – August 2020

This report presents all the updated EU network codes and guidelines are a detailed set of rules pushing for the harmonisation of national electricity markets and regulations. The areas for the development of network codes and guidelines were set out in the Third Energy Package.

[Link to the survey](#)

Highlights 2019 – August 2020

The report presents the mission Fusion for Energy and the achievement of the ITER project, an international project to build and operate the largest research machine to create solar fusion and three other projects of fusion with Japan during 2019.

[Link to the survey](#)

Energy balance sheets – July 2020

This publication presents the simplified energy balance sheets for 2018, key indicators and time series of key elements of energy balances and statistics for recent years as well as energy flow charts for year 2018. Preliminary 2019 data are shown for the supply side of energy statistics.

[Link to the survey](#)

Employment in the energy sector – July 2020

This report provides an overview of the recent employment trends related to greening and decarbonization of the economy, examines qualitative aspects and highlights key figures and provides policy recommendation labor force related barriers as part of a just transition to a cleaner energy system.

[Link to the survey](#)

Going Green - Who is investing in energy efficiency and why it matters: evidence from the EIB investment survey – July 2020

This report examines the quality of firms' building stock, their spending on energy efficiency measures and the factors that influence their decisions regarding that investment. It highlights that both high-quality information and advanced management practices make a crucial difference in the likelihood of investment in energy efficiency.

[Link to the survey](#)

Oxford institute for Energy**Market design for system security in low-carbon electricity grids: from the physics to the economics – June 2020**

This report presents the new challenges for managing operational security, critical component of power system generation, introduced by the integration of inverter-based renewable generation technologies such as solar and wind in the generation mix.

[Link to the survey](#)



Newsletter contacts



Felipe Requejo

Partner
Global Consulting Power, Utilities
& Renewables Leader and
Energy & Resources Leader in
Spain

frequejo@deloitte.es



Oliverio Álvarez

Partner
Energy and Markets Regulatory
Affairs Leader
in Spain

oalvarezalonso@deloitte.es



Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited, a UK private company limited by guarantee, and its network of member firms, each of which is a legally separate and independent entity. Please see www.deloitte.com/about for a detailed description of the legal structure of Deloitte Touche Tohmatsu Limited and its member firms. In France, Deloitte SAS is the member firm of Deloitte Touche Tohmatsu Limited, and professional services are provided by its subsidiaries and affiliates.

Deloitte
185, avenue Charles-de-Gaulle
92524 Neuilly-sur-Seine Cedex
Tél. : 33 (0)1 40 88 28 00 - Fax : 33 (0)1 40 88 28 28

© 2020 Deloitte & Associés - Une entité du réseau Deloitte - All rights reserved
Studio Graphique Neuilly