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European platform for corporate
renewable energy sourcing

17 May 2023, Milan

Il mercato dei PPA: evidenze numeriche, domanda potenziale e impatti prospettici per le imprese

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Research questions



What is the PPA demand potential of the energy intensive companies?



What is the impact of PPA on balance sheet?



How can PPA improve creditworthiness?

The purpose of the research is to estimate the activatable potential of renewables PPAs in the industrial sector and assess its impact on the financial statements of Italian companies



Agenda

- 1 Macroeconomic overview
- 2 Energy intensive companies: sample and PPA demand estimate
- 3 The impact of PPA on financial statement data and rating
- 4 Key messages and conclusion





Macroeconomic overview

The macroeconomic context remain characterised by high uncertainty...



Geo-political complexity

No signs of de-escalation of Ukraine war



Economic slowdown

IMF revised downward its 2023 global growth outlook



Phasing out of crisis support measures

Deficit reduction urges Governments to recalibrate/withdraw support measures



Energy and commodity prices volatility

Upside risks to prevail for the second half of the year



High inflation impact on consumptions

While headline inflation have begun to ease, core inflation is stickier



Interest rates increase

Central Banks running the fastest rate hike since 1980s

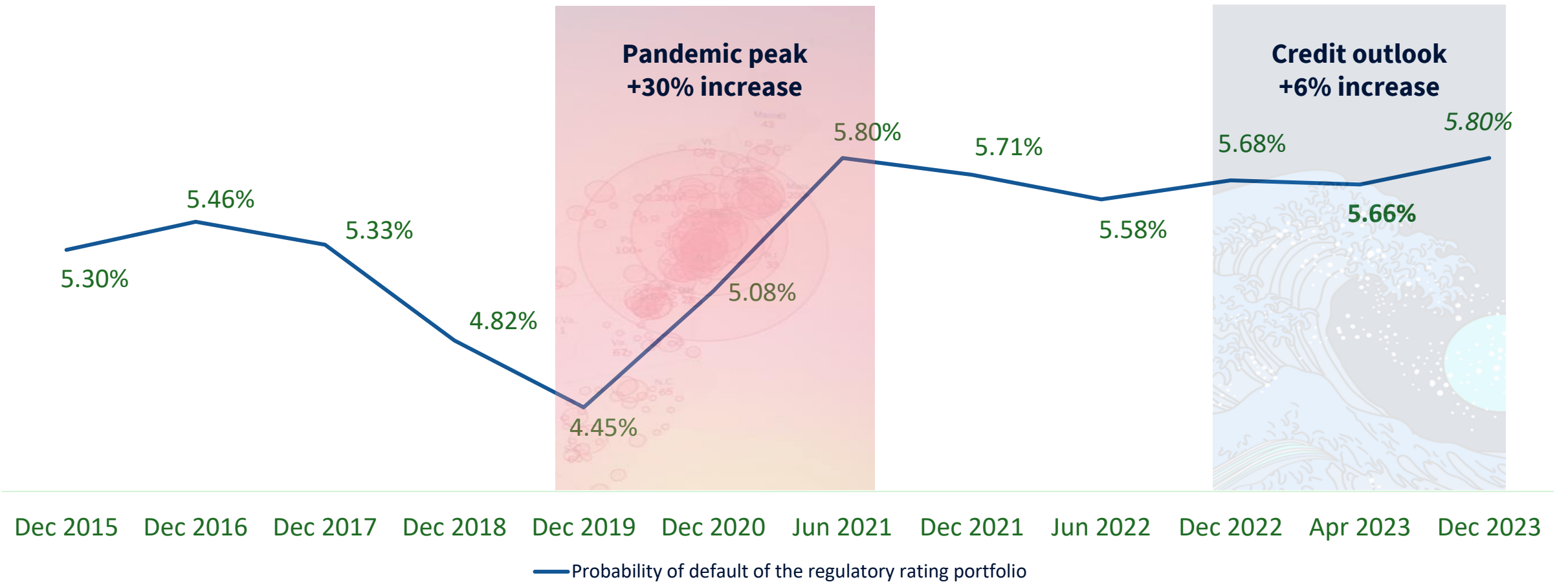


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...confirmed by the pandemic gap of the probability of default for Italian non-financial corporates

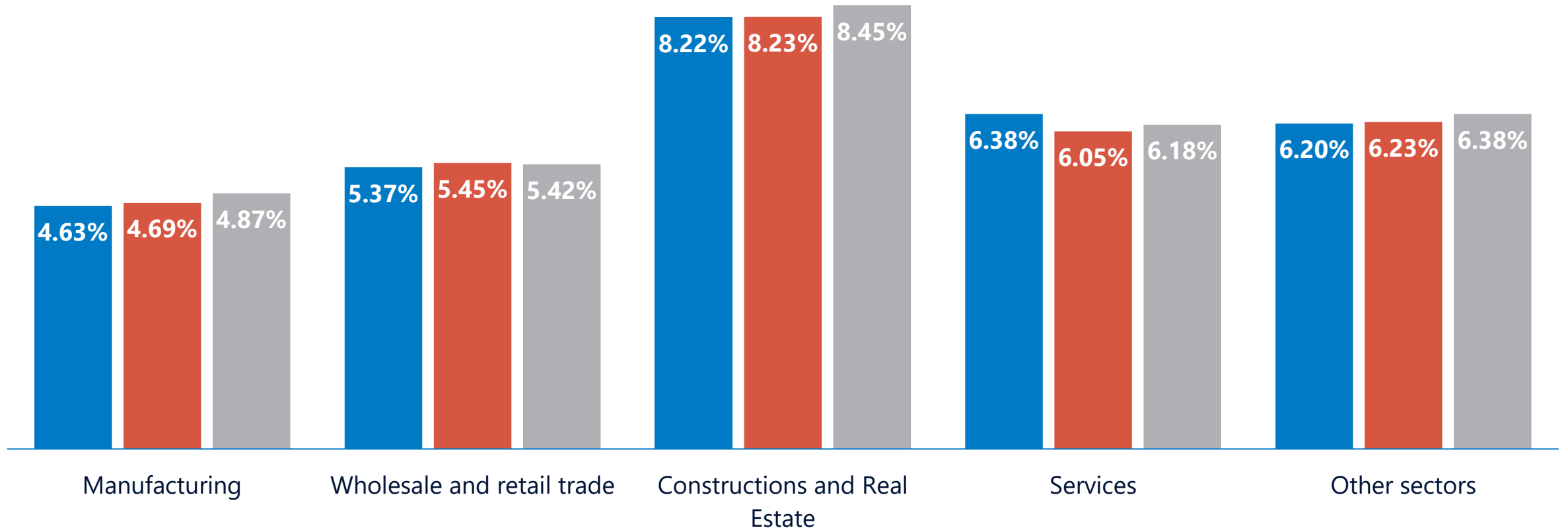


Source: Cerved Rating Agency elaborations based on 18k+ rated companies

Sectorial breakdown: high differentiation in default probabilities

Probability of default
by macro-sector

■ December 2022 ■ April 2023 ■ December 2023





**Energy intensive companies:
sample and PPA demand estimate**

A sketch of energy-intensive companies operating in Italy

Defined by the ministerial decree of December 21, 2017.

- Characterized by high incidence of electrical energy costs on revenue and value added
- Consume at least 1 GWh per year
- Belong to the manufacturing and mining sectors

Central role in the Italian industrial system

- Mainly positioned upstream in the value chain
- Carry out production processing activities that involve heavy use of energy.

Contribution to the Italian economy in 2021

- 176 billion revenues
- 39 billion value added
- 436 thousand employees

Sector	No. companies	Value added (M €)	Employees
Plastic products & packaging	701	4.387	52.450
Metal products	586	7.186	85.402
Building materials	362	5.761	55.298
Textiles & apparel	253	1.447	21.521
Agricultural products & food	232	1.945	21.901
Chemical	214	3.919	26.876
Equipment & machinery	175	2.175	28.303
Dairy and meat	168	1.309	15.747
Forest & paper products	150	1.992	25.156
Waste management	81	432	3.914
Healthcare products	75	2.536	24.891
Furniture/consumer durables	66	924	10.788
Mining	54	221	2.361
Auto parts	50	1.210	15.619
Metal Packaging	45	729	8.871
Beverage products	41	340	2.705
Publishing	38	354	5.602
Electrical Equipment	36	707	6.976
Semiconductors	21	1.169	13.174
Oil & Gas	8	737	4.048
Others	359	327	4.724
Total	3.715	39.807	436.327

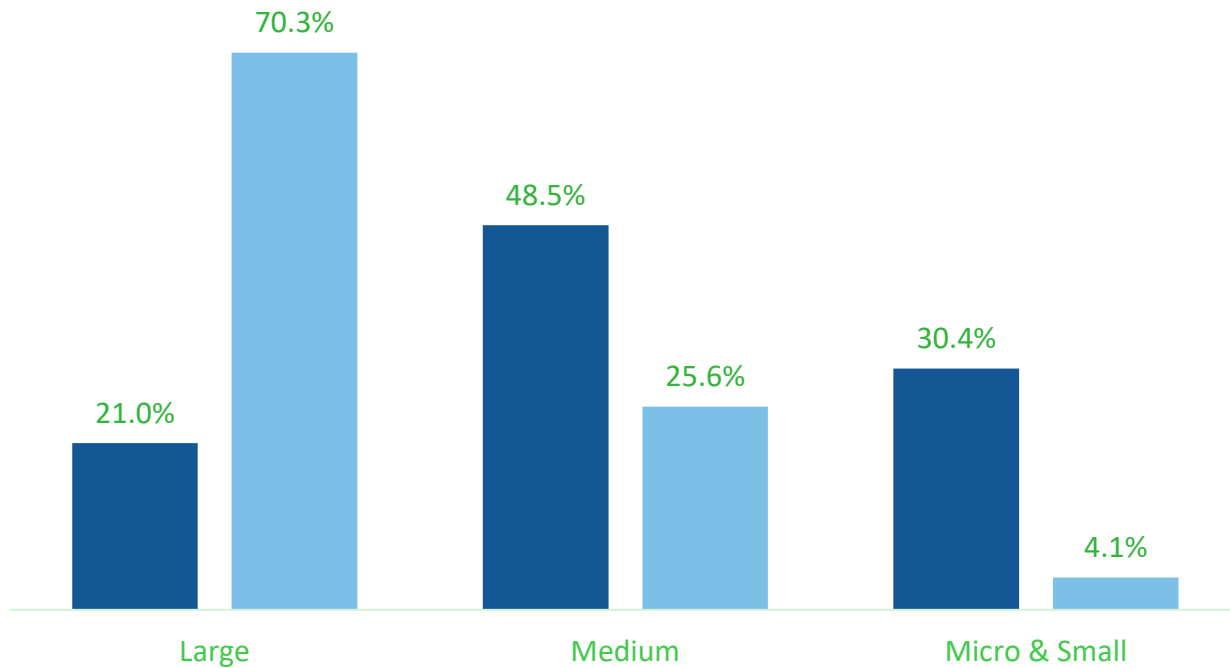


Large and medium sized companies account for 96% of value added; mainly located in Northern industrial districts

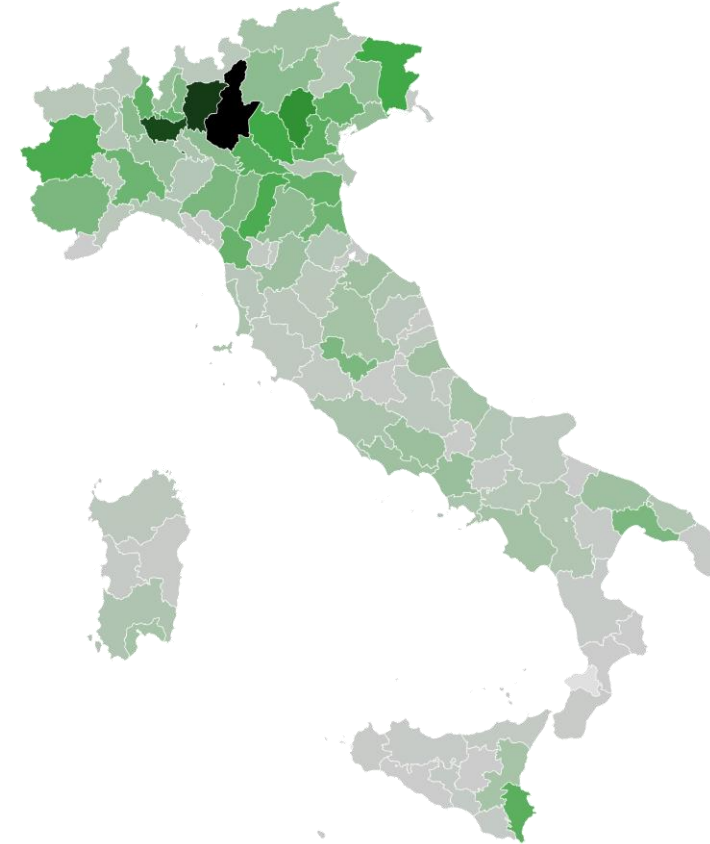
Distribution by size class

Number of companies and value added, % of total

■ Companies ■ Value added



Production value by province



Province (top 25)	% of total production value
Brescia	8,2%
Bergamo	4,9%
Milano	4,7%
Vicenza	3,4%
Udine	2,8%
Verona	2,8%
Torino	2,6%
Modena	2,6%
Mantova	2,4%
Padova	2,3%
Siracusa	2,3%
Varese	2,2%
Ferrara	2,1%
Treviso	2,1%
Monza e Brianza	2,1%
Lucca	2,0%
Alessandria	1,9%
Ravenna	1,8%
Parma	1,6%
Cuneo	1,6%
Terni	1,6%
Taranto	1,6%
Lecco	1,6%
Reggio Emilia	1,4%
Novara	1,3%



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Major contributors to Italy's total energy consumption



0,4 %

% of total number of companies



6,0 %

% of total value added



18,6 %

% of total energy consumption

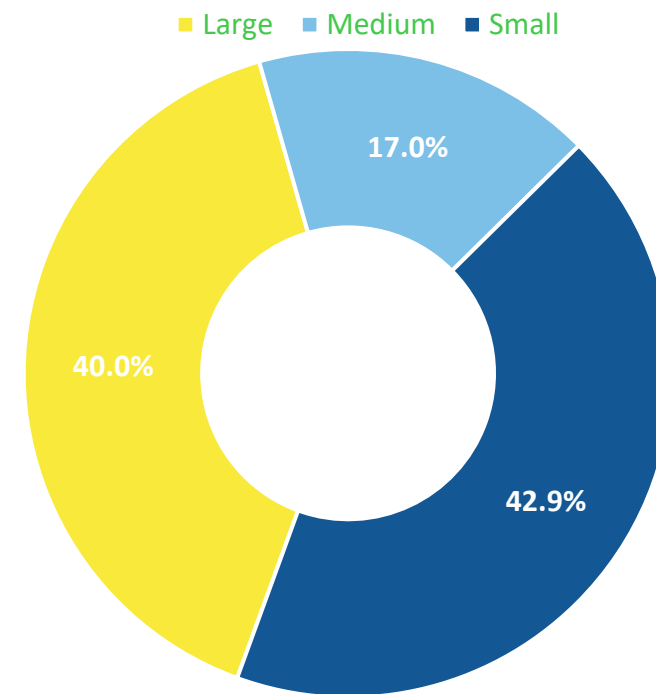


56,1 TWh

Total consumption by energy intensive companies in 2021

Source: Arera, annual report 2021

Energy consumption by consumption class
% of total consumption



Consumption class	GWh per year
Large	>100
Medium	40<x<100
Small	<40



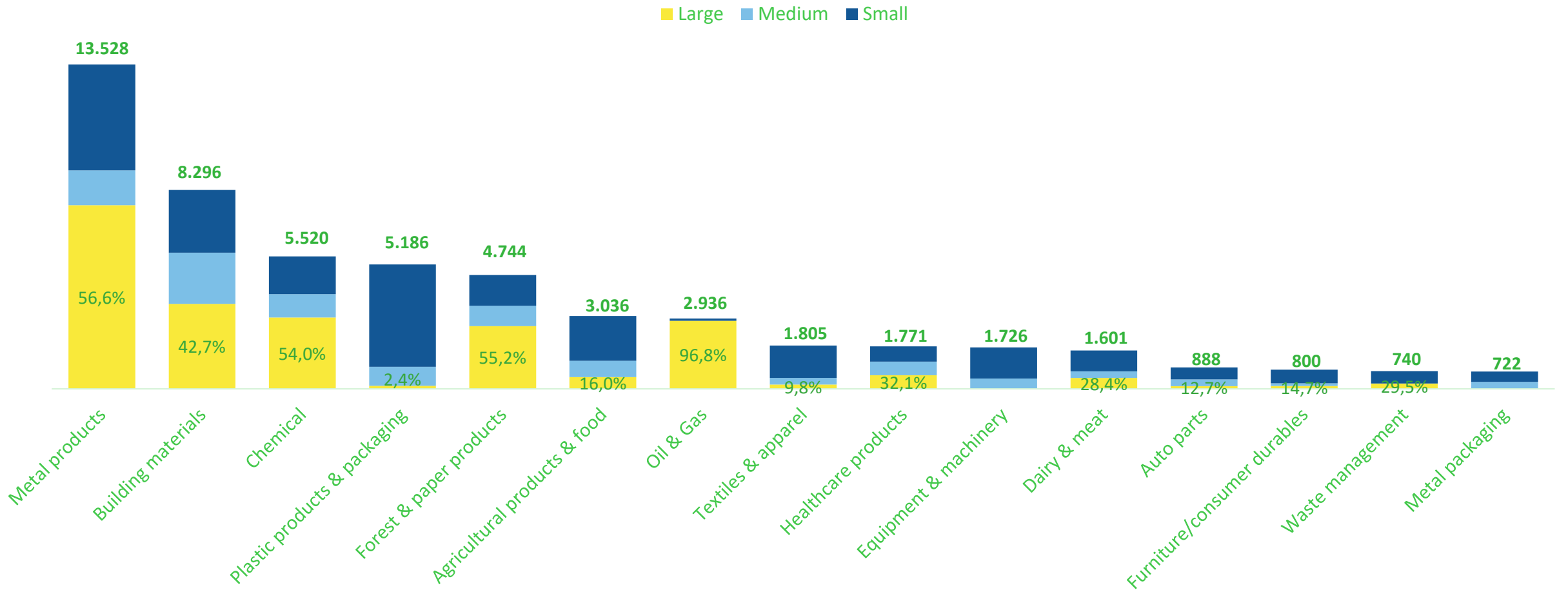
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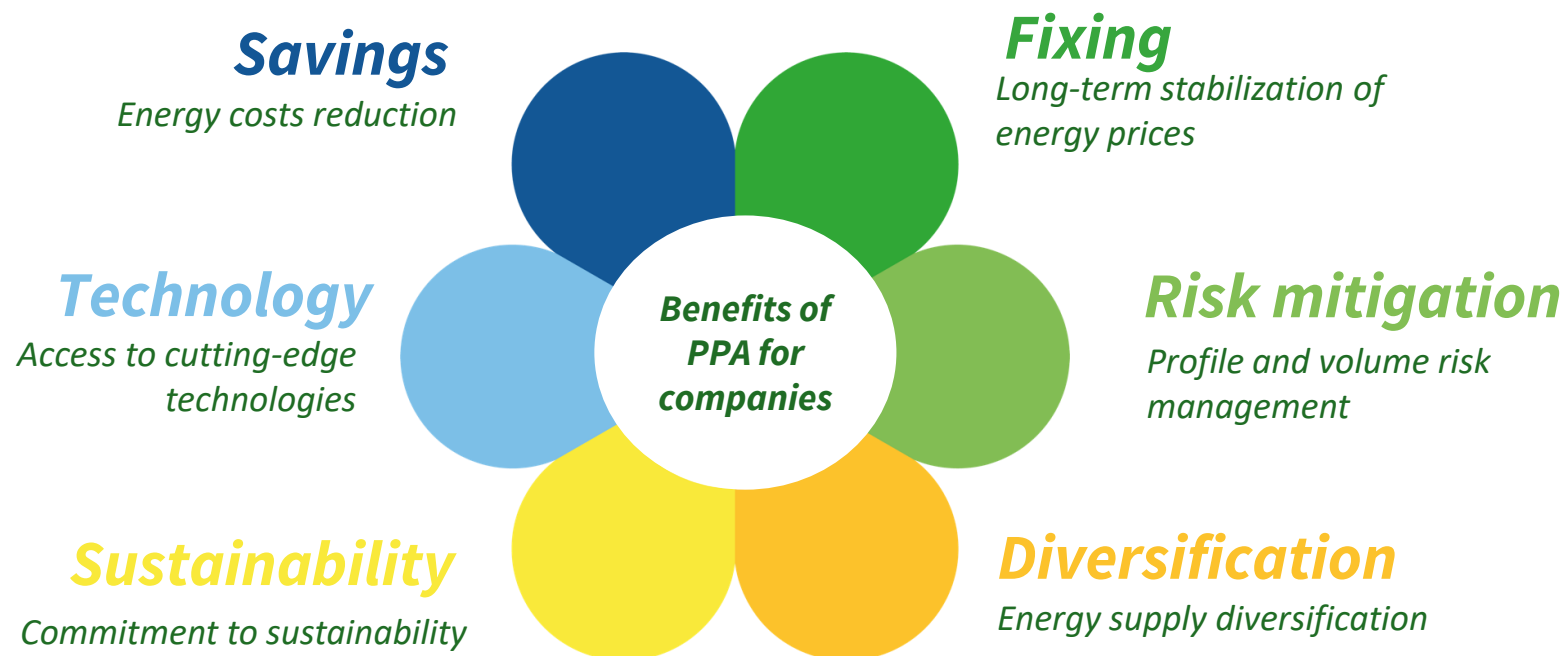
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Consumption distribution by sector and consumption class

Energy consumption by sector and consumption class, top 15 sectors
GWh per year, % of total by large consumption class



PPAs are the ideal instrument to sustain energy transition of Italian companies



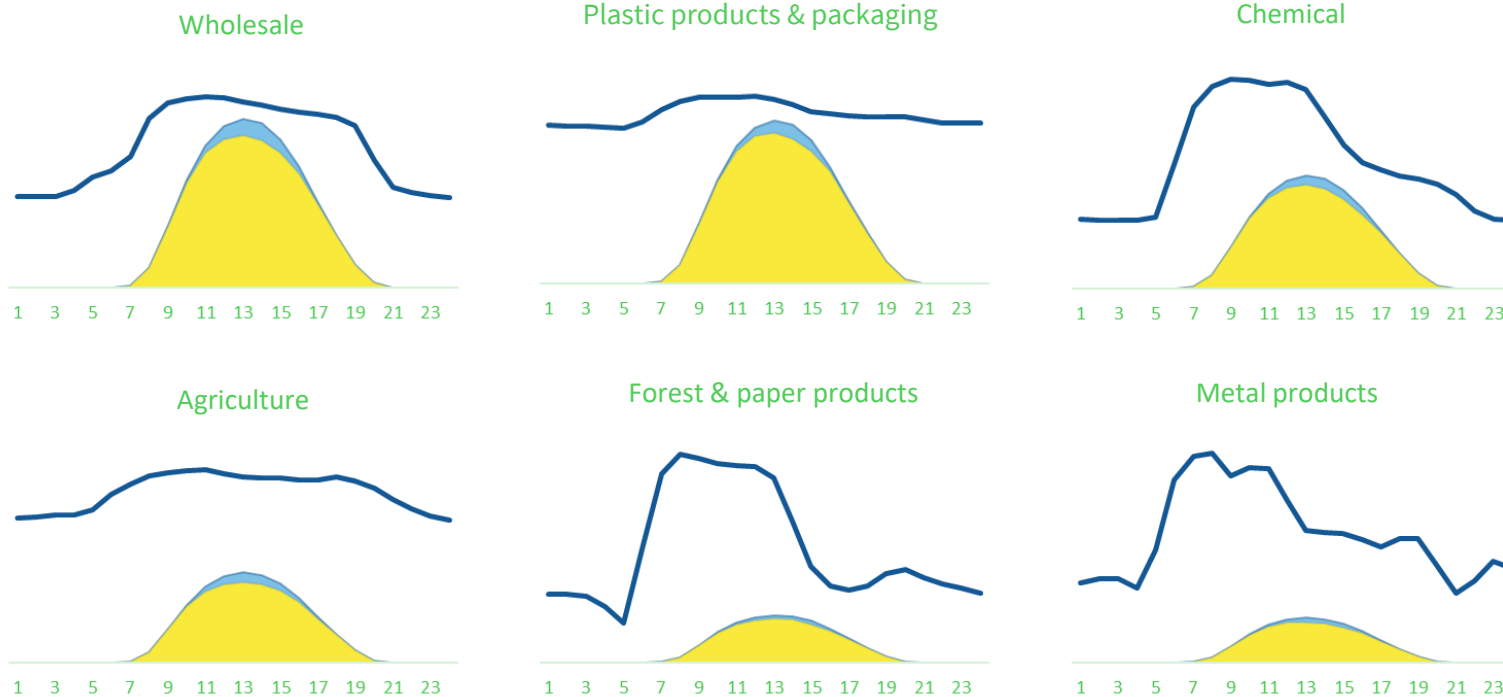
PPA enables companies to improve the competitiveness, corporate image and resilience of the corporate energy system, contributing to the transition to a more sustainable energy model



What is the PPA demand potential of the energy intensive companies?

- *Solar installed capacity has been prudently sized to ensure that 90% of the energy produced is absorbed by the specific sector's consumption profile, with only 10% of the energy fed into the grid.*
- *The potential of energy available for PPA varies according to the hourly and seasonal consumption profile of each energy-intensive sectors.*
- *Sectors that have a consumption profile less consistent with the solar production profile have less potential for switching to renewable energy through PPAs*

Average hourly profile (MWh)



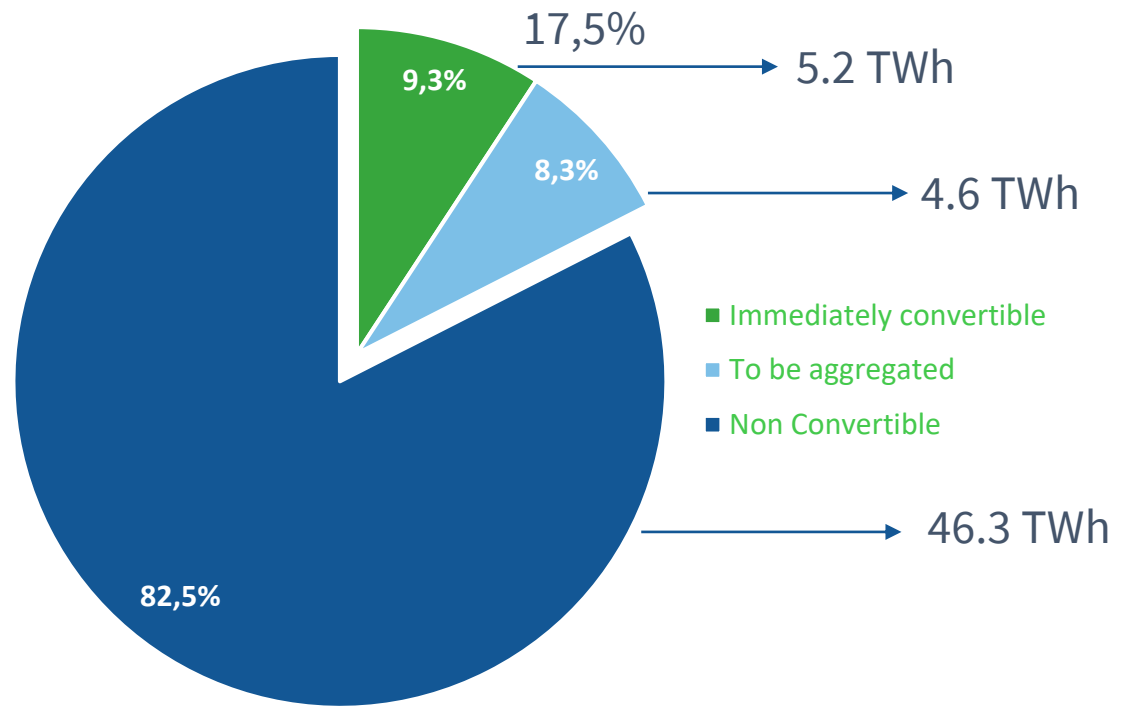
■ Energy absorbed through PPA Pay-as-produced
■ Exceed of energy injected into the grid
— Consumption profile

MBS elaborations based on historical profiles of industrial players

9.8 TWh of CPPAs photovoltaic-based might be activated by energy intensive companies

About 4 million tons of CO2 emissions avoided

Share of energy consumption convertible in PPA

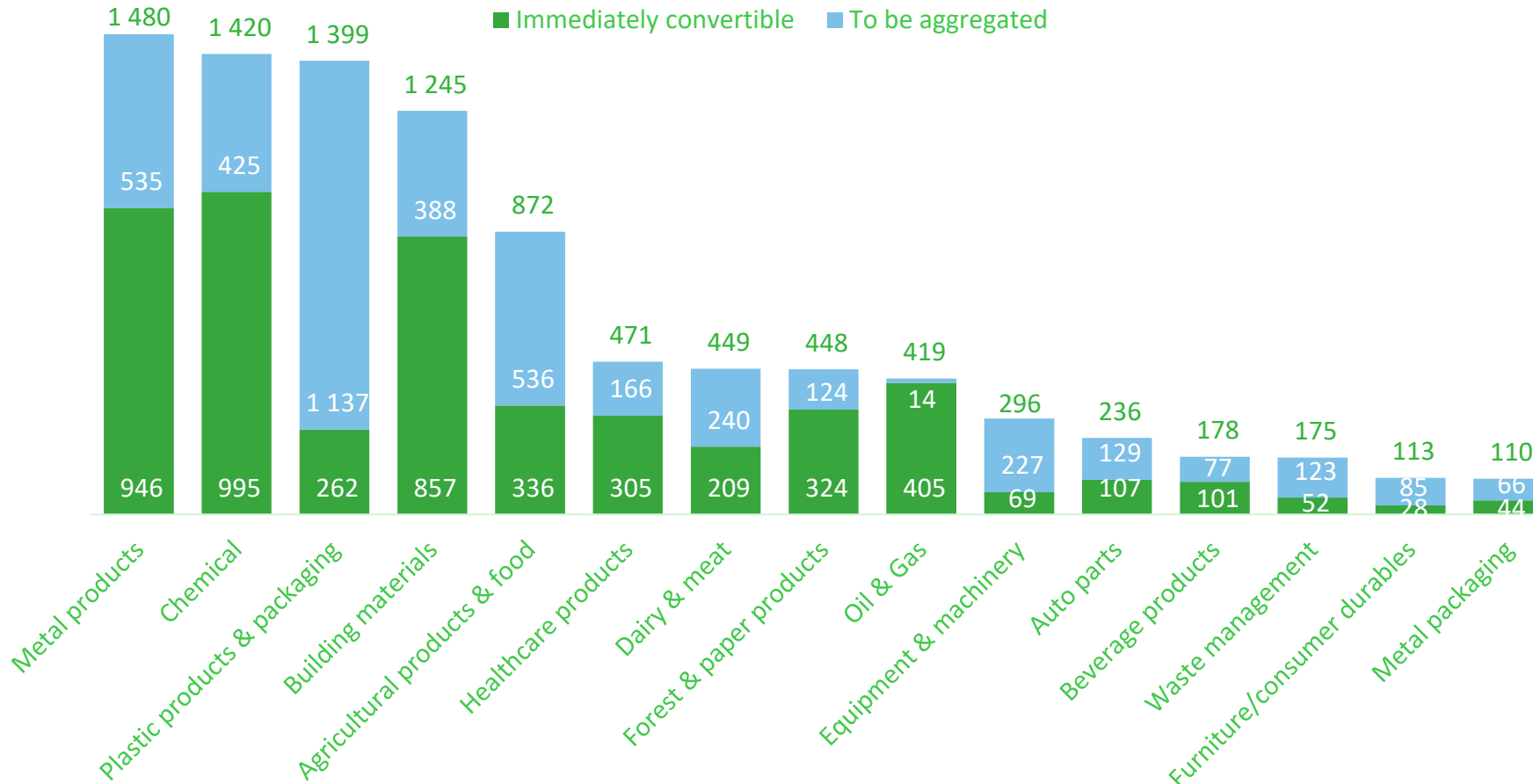


Total consumption 56.1 TWh (2021)

- **Immediately convertible**
Consumption by companies that consume more than 40 GWh per year
- **To be aggregated**
Consumption by companies that consume less than 40 GWh per year but aggregable through consortia
- **Non convertible**
Consumption that doesn't match the production profile of a PV plant

High demand potential for PPAs in the metallurgical, chemical, plastics and building materials sectors

Convertible consumption by sector (top 15)
GWh per year

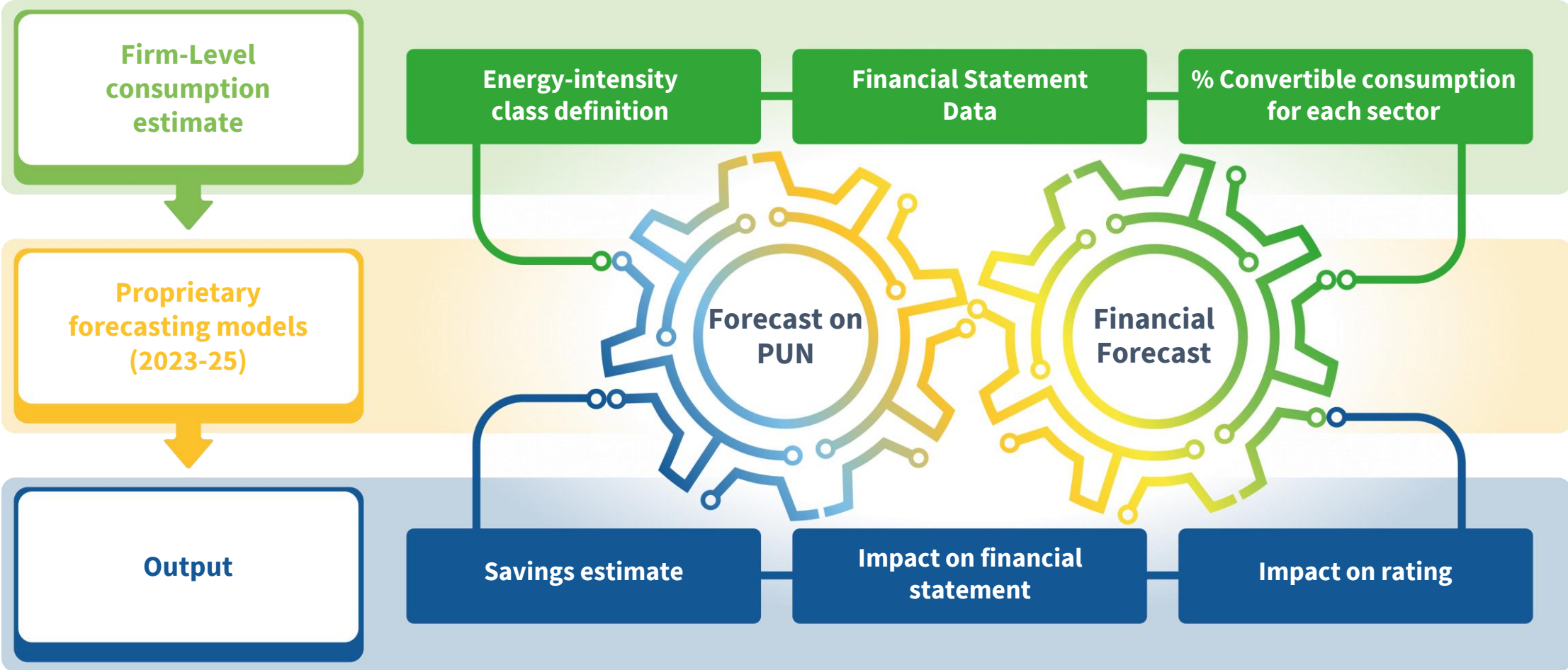


Sector	Immediate Counterparts
Building materials	53
Metal products	46
Chemical	25
Forest & paper products	25
Plastic products	15
Healthcare products	14
Agricultural products & food	12
Equipment & machinery	8
Dairy and meat	7
Auto parts	6
Metal packaging	5
Oil & Gas	5
Furniture/consumer durables	3
Beverage products	3
Waste management	1
Others	16
Total	244



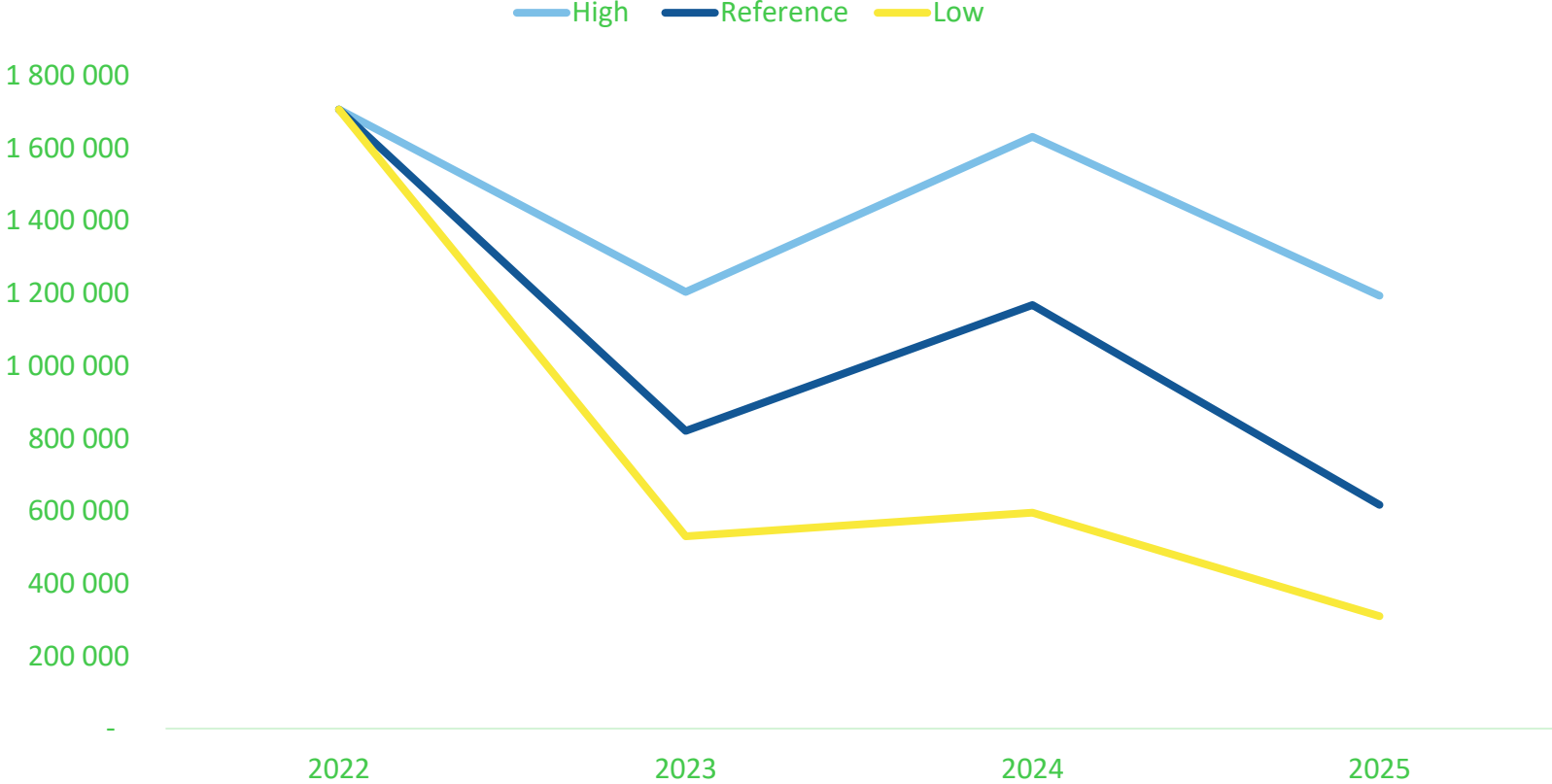
**The impact of PPA on financial
statement data and rating**

Model estimation



PPA as a source of savings: up to 4 billion € in the high scenario

Trend of savings by scenario, 2022-2025
Thousand €



Scenario	Cumulative savings 2023-2025 (M €)
High	4.029
Reference	2.606
Low	1.435

Who benefits the most? Sectoral and regional analysis

<i>Sector</i>	Cumulative savings, reference scenario (M €)	Saving 2023 / Gross operating margin
Metal products	392,8	4,5%
Chemical	376,7	5,7%
Plastic products & packaging	371,1	6,4%
Building materials	330,2	3,5%
Agricultural products & food	231,2	8,9%
Healthcare products	124,8	3,9%
Dairy & meat	119,1	8,1%
Forest & paper products	118,7	5,6%
Oil & Gas	111,2	4,1%
Equipment & machinery	78,4	3,4%
Auto parts	62,7	5,0%
Beverage products	47,1	6,4%
Waste management	46,4	4,6%
Furniture/consumer durables	29,9	2,8%
Metal packaging	29,1	3,7%
Textiles & apparel	28,4	1,5%
Mining	25,8	7,3%
Publishing	24,0	10,3%
Electrical equipment	21,1	3,5%
Others	38,0	N/A
Total	2606,7	4,8%

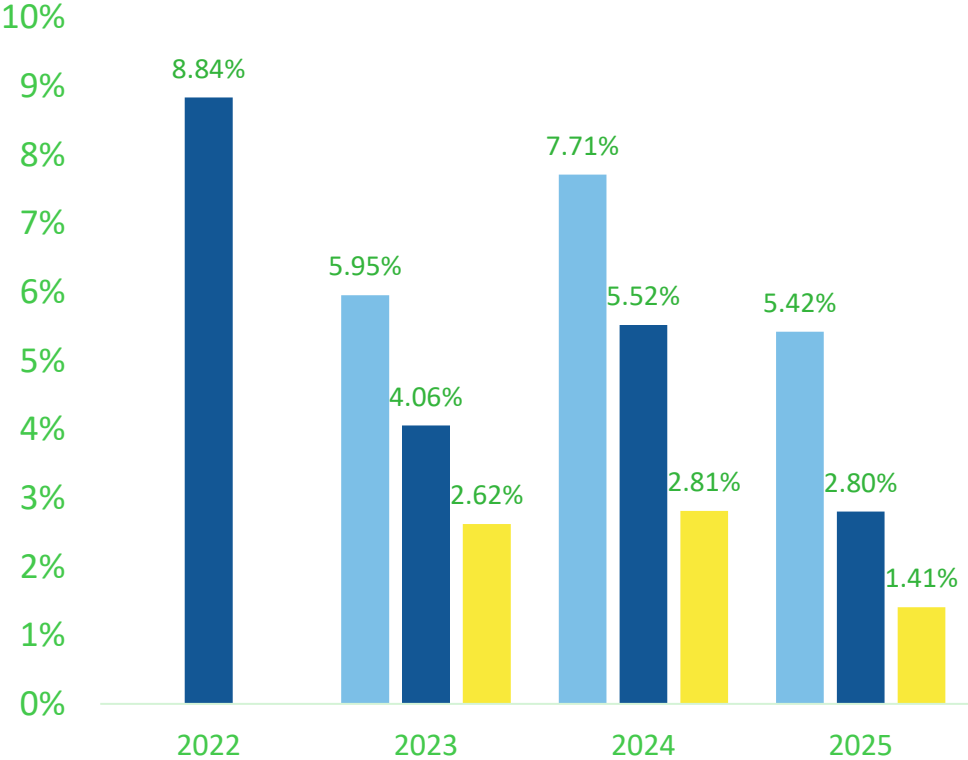
<i>Region</i>	Cumulative savings, reference scenario (M €)	Saving 2023 / Gross operating margin
Lombardia	715,7	4,1%
Emilia Romagna	327,9	4,7%
Veneto	306,3	4,0%
Piemonte	279,9	4,8%
Toscana	153,8	6,8%
Puglia	112,8	4,5%
Friuli Venezia Giulia	98,1	4,5%
Sicilia	94,1	4,0%
Lazio	82,9	4,5%
Campania	81,5	4,5%
Sardegna	67,4	6,4%
Abruzzo	56,0	7,3%
Marche	55,6	4,0%
Umbria	51,9	6,4%
Trentino Alto Adige	46,2	5,2%
Liguria	27,5	4,3%
Molise	18,3	6,5%
Basilicata	16,6	5,9%
Valle d'Aosta	7,3	3,0%
Calabria	6,9	3,2%
Italia	2606,7	4,8%



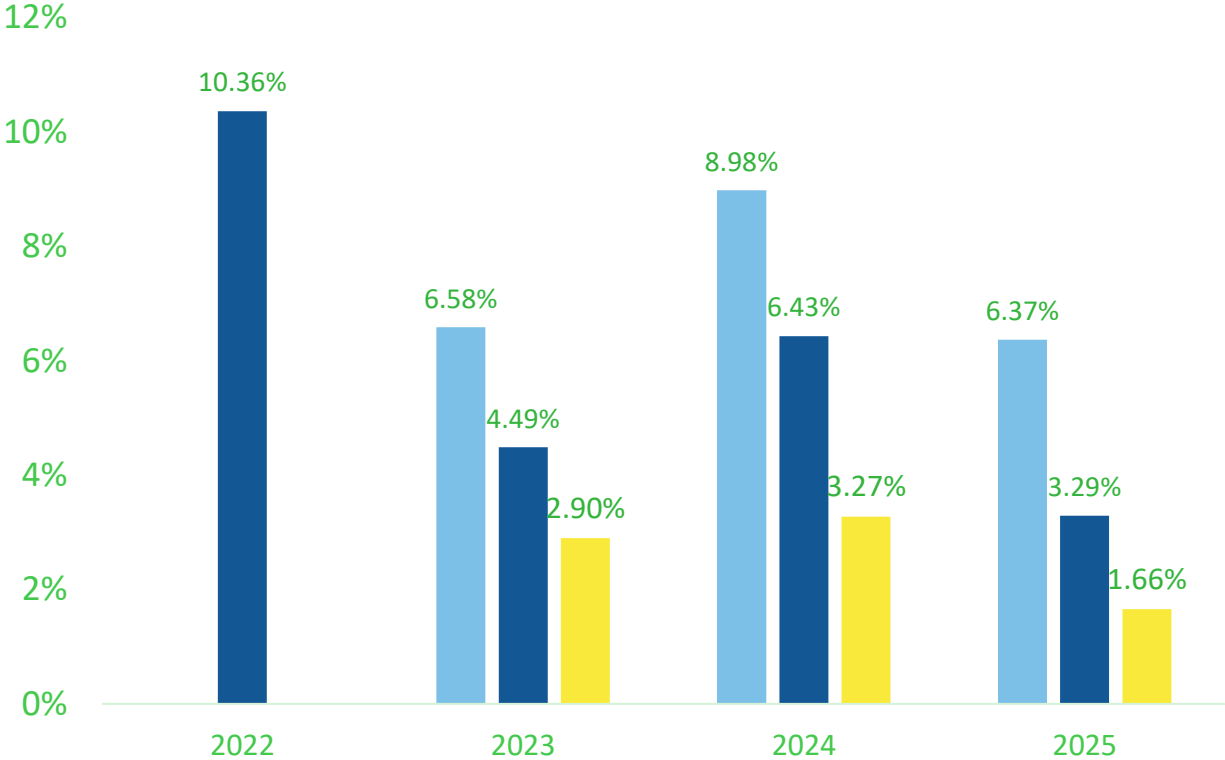
Impact on margins and debt service over 2022-2025

Through the use of PPA contracts corporates could improve both profitability and debt service coverage

Median EBITDA margin improvement



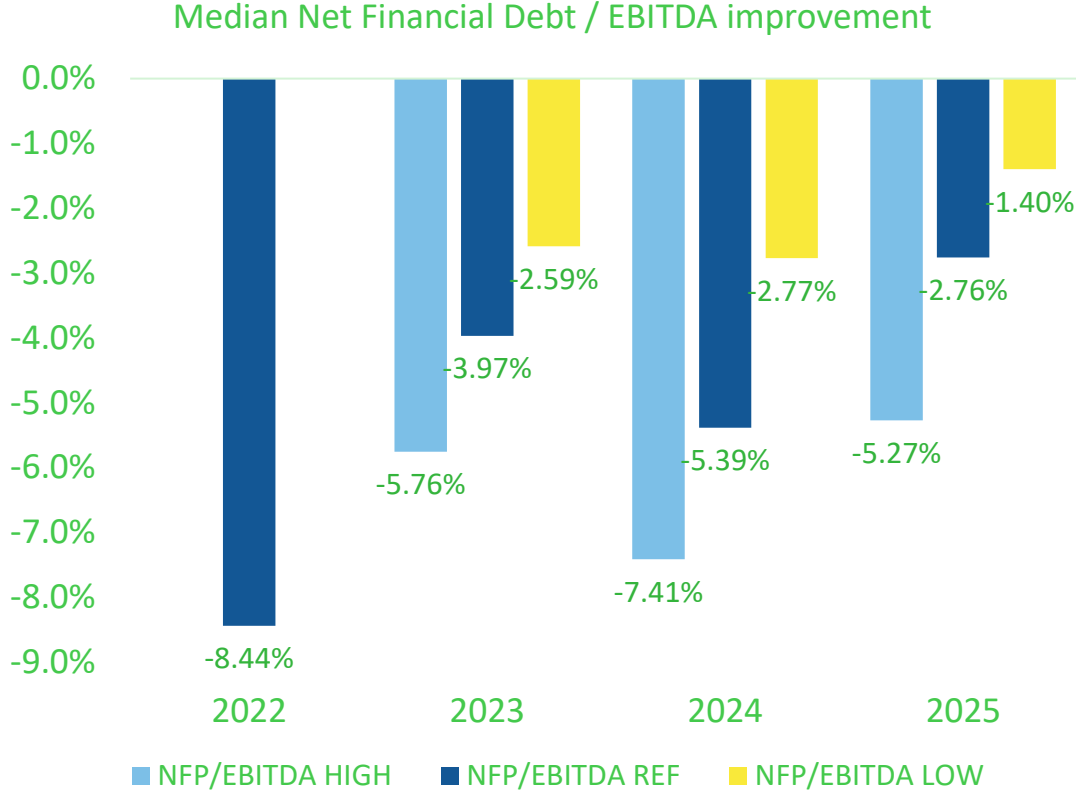
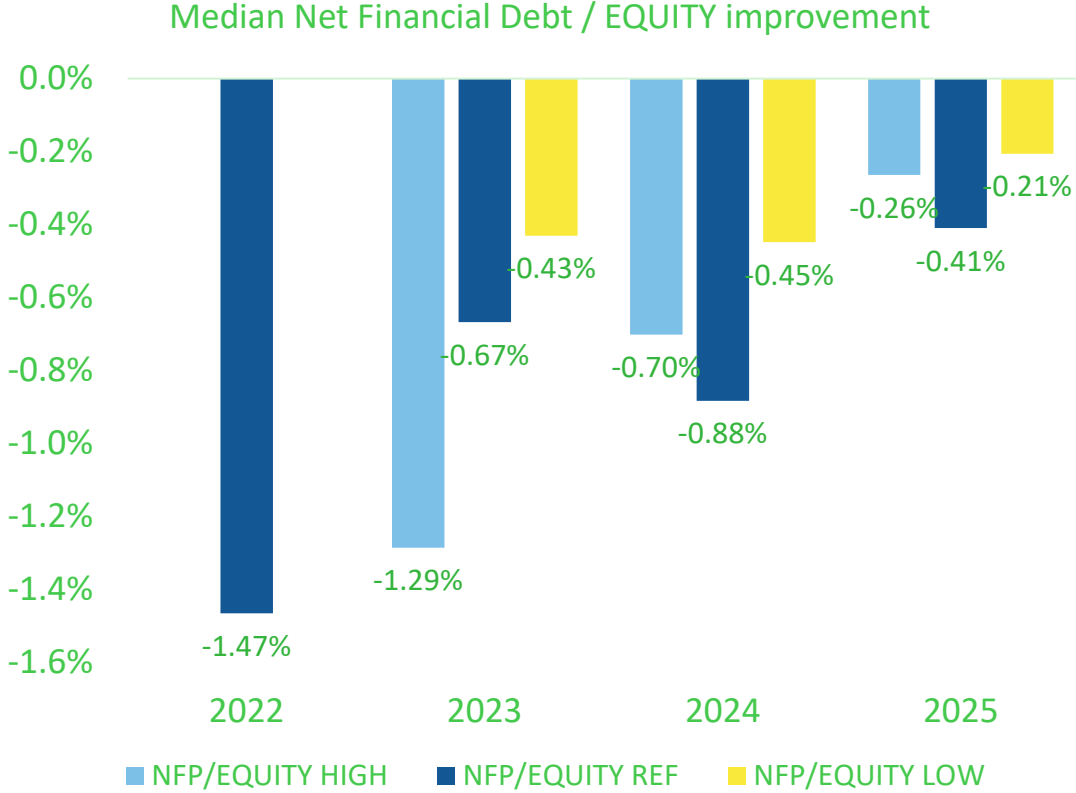
Median EBIT interest coverage improvement



Source: Cerved Rating Agency elaboration

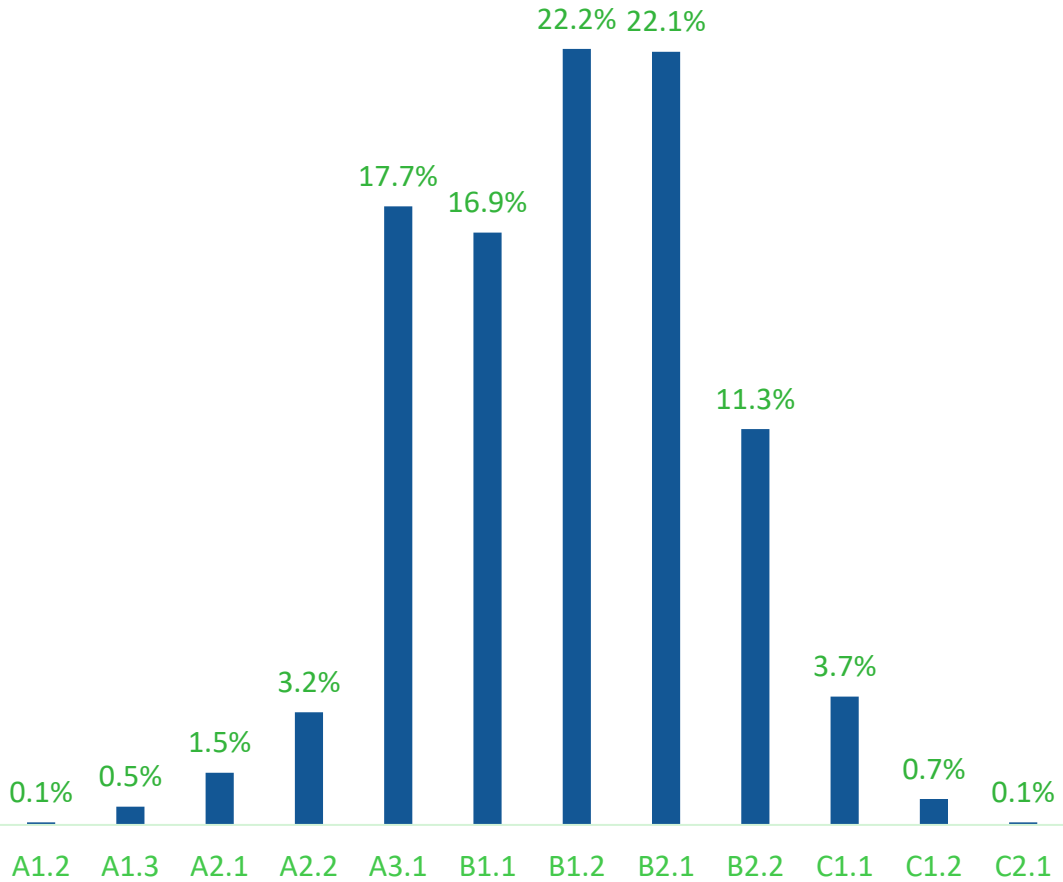
Impact on financial leverage over 2022-2025





Energy savings would also lead to an overall improvement in financial structure



Source: Cerved Rating Agency elaboration

Rating distributions for the energy intensive firms sample

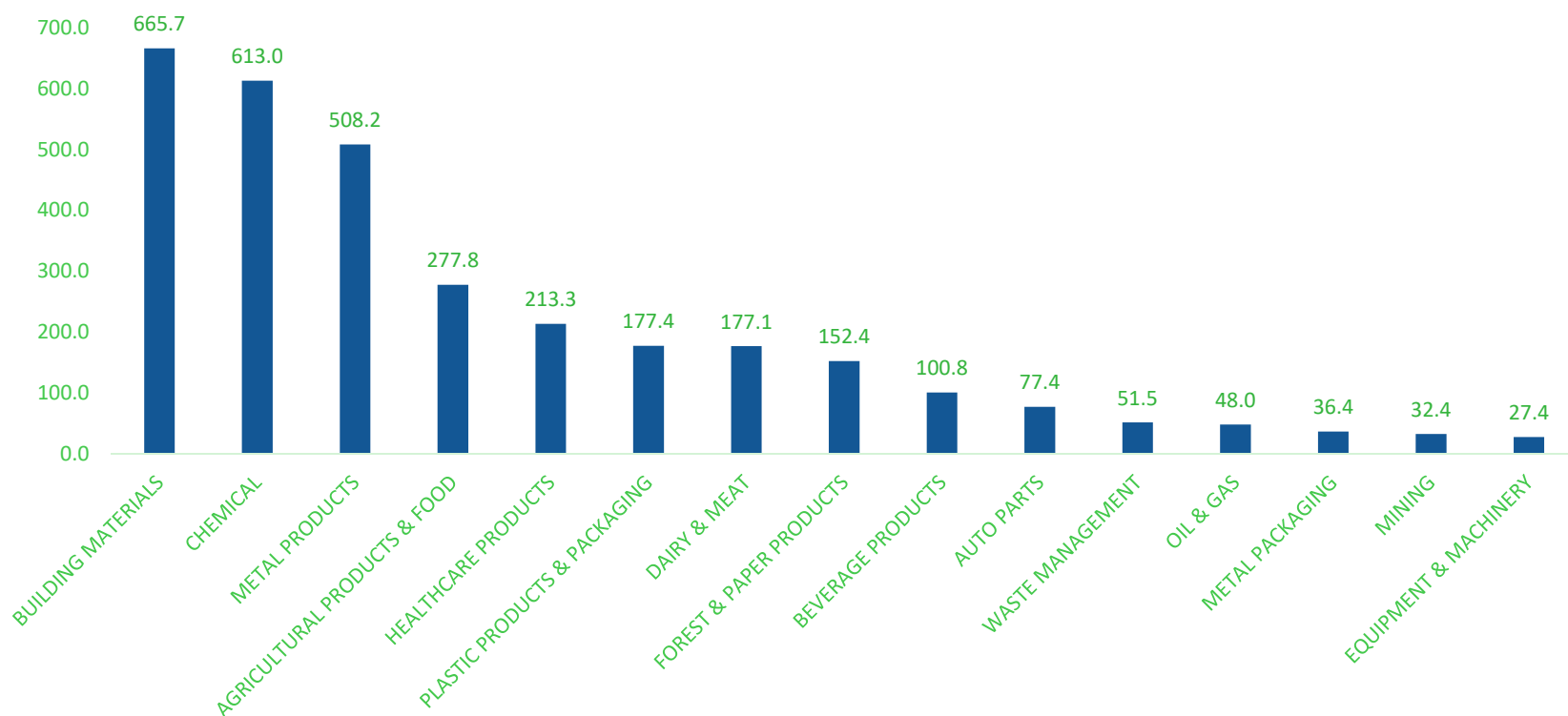


-  1335 energy intensive firms with outstanding regulatory rating
-  Almost 280K employees and total turnover over 190 billion €
-  829 firms with an investment grade rating
-  Probability of default of the selected sample:
Investment Grade 1.40%, Speculative Grade 7.87%

...of which 161 have the structure to immediately generate up to 3243 GWh from PPA

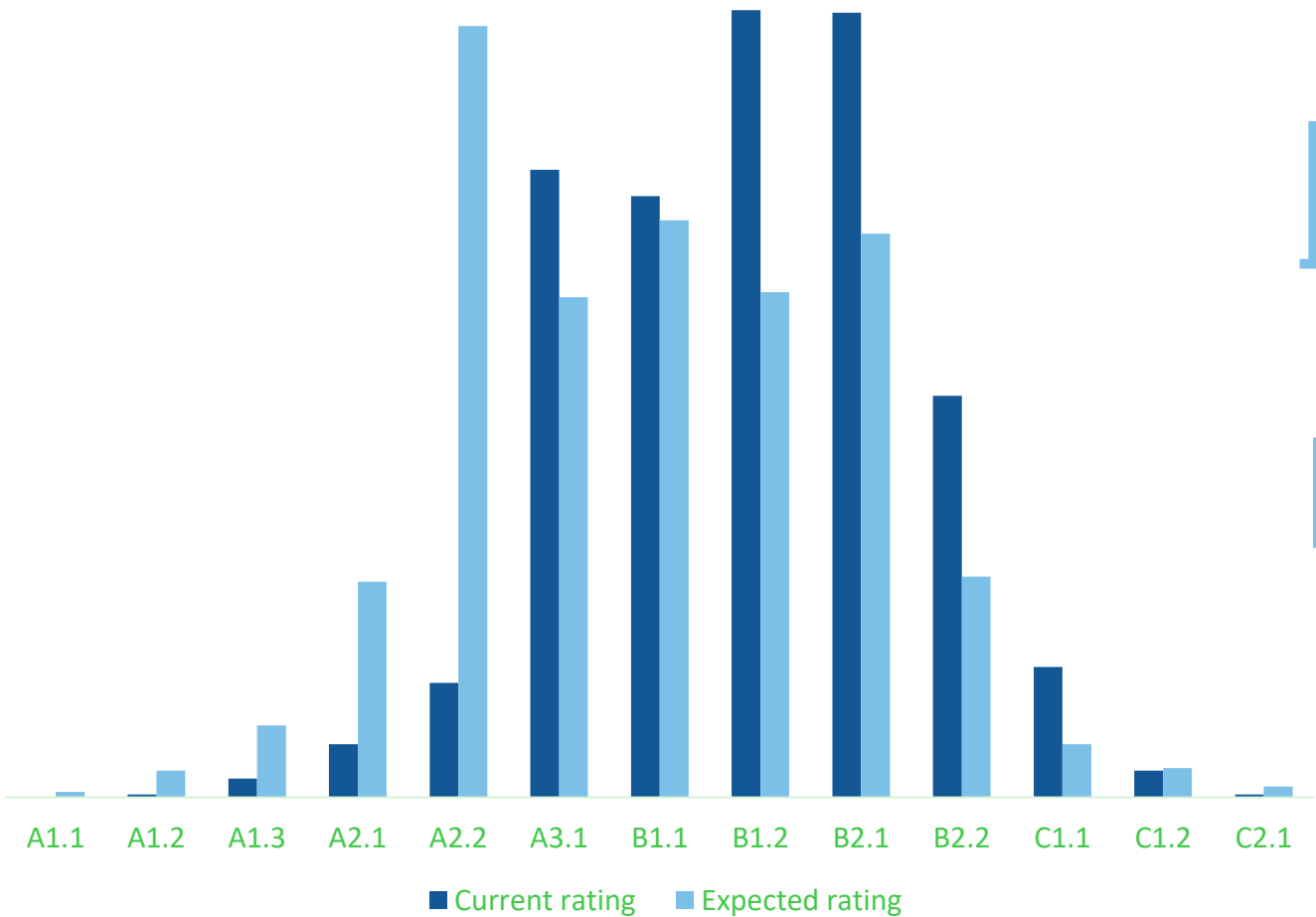
Convertible consumption by sector (top 15)
GWh per year

Top 15 Convertible consumption by sector Gwh per year



Sector	Immediate Counterparts
Building materials	40
Metal products	28
Chemical	18
Forest & paper products	13
Plastic products & packaging	10
Agricultural products & food	9
Healthcare products	8
Dairy & meat	5
Auto parts	4
Equipment & machinery	4
Metal packaging	4
Textiles & apparel	4
Beverage products	3
Electrical equipment	3
Fornitures/consumer durables	2
Mining	2
Publishing	2
Oil & gas	1
Waste management	1
Total	161

Expected ratings evolution in case of PPA subscription



+176 firms with IG



Average PD from 3.85% to 2.75%

Potential benefits from PPA: energy cost saving, less risk, greater space for investments

1335
Initial
sample

Additional sustainable indebtedness

Additional debt up to the ratio NFD / EBITDA equal to 4

Rating still in investment grade

660 IG
firms

After the subscription of PPA, firms could augment their **capacity of investment** up to **25 billion €** of additional debt

This debt would be **sustainable from a financial point of view**, meaning sufficiently capable to maintain the investment rating grade and **not to jeopardise** the economic and financial structure



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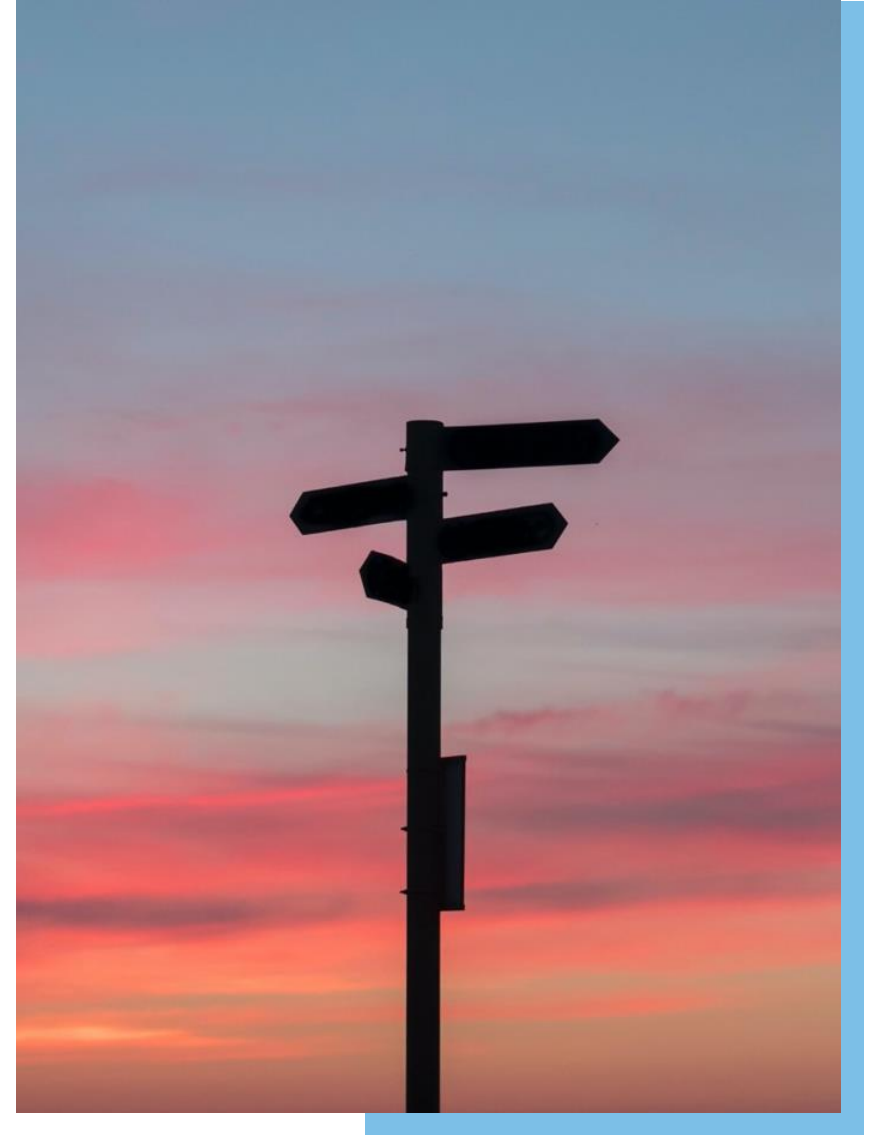
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Key messages and conclusion

Key messages and conclusion

- Energy intensive companies are ideal counterparts for PPAs
- 9.8 TWh of CPPAs photovoltaic-based might be activated.
About 4 million tons of CO2 emissions will be avoided
- PPA subscription could have a potential positive impact on financial statement figures, credit rating and default probability
- Savings resulting from PPA adoption could be converted into new investments, also from a sustainable perspective



Thanks

