

Institute for European Analysis and Policy

Green transition, innovation and defense

Pier Carlo Padoan

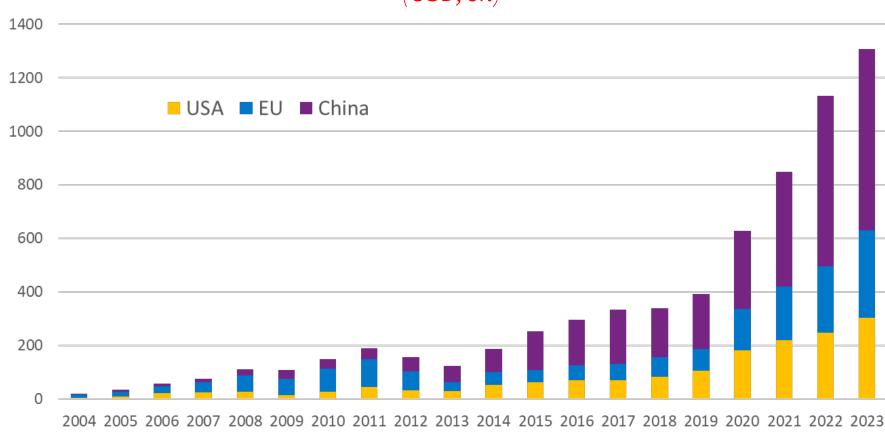
8 aprile 2024

TOTAL INVESTMENT RELATED TO GREEN TRANSITION HAS STEADILY INCREASED ACROSS MAIN GEOGRAPHIES DRIVEN BY CHINA

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Public and private investment in energy transition

(USD, bn)





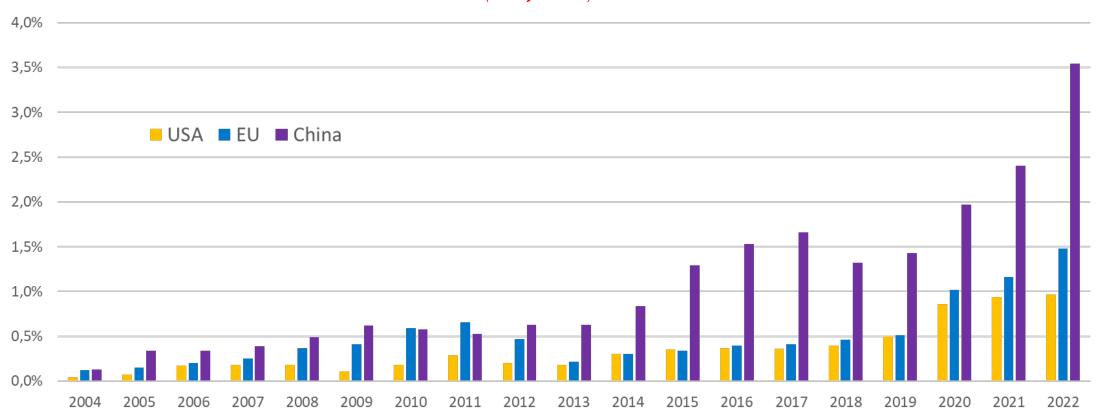


CHINA'S DOMINANCE EVEN MORE EVIDENT IN RELATIVE TERMS

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Public and private investment in energy transition

(% *of GDP*)



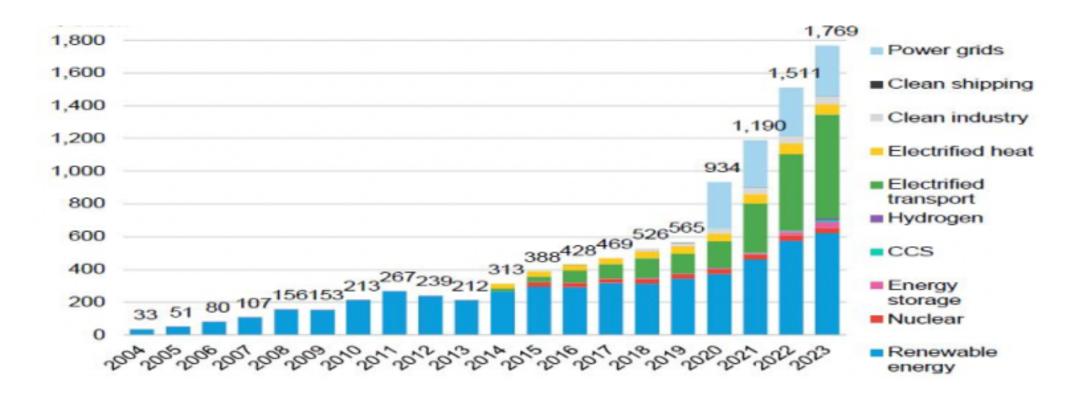




ENERGY TRANSITION: RENEWABLE ENERGY AND ELECTRIFIED TRANSPORT ATTRACT MOST PART OF INVESTMENTS

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Investments in the global energy transition, by sector $(bn\ USD)$



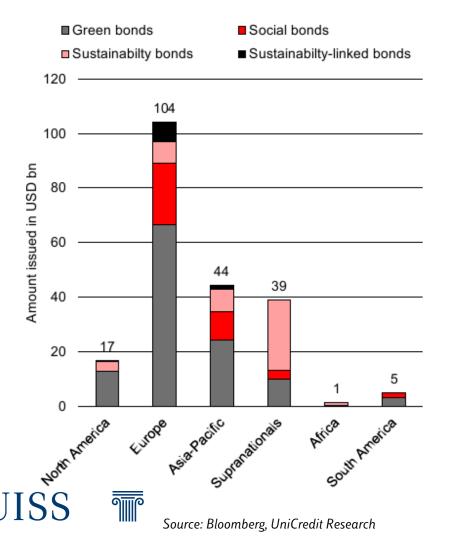




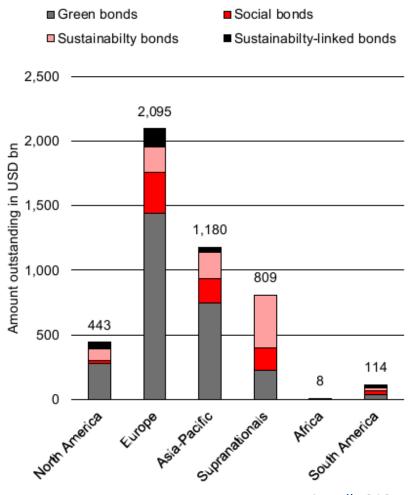
GREEN, SOCIAL, SUSTAINABILITY AND SUSTAINABILITY-LINKED BONDS ISSUANCE TRENDS: EUROPE REMAINS IN

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THE LEAD graphic distribution in 2024



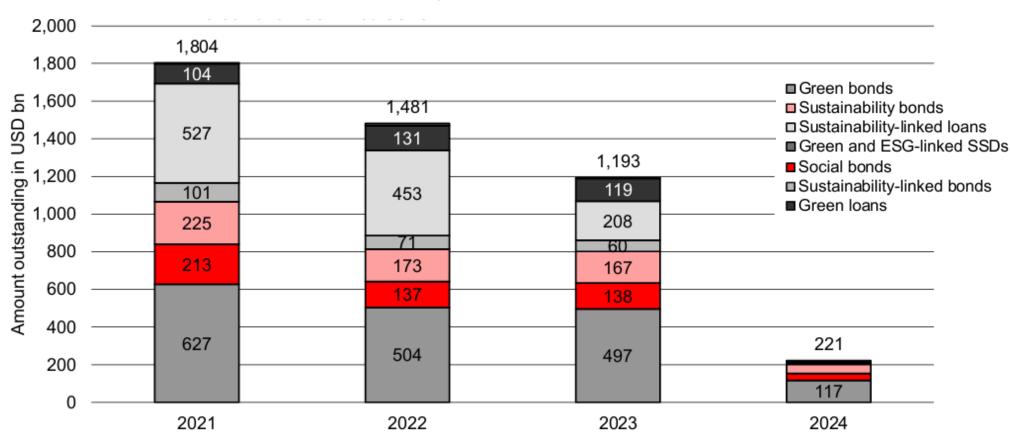
Geographic distribution overall



GLOBAL SUSTAINABLE FINANCE MARKET: VOLUME DECLINE, DRIVEN ESPECIALLY BY LOANS

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Sustainable finance volume



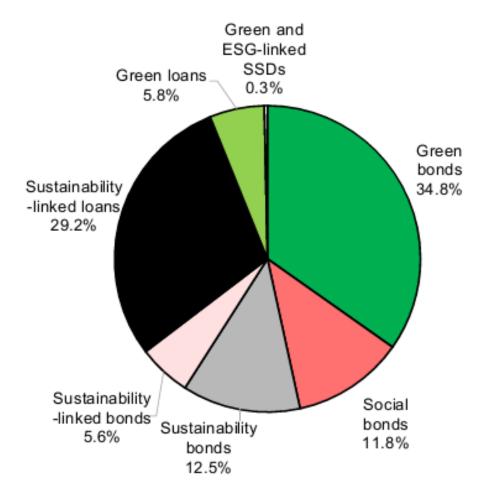




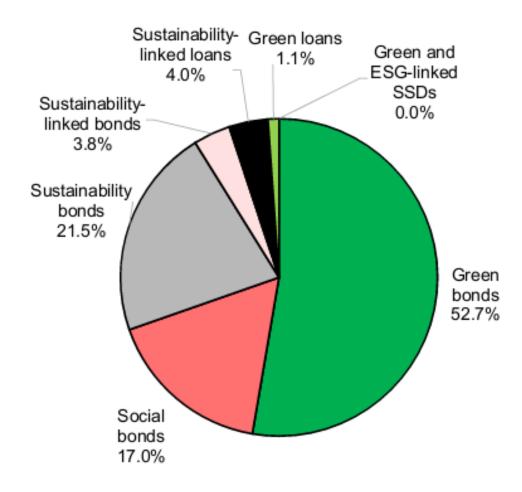
GLOBAL ESG PRODUCTS MARKET: GREEN BONDS REMAIN DOMINANT

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Breakdown issuance in 2021



Breakdown issuance in 2024



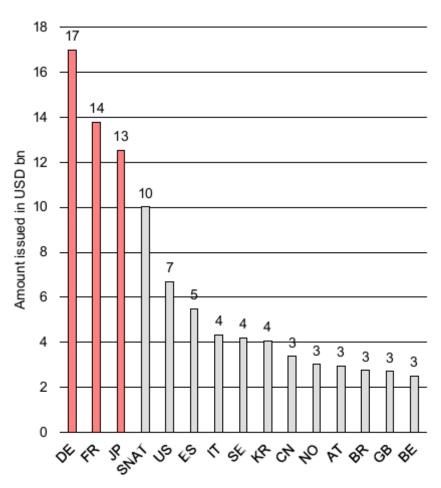




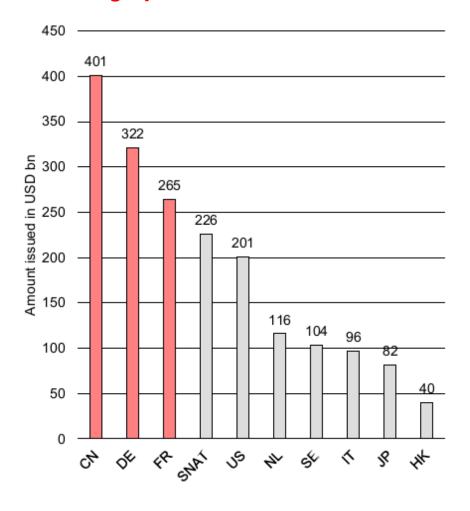
FOCUS ON GREEN BOND SUPPLY: GERMANY LEADS EUROPEAN ISSUANCE

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Geographic distribution in 2024



Geographic distribution overall





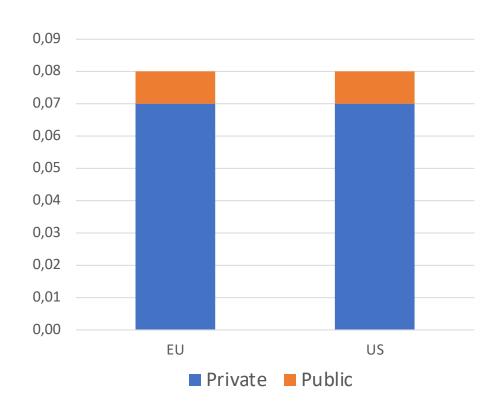


INVESTMENTS IN ARTIFICIAL INTELLIGENCE IS DRIVEN BY PRIVATE SECTOR WITH US ACCELERATING

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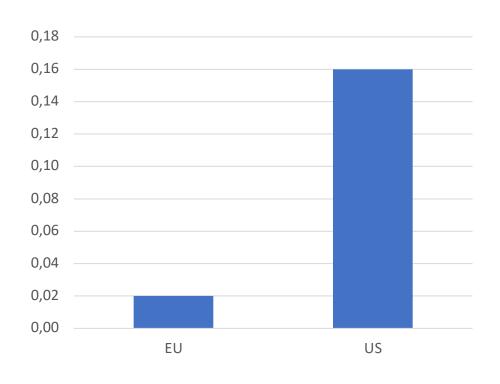
Al investments

(% of GDP, 2020)



Private investments in AI

(% of GDP, 2022)







Source: AI Watch (European Commission)

NoteThe comparison of the AI investments in the EU and US covers R&D,

Data and equipment and Intangible assets and excludes the Skill
investment category (for which data are not comparable)

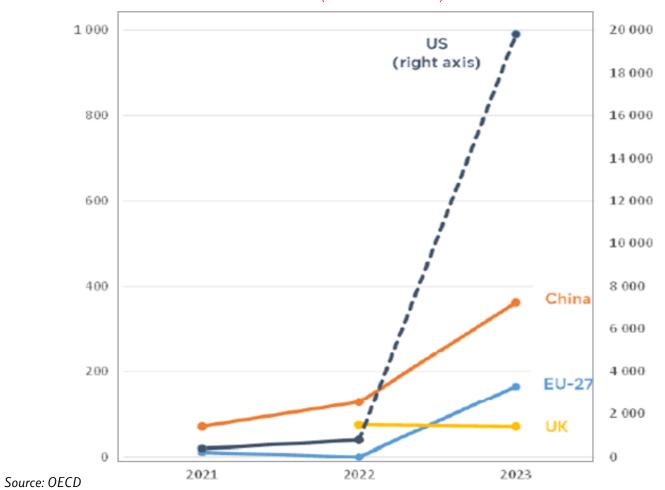
Source: 2023 Al Index Report, Standford University

KEY ROLE PLAYED BY VENTURE CAPITAL INVESTMENTS: GREAT GAP FOR EUROPE VS MAJOR ECONOMIES

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Venture capital investments in generative AI

(Euro billion)



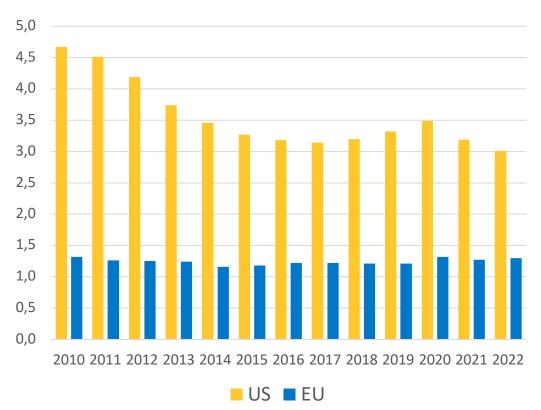




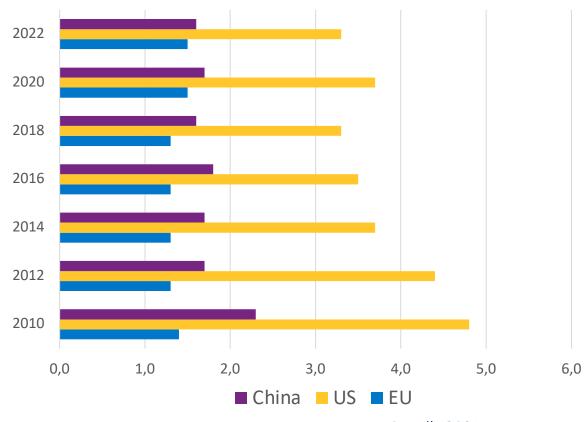
DEFENSE IS ANOTHER IMPORTANT CHAPTER OF INVESTMENT IN WHICH EUROPE LAGS BEHIND COMPETITORS

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Total defence expenditure (% GDP)







Source: OECD