Image Source: https://youmatter.world/en/definition/definitions-esg-what-is-it-definition-principles-and-examples/

# "Orçamento Verde como acelerador da produtividade e da neutralidade carbónica"


## Sofia Santos

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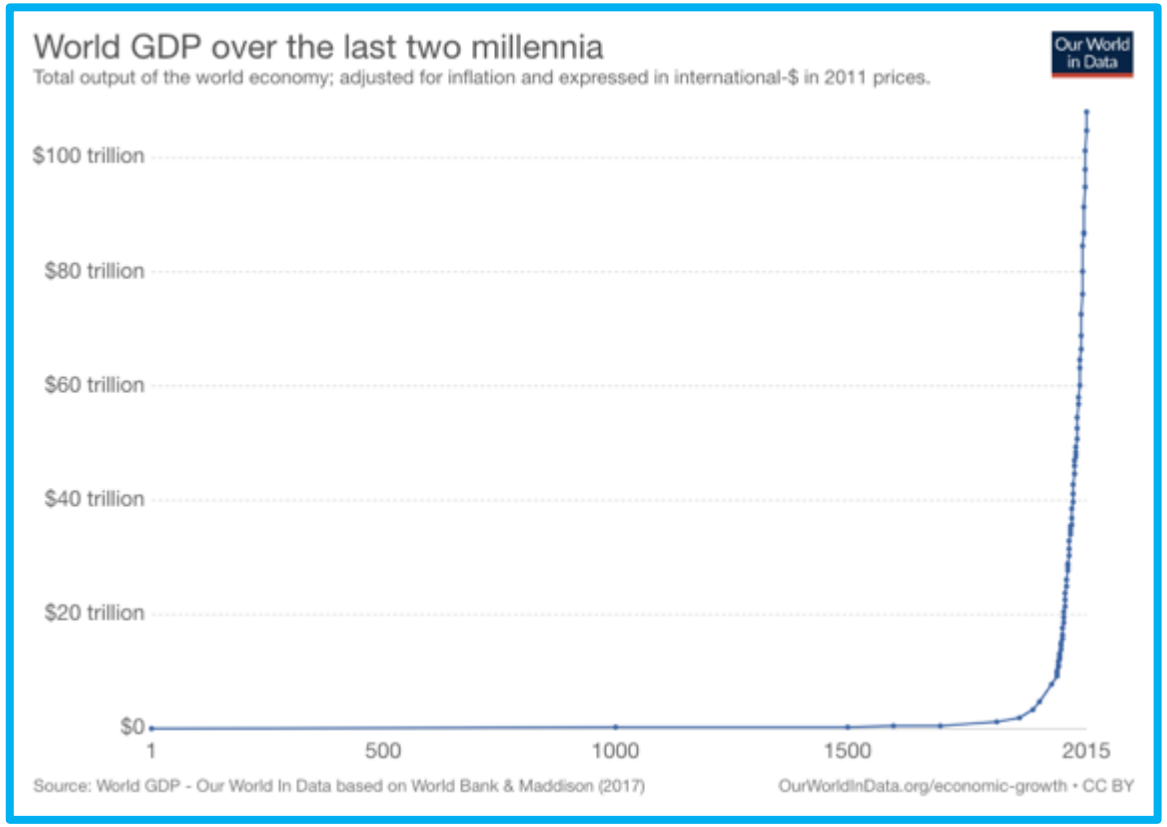
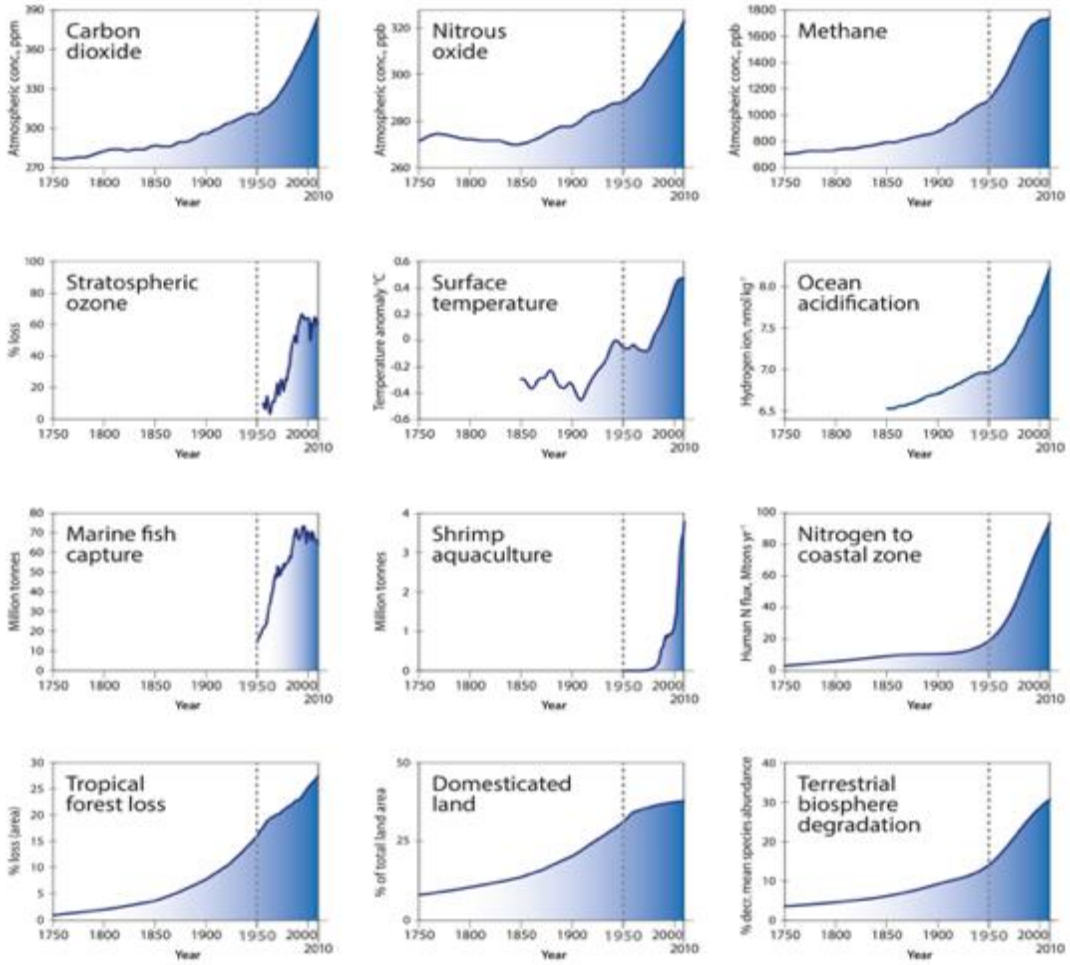
29/9/2022

# Relembrar o que o um crescimento do PIB Também implica

## Sistema Económico




## Sistema Terrestre




W. Steffen, W. Broadgate, L. Deutsch, O. Gaffney and C. Ludwig (2015), The Trajectory of the Anthropocene: the Great Acceleration, The Anthropocene Review. http://www.futureearth.org/blog/2015-jan-16/great-acceleration

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# Pelo menos 50% do PIB depende da natureza

FIGURE 4:
**Percentage of direct and supply chain GVA with high, medium and low nature dependency, by industry**


WORLD ECONOMIC FORUM

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# Se a temperatura sobe o PIB desce

Swiss Re Institute

April 2021

**The economics of climate change: no action not an option**

| | Temperature rise scenario, by mid-century | | | |
|---|---|---|---|---|
| | Well-below 2°C increase | 2.0°C increase | 2.6°C increase | 3.2°C increase |
| | *Paris target* | *The likely range of global temperature gains* | | *Severe case* |
| **Simulating for economic loss impacts from rising temperatures in % GDP, relative to a world without climate change (0°C)** | | | | |
| World | −4.2% | −11.0% | −13.9% | −18.1% |
| OECD | −3.1% | −7.6% | −8.1% | −10.6% |
| North America | −3.1% | −6.9% | −7.4% | −9.5% |
| South America | −4.1% | −10.8% | −13.0% | −17.0% |
| Europe | −2.8% | −7.7% | −8.0% | −10.5% |
| Middle East & Africa | −4.7% | −14.0% | −21.5% | −27.6% |
| Asia | −5.5% | −14.9% | −20.4% | −26.5% |
| Advanced Asia | −3.3% | −9.5% | −11.7% | −15.4% |
| ASEAN | −4.2% | −17.0% | −29.0% | −37.4% |
| Oceania | −4.3% | −11.2% | −12.3% | −16.3% |

Source: https://www.swissre.com/dam/jcr:e73ee7c3-7f83-4c17-a2b8-8ef23a8d3312/swiss-re-institute-expertise-publication-economics-of-climate-change.pdf

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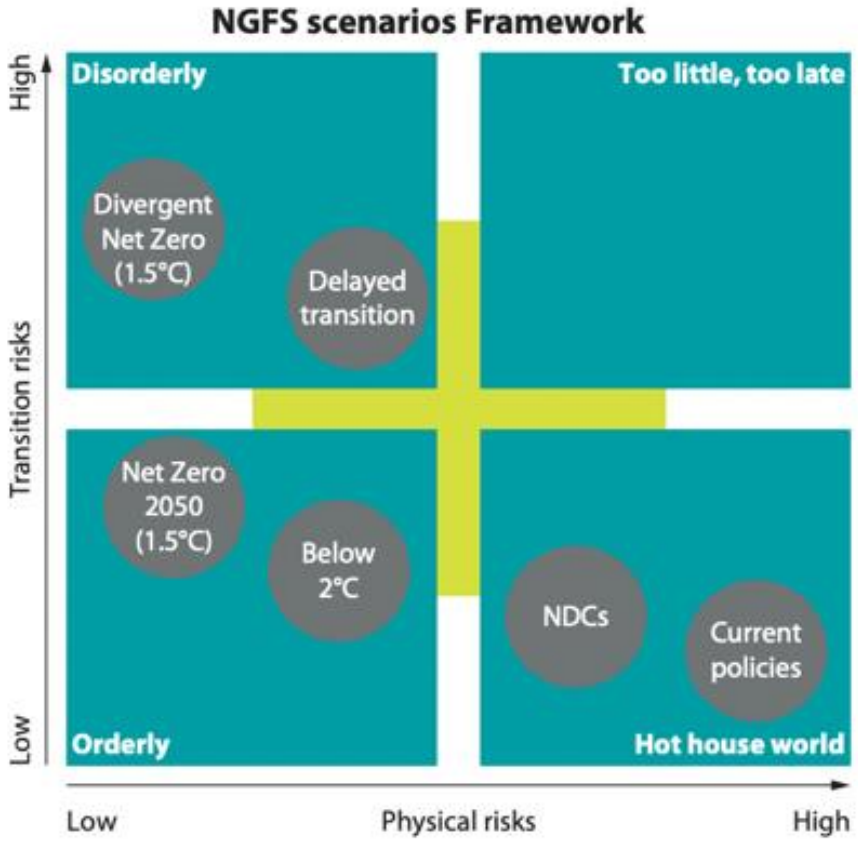
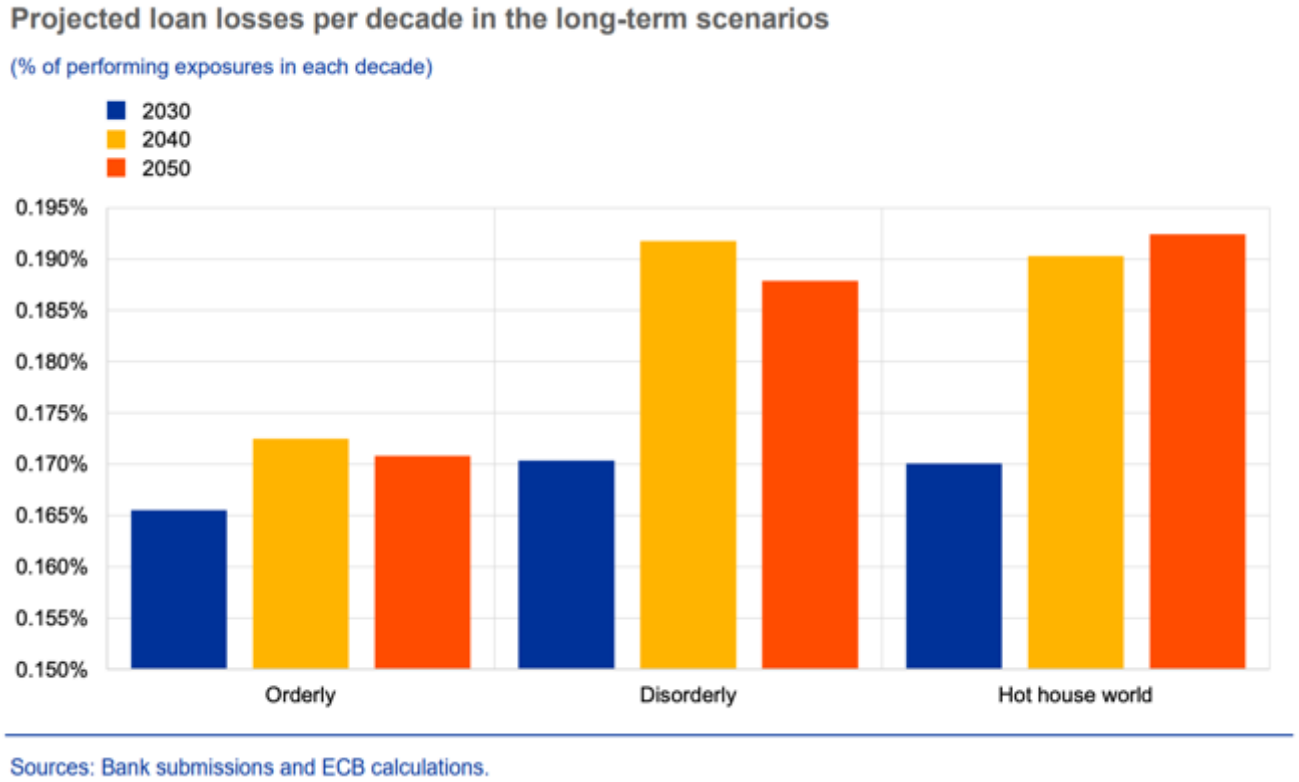
# Os bancos centrais criam cenários possíveis relativamente ao aumento da temperatura




Positioning of scenarios is approximate, based on an assessment of physical and transition risks out to 2100.




https://www.ngfs.net/sites/default/files/media/2021/08/27/ngfs_climate_scenarios_phase2_june2021.pdf

https://www.ngfs.net/ngfs-scenarios-portal/

# Green Deal implica Green Budgets

## Green budgeting in the EU

Green budgeting means using the tools of budgetary policymaking to help achieve climate and environmental goals.

**What is Green Budgeting?**

Green budgeting means using the tools of budgetary policymaking to help achieve climate and environmental goals.

Green budgeting is a process whereby the environmental contributions of budgetary items and policies are identified and assessed with respect to specific performance indicators, with the objective of better aligning budgetary policies with environmental goals.

https://economy-finance.ec.europa.eu/economic-and-fiscal-governance/green-budgeting-eu_en

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# Green Deal implica Green Budgets, e já existe um fremework que está a ser testado

## European Commission Green Budgeting Reference Framework

**As green budgeting is slowly expanding worldwide, some early lessons can be drawn.** Within the EU, for example, those countries implementing some form of green budgeting have deployed a broad variety of practices, offering valuable examples to other Member States willing to embark in the process. Considering various existing green budgeting approaches, this note distils those elements that would be key for implementing green budgeting and proposes a ***green budgeting reference framework for the EU Member States***.

**The Green Budgeting Reference Framework (GBRF) can serve a double purpose.** On the one hand, it seeks to provide **a basic toolkit** for Member States willing to either embark upon

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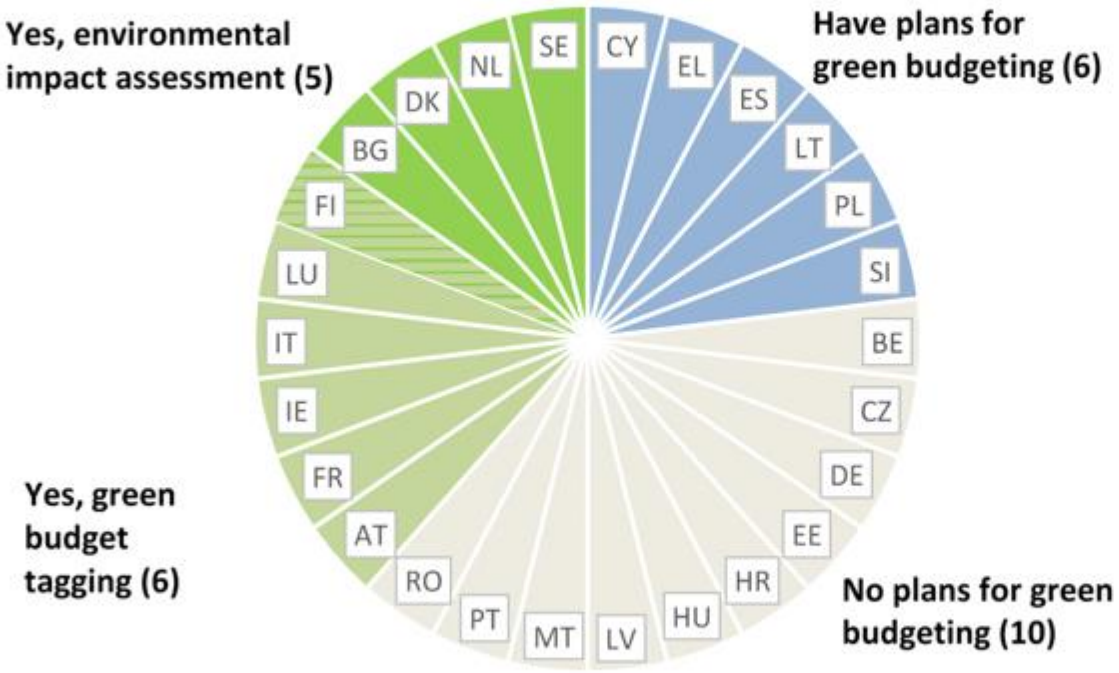
Exemplos

# Green Budgeting practices

**… across responding EU Member States**




*Finland is performing both green budget tagging and environmental impact assessments.
***Source:*** 2021 European Commission survey on green budgeting

*In most cases, the Ministry of Finance takes the lead and cooperates with line ministries.*

European Commission

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# França, Itália, Irlanda, Finlândia, Suécia.....

Table A1: **Environmental expenditure in the French 2021 budget**

| | Total | Neutral | Environmental | Favourable | Mixed | Unfavourable |
|---|---|---|---|---|---|---|
| Expenditure | 488.4 | 446.6 | 41.8 | 34.7 | 4.2 | 2.9 |
| % total expenditure | 85.1 | 77.8 | 7.3 | 6.0 | 0.7 | 0.5 |
| Tax expenditure | 85.8 | 74.8 | 11 | 3.4 | 0.4 | 7.2 |
| % total expenditure | 14.9 | 13.0 | 1.9 | 0.6 | 0.1 | 1.3 |
| Total | 574.2 | 521.4 | 52.8 | 38.1 | 4.7 | 10 |
| % total expenditure | | 90.8 | 9.2 | 6.6 | 0.8 | 1.7 |

Source: Yellow Book 2021, Environmental Impact of the State Budget.

Table A2: **Expenditure by environmental objectives, 2021 budget**

| | Climate mitigation | Climate adaptation | Water | Waste | Pollution | Biodiversity |
|---|---|---|---|---|---|---|
| Favourable | 37.0 | 28.3 | 17.9 | 15.5 | 30.2 | 11.0 |
| % favourable expenditure | 97.2 | 74.3 | 47.1 | 40.8 | 79.1 | 29.0 |
| Unfavourable | 9.6 | 2.3 | 3.4 | 5.2 | 7.5 | 5.0 |
| % unfavourable expenditu | 96.4 | 22.8 | 34.4 | 51.9 | 74.9 | 49.7 |

Source: Yellow Book 2021, Environmental Impact of the State Budget.

https://economy-finance.ec.europa.eu/publications/green-budgeting-practices-eu-first-review_en

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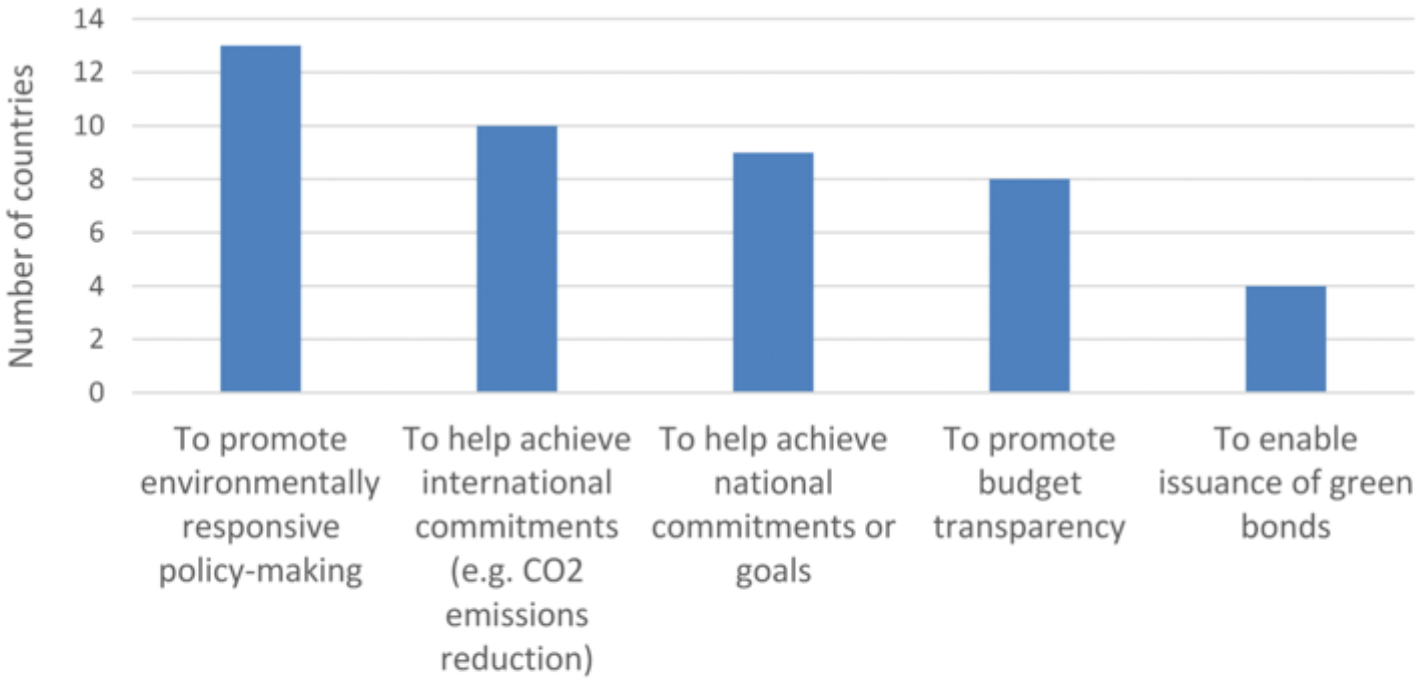
# Os Motivos para se implementar Green Budget variam...

## Motivation

**… for practicing green budgeting**




***Source:*** 2021 European Commission survey on green budgeting

European Commission

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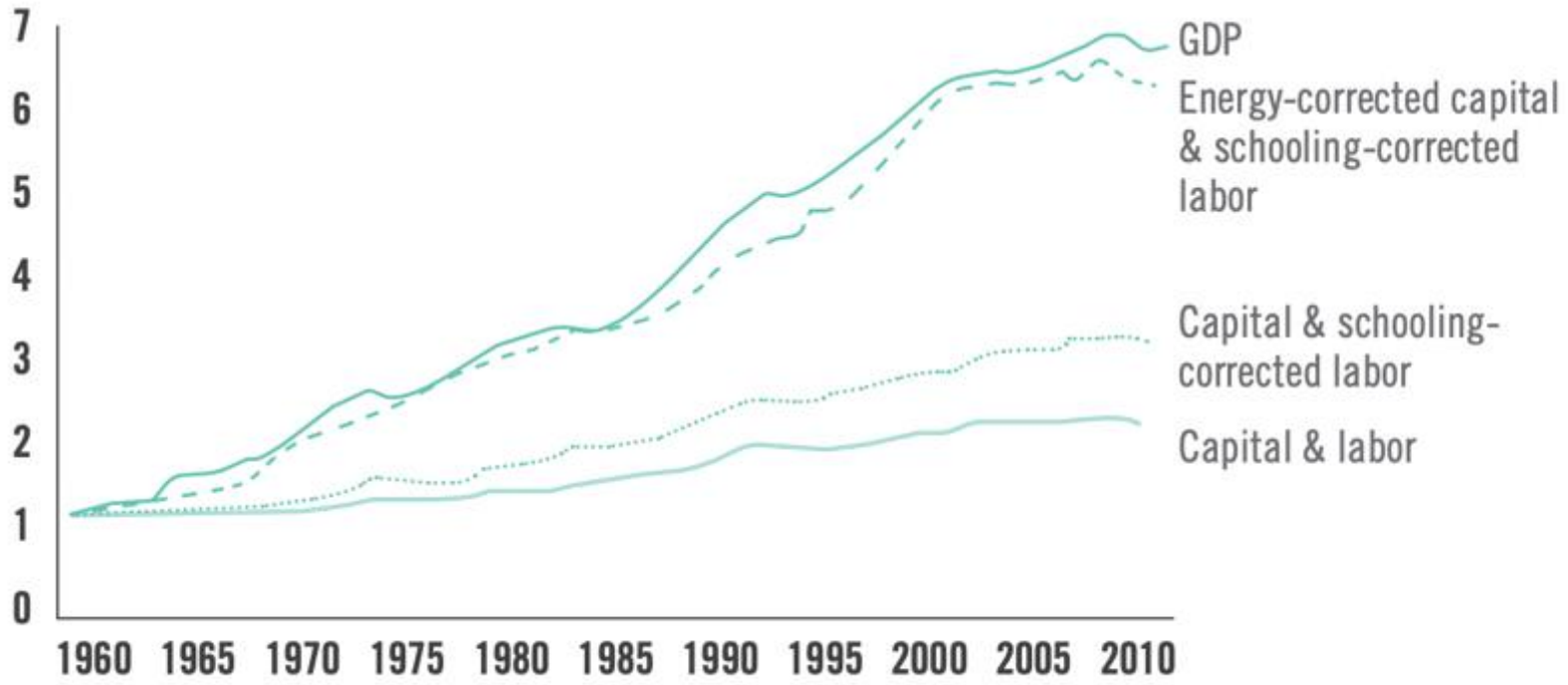
# PIB como função da produtividade da Energia ?

ESTIMATED CONTRIBUTION TO GDP FROM THE COMBINATION OF CAPITAL AND SCHOOLING-CORRECTED LABOUR (1960-2010)

*Source: AMECO; Feenstra et al. (2015); Santos et al. (2016)*




https://mpra.ub.uni-muenchen.de/100214/1/MPRA_paper_100214.pdf

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# PIB como função da temperatura?

| | Temperature rise scenario, by mid-century | | | |
|---|---|---|---|---|
| | Well-below 2°C increase | 2.0°C increase | 2.6°C increase | 3.2°C increase |
| | *Paris target* | *The likely range of global temperature gains* | | *Severe case* |
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| Oceania | −4.3% | −11.2% | −12.3% | −16.3% |

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# Então, como conseguir alcançar as ambições do Green Deal?


https://ec.europa.eu/info/publications/180308-action-plan-sustainable-growth_pt
https://ec.europa.eu/info/sites/info/files/180308-action-plan-sustainable-growth-factsheet_en.pdf

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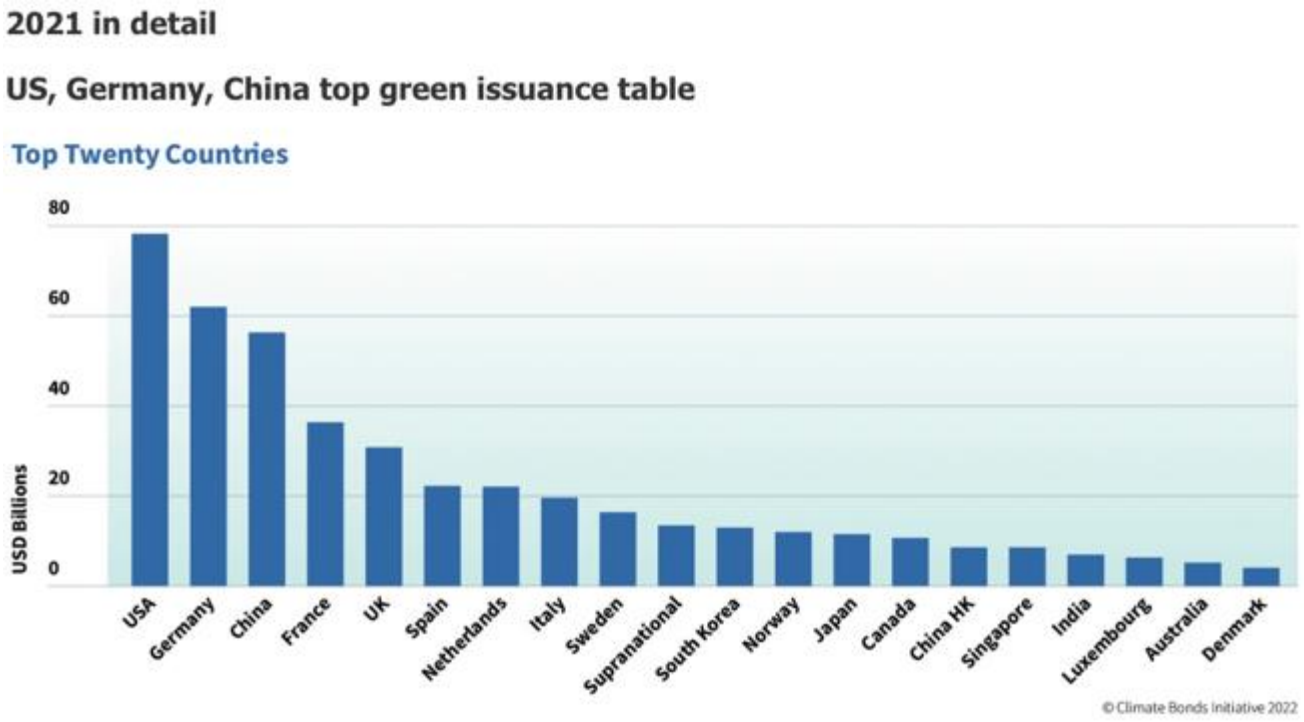
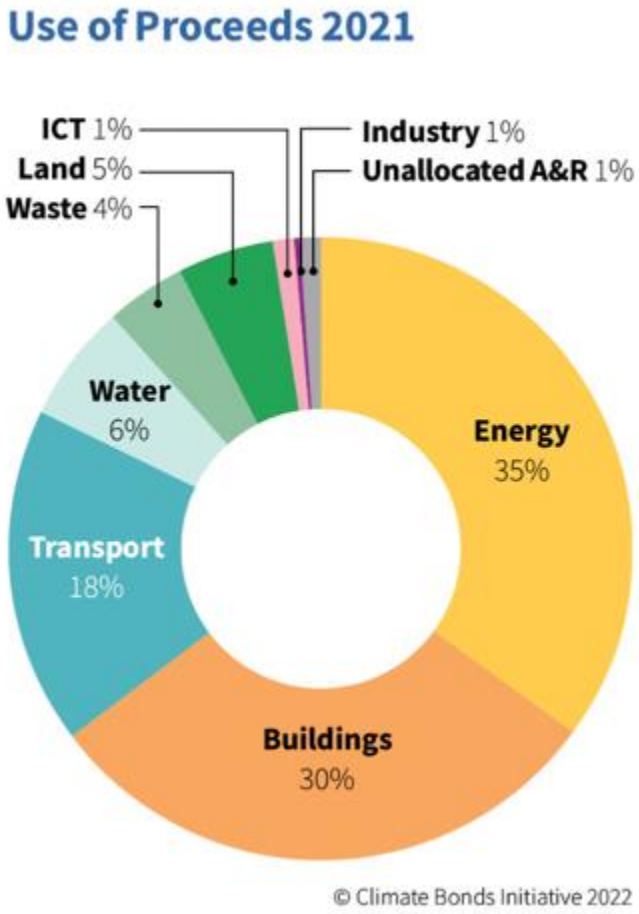
# Será que emitir divida verde tem um impacte mais positivo no PIB?

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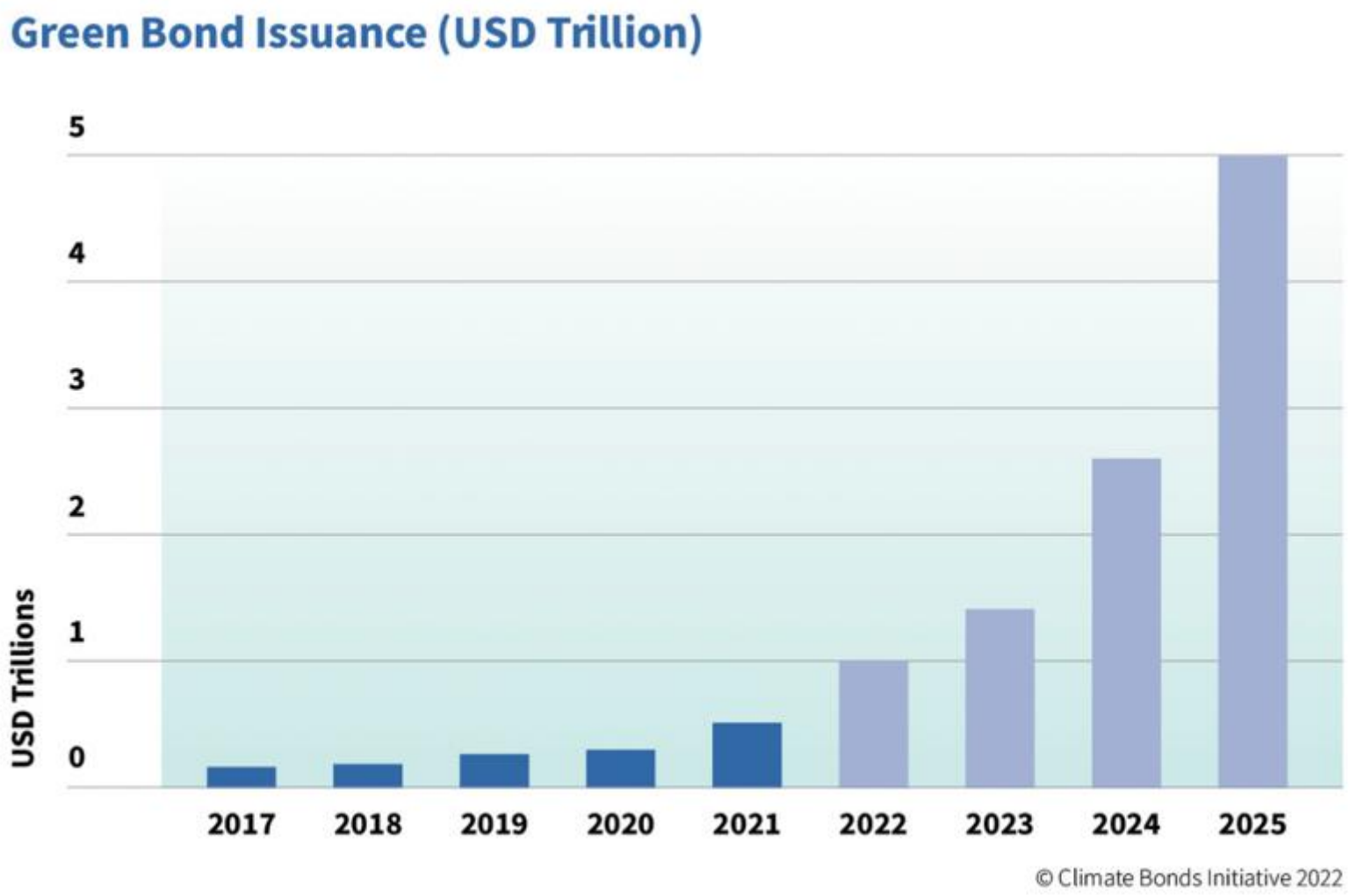
# Estima-se que este tipo de dívida aumente

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# Muitos países europeus já emitiram divida verde

## Sovereign Green Bonds

| Theme | Market | Country | USD Bn as of 31/12/2021 | Year of first green bond | Repeat issuer |
|---|---|---|---|---|---|
| Green | DM | UK | 21.9 | 2021 | ✓ |
| | DM | Spain | 5.9 | 2021 | ✗ |
| | DM | Italy | 10.1 | 2021 | ✗ |
| | DM | Germany | 25.1 | 2020 | ✓ |
| | DM | Sweden | 2.3 | 2020 | ✗ |
| | DM | Hong Kong | 7.2 | 2019 | ✓ |
| | DM | Netherlands | 10.0 | 2019 | ✗ |
| | DM | Belgium | 8.2 | 2018 | ✗ |
| | DM | Ireland | 5.7 | 2018 | ✗ |
| | DM | France | 43.6 | 2017 | ✓ |
| | EM | South Korea | 0.8 | 2021 | ✗ |
| | EM | Serbia | 1.2 | 2021 | ✗ |
| | EM | Egypt | 0.8 | 2020 | ✗ |
| | EM | Hungary | 2.2 | 2020 | ✓ |
| | EM | Chile | 7.4 | 2019 | ✓ |
| | EM | Indonesia | 3.9 | 2018 | ✓ |
| | EM | Lithuania | 0.1 | 2018 | ✗ |
| | EM | Seychelles | 0.0 | 2018 | ✗ |
| | EM | Fiji | 0.0 | 2017 | ✗ |
| | EM | Nigeria | 0.1 | 2017 | ✓ |
| | EM | Poland | 4.3 | 2016 | ✓ |

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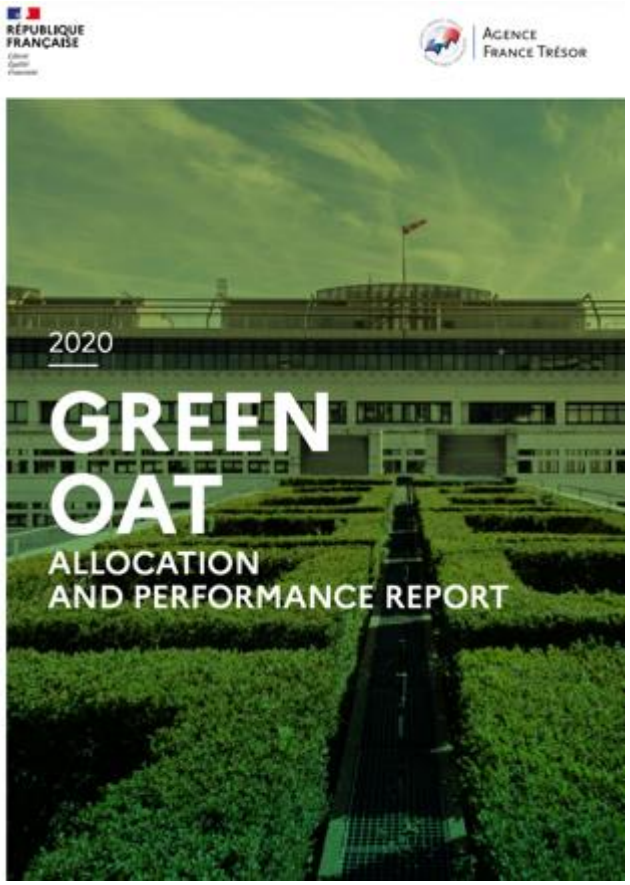
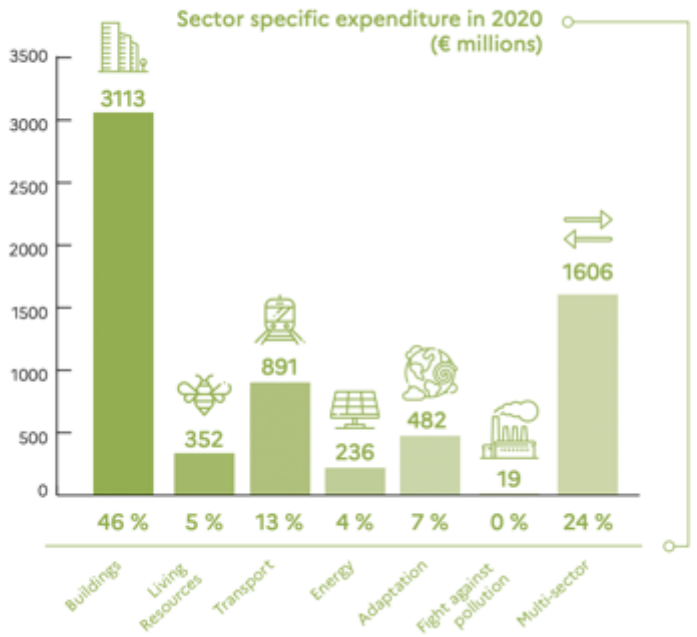
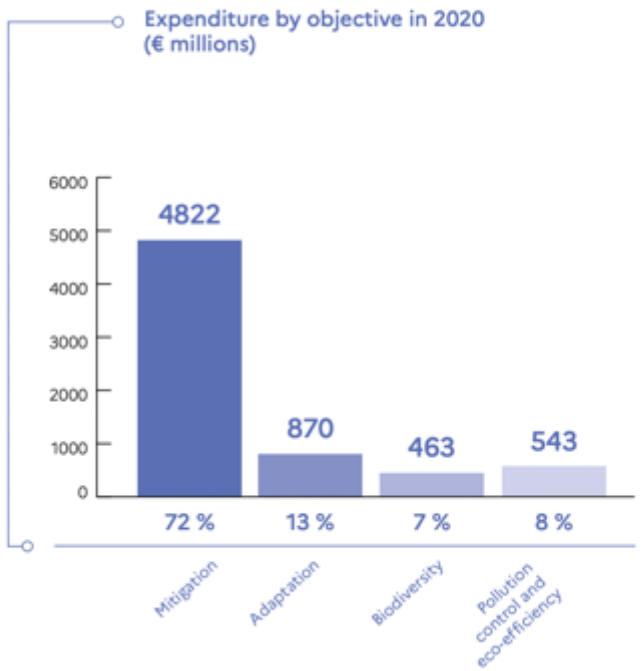
# O Exemplo da França

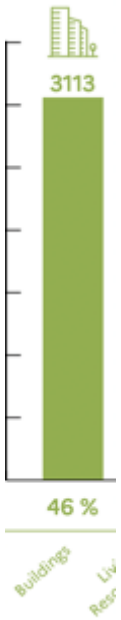






# O Exemplo da França: Despesa “Edificios”




| Mission | Programme | Expenditure | Amounts (€ M) | | | | | Indicator | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 2019 | | 2020 | | Total | | | | |
| | | | Eligible | Remainder allocated | Eligible | Allocated | Allocated | | | | |
| **Ecology, sustainable transport and development** | **P174** | 1. Energy Transition Tax Credit | 1 132 | 115.4 | 1 080 | 664.9 | **780.3** | Number of households benefiting from the CITE tax credit | 1 419 100 | 911 000 | n. d. |
| | | 2. Property tax exemptions for social housing agencies (HLM) and semi-public companies (SEM) funding investment to improve energy efficiency | 110 | 12.5 | - | - | **12.5** | Number of HLM and SEM bodies benefiting from the exemption | 8 349 | 8 439 | n. d. |
| | | 1. Energy transition support (MaPrimeRenov') | - | - | 455 | 280.1 | **280.1** | Number of renovated properties | - | - | 141 143 |
| **Regional cohesion** | **P135** | 3. Residential thermal renovation - ANAH | 110.4 | 11.6 | 88.4 | 54.4 | **66.1** | Number of renovated properties («Better Housing» programme) | 62 345 | 116 995 | 68 367 |
| | | 4. Interest-free green loan | 39 | -4.9 | 32 | 19.7 | **14.8** | Number of individuals benefiting from interest free green loans | 18 755 | 35 574 | 42 107 |
| | | 4. Reduced VAT for work to improve energy efficiency | 1 235 | 1 235 | 1 120 | 689.5 | **1 924.5** | Number of beneficiaries of the reduced rate of VAT | 315 000 | 315 000 | n. d. |
| | | 5. Urbanism, territories and habitat improvement: “Smart City” plan management | - | - | 2.2 | 1.4 | **1.4** | - | - | - | - |
| **Public action and transformation** | **P348** | 6. Renovations to public buildings | 11.9 | 1.3 | 35 | 21.5 | **22.8** | - | - | - | - |
| **PIA** | **PIA 1** | 3. Residential thermal renovation | 25.8 | 2.7 | 13 | 8 | **10.7** | Leverage effect (leveraging ratio of public and private funding to amounts contracted by the PIA) | - | 3.5 | 3.6 |
| | | **Total** | **2 664.1** | **1 373.6** | **2 825.6** | **1 739.6** | **3 113. 3** | | | | |

# Mensagens principais

1. Aumento da temperatura leva a diminuição do PIB e imparidades bancárias
2. A produtividade da energia contribui para o aumento do PIB
3. A energia é central ao modelo económico
4. Investir na produtividade da energia pode gerar mais riqueza e bem-estar
5. Produtividade da energia também implica menores emissões de GEE
6. Investir na eletrificação, eficiência energética, serviços dos ecossistemas contribui para aumento do PIB
7. Implementar um orçamento verde dá-nos informação sobre as despesas que contribuem para o ambiente ou que prejudicam o ambiente
8. Com orçamento verde podemos emitir obrigações verdes e desenvolver uma fiscalidade verde

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