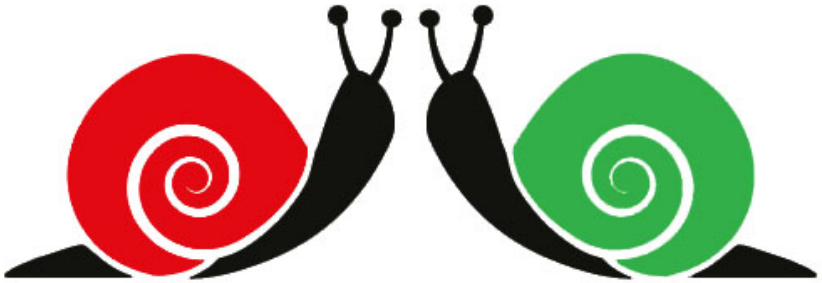
DEGROWTH CONFERENCE BUDAPEST 2016



WALKING THE MEANINGFUL GREAT TRANSFORMATIONS?

30 AUGUST - 3 SEPTEMBER 2016

Can degrowth and maintaining energy security go hand-in-hand in Europe?

John Jr. Szabo
Degrowth Conference Budapest 2016

Overview

Conceptual analysis

- Energy Security
- Degrowth

Contextualization

How the concepts support one-another

Points of hinderance

Concepts – Energy Security

A low probability of disruptions to indispensable energy-supplies*

- Security understood as “a low probability of damage to acquired values” (Baldwin, 1997:13)
- Acquired values = indispensable energy-supplies
  - Energy-supply a dynamic term
  - Energy-supply related factors include economic efficiency, supply continuity, and sustainability; frequently are arbitrarily separated into categories instead of being managed under one umbrella (coal-fired power plants provide an example)
  - True end-use of energy needs to be considered, since this provides the links to demand and welfare
- Applicability to:
  - Nature-related risks (e.g., climate change, depletion of resources)
  - Source-related risks (e.g., intentional human or political body induced actions)
  - Technical factors (a temporary production shortage for example)

*Based on: (APERC, 2007), (Baldwin, 1997), (Cherp & Jewell, 2014) & (Winzer, 2012)

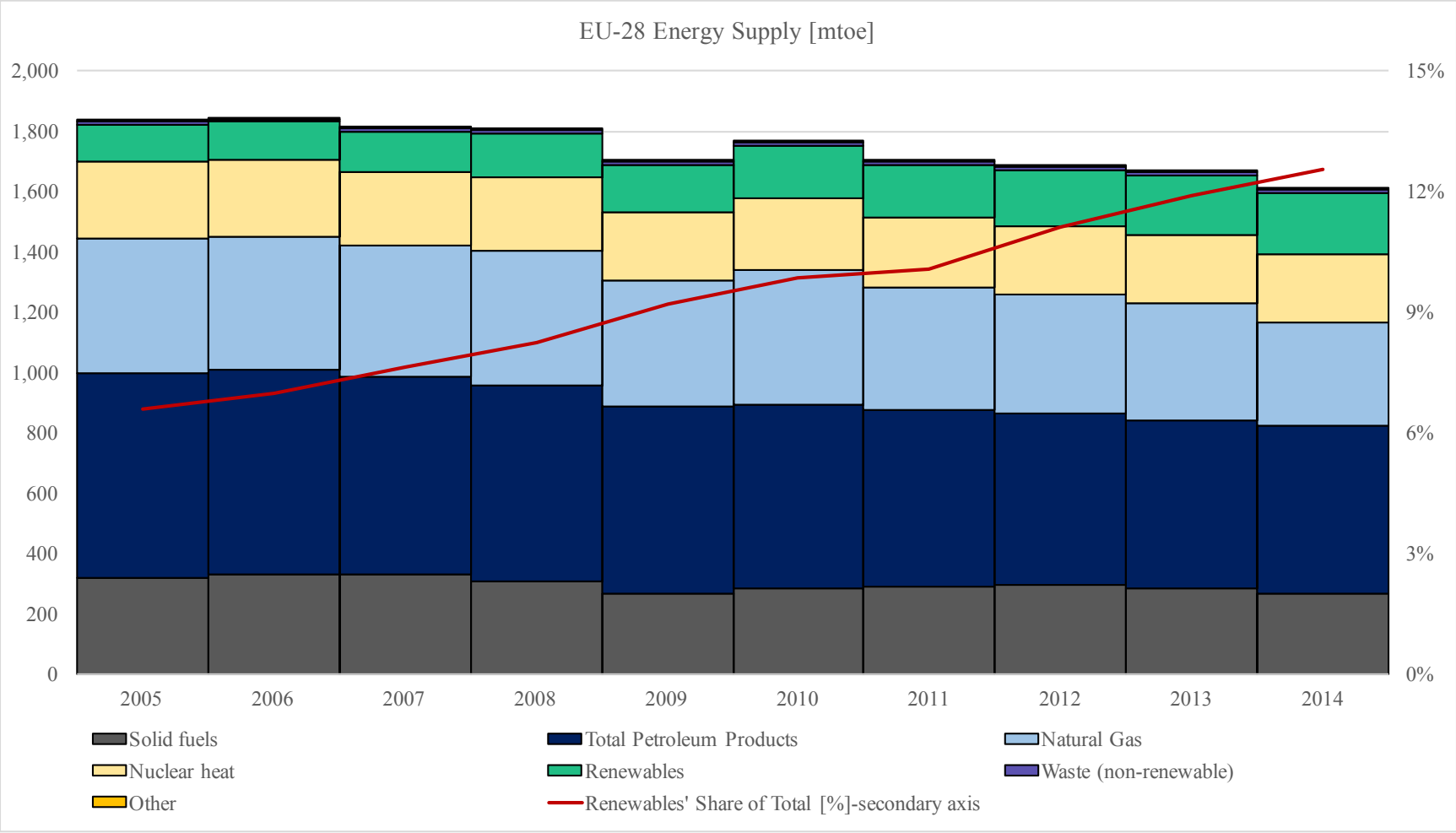
Contextualisation of Energy Security

A low probability of disruptions to indispensable European energy-supplies regardless of spatial-temporal location

- The EU-28 is heavily reliant on energy imports (73% for solid fuels, 94% for Petroleum Products, and 79% for natural gas, Eurostat, 2016)
- Hiccups have occurred e.g., the 2009 gas shortages
- Source-related threats are the primary concern in the EU-28 hedged through source and route diversification measures
- Energy efficiency helps
- Solution: decentralized renewables

Photo source: http://egeneration.org/wp-content/uploads/2015/02/Natural-gas1.jpg

Composition of EU-28 Energy Supply



Source: (Eurostat, 2016)

Concepts – Degrowth

Reduction of throughput and to challenge market-based relations
(based on Demaria et al., 2009: 209)

- Deterrences based on „energy and material" overlooking non-material throughput, and the omnipresence of markets is pre-assumed
- Selective degrowth is central in energy transitions

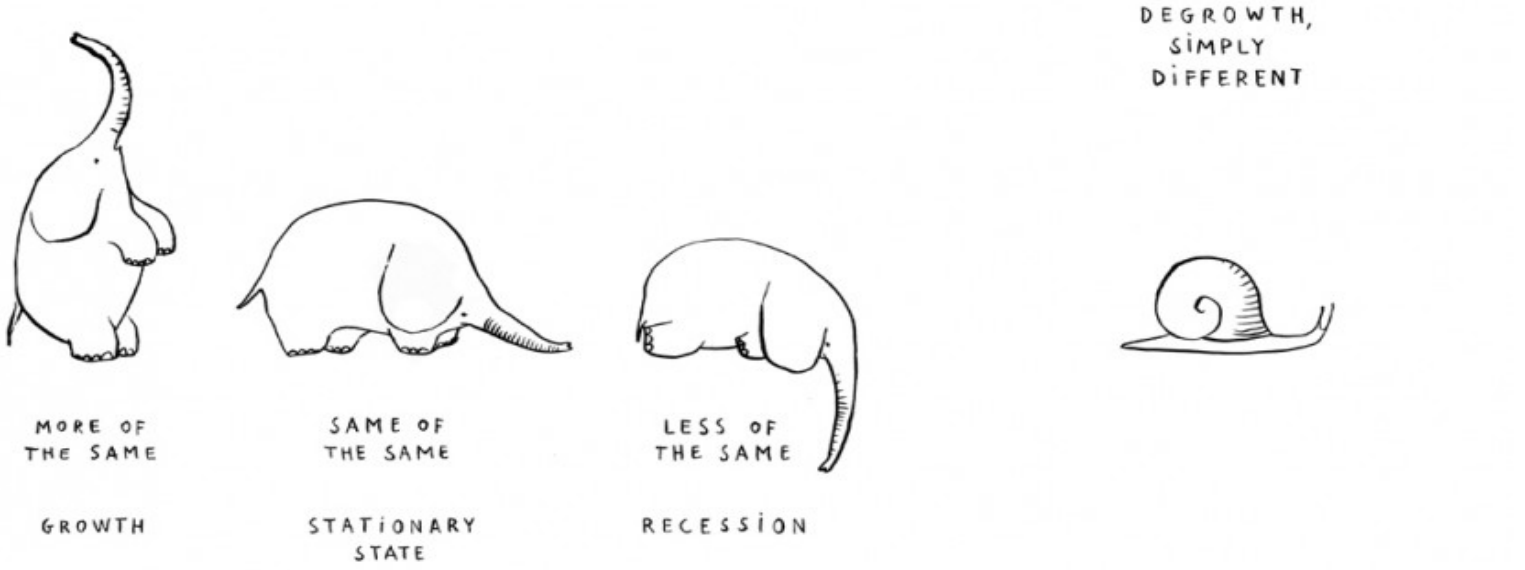


Photo source: http://www.degrowth.org/wp-content/uploads/2014/12/Elephants_snail_Final-940x470.jpg

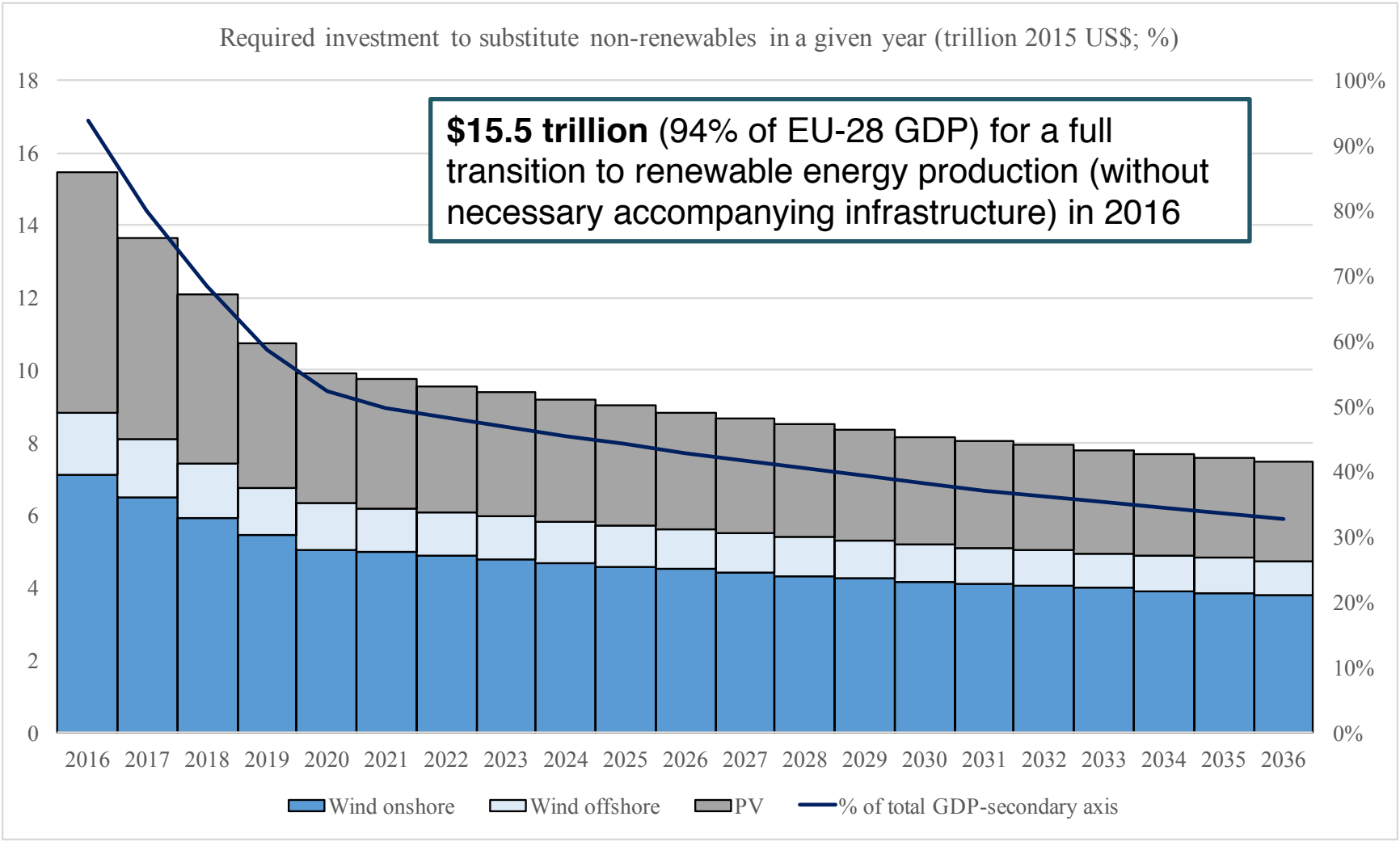
Energy Security-Degrowth Nexus

- Lower throughput, strongly related to consuming less links to decreasing all three facets of disruption risks
  - Nature-related e.g., less emissions
  - Source-related e.g., necessity of lower import volumes
  - Technical e.g., transited volumes decline
- Efficiency hints at the potentially strong link
- Structure is key when these elements are optimized
  - A decrease in energy consumption can be followed up by ridding the country of natural gas imports, overcoming source-related risks, but the decrease can also result in less coal burnt, which will reduce nature-related risks

Points of impediment

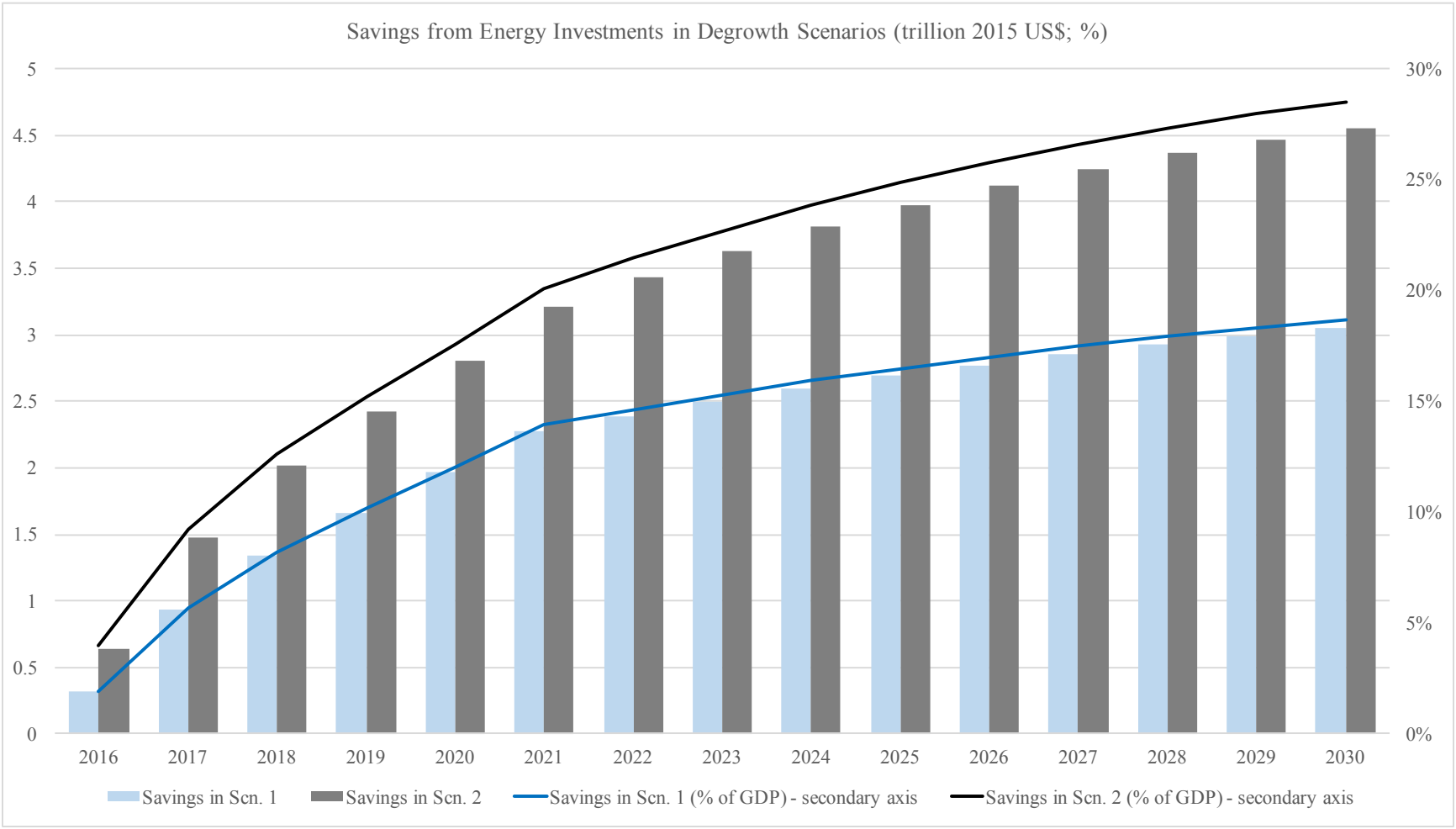
- 1,543.2 Mtoe of energy produced via non-renewable methods in the EU-28
- This is furthered by transition and distribution investments, storage, and the professional apparatus. In addition to which the products used by end-consumers need to change as well e.g., 44 million vehicles in Germany alone have an ICE engine (Eurostat, 2016).
- Energy produced via geothermal and hydro expected to be maintained with solar and wind playing decisive roles in the shift. Split assumed constant.
- The model explores how much total investment would amount to, in a given year, if a full transition (no gradual change in future years) is implemented
- Efficiency (plus estimated decline of renewable costs) decreases 2020 investment by 41.5% compared to 2016's value—HOWEVER—inertia poses a huge risk!

Required investment to substitute non-renewables



Source: Author's calculations based on (Eurostat, 2016), (ECOFYS, 2014), (IMF, 2016) & (IEA, 2015a)

Savings in substituting non-renewables in a given year from degrowth



Source: Author's calculations based on (Eurostat, 2016), (ECOFYS, 2014), (IMF, 2016) & (IEA, 2015a)

Thank you for your attention!

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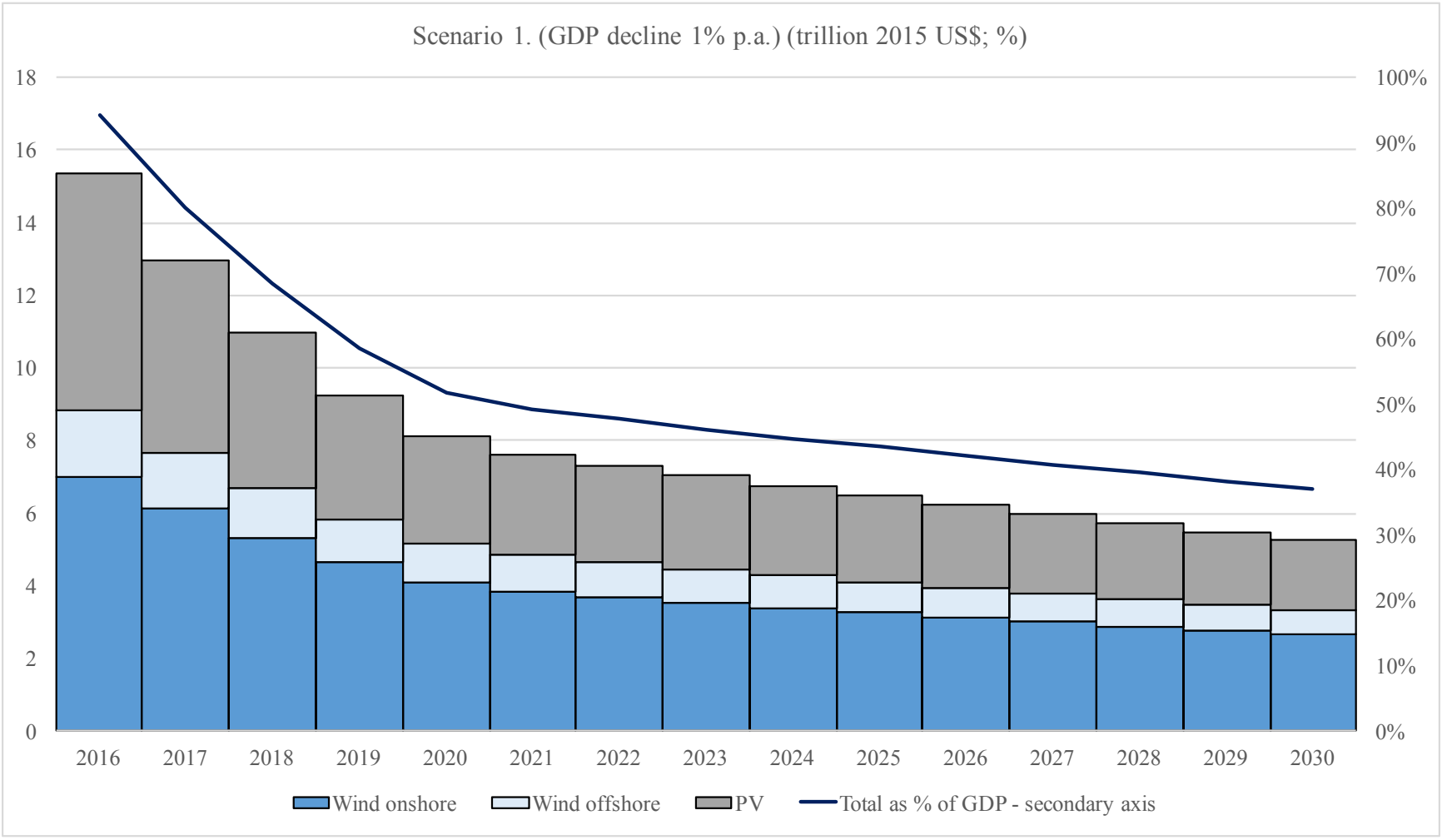
Backup

Required investment to substitute non-renewables in a given year assuming degrowth



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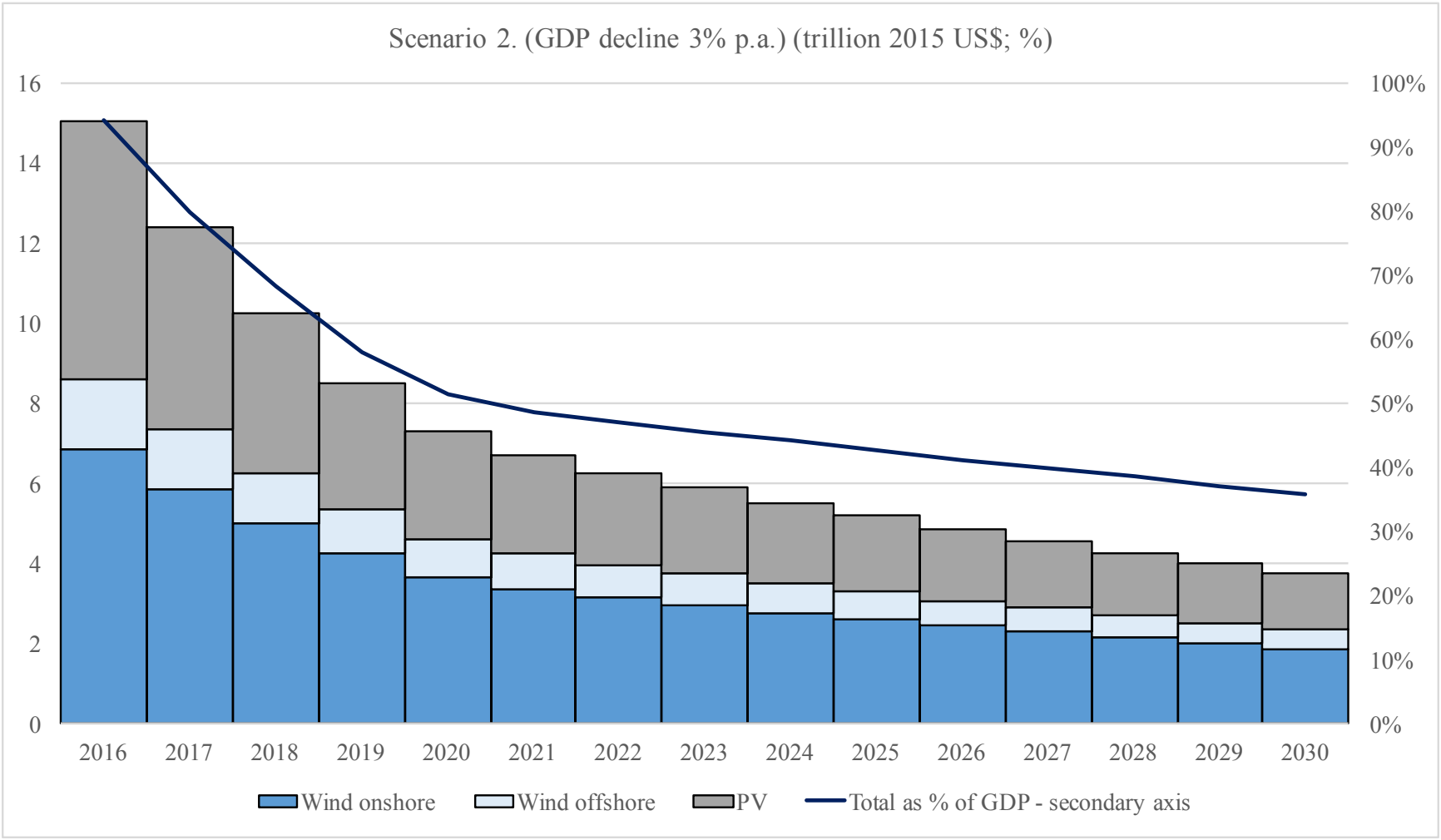
Required investment to substitute non-renewables in a given year assuming degrowth



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