

[beta version]

# Growth Economy

*Higher output means greater prosperity: in the long term, growth raises everyone's standard of living.*

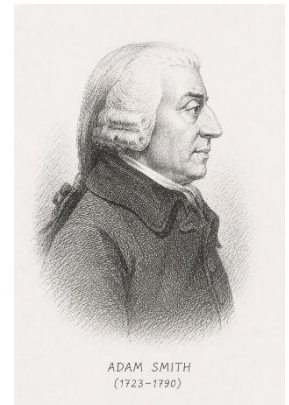
*One of four development paths that you will work on in the group puzzle.*

## What is it about?

A growing economy increases its capacity to produce goods and services year on year. The basic idea dates back to Adam Smith (1776): the division of labour as well as trade in free markets create prosperity, as increasing specialisation leads to gains in productivity. For a long time, growth was regarded as the result of investment and random technological progress. Modern theory, however, emphasises endogenous factors such as education, research and knowledge. Since 1944, economic output has been measured using gross domestic product (GDP). In 1956, Robert Solow modelled the idea that output arises from capital and labour and is made more productive through technological progress. Technological progress, however, does not fall from the sky, but arises from within the system itself (endogenously). In 1990, Paul Romer added that knowledge is special because it is a non-rival good, meaning it can be shared as widely as desired without any loss of utility. Consequently, human capital (through research and development) drives innovation and growth in the long term, thereby enabling material constraints and shortages to be overcome. The guiding principle behind economic growth is this: if the entire 'pie' grows, there is more left over for everyone. US President Kennedy put it this way in 1963: 'A rising tide lifts all boats.'

## Important concepts

- **Gross Domestic Product (GDP):** Measures the market value of all goods and services produced in a country in a given year. It is the most important measure of value added in a national economy.
- **Factors of production (C and L):** It is the combination of capital (C: machinery, buildings) and labour (L) that makes production possible in the first place; technology can make both more productive.
- **Endogenous growth:** Growth is driven by deliberate investment in knowledge, research and technology (Romer, 1990).
- **Growth dependence:** Without growth, many systems (e.g. the interest rate system, social security schemes) face a crisis



## Key requirements

- Secured property rights
- Investment in human capital (education and research)
- Development and maintenance of infrastructure (transport, communications)

## Arguments

| Pro                                                   | Con                                                                                                  |
|-------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| Prosperity and rising living standards                | Environmental destruction and climate impact                                                         |
| Continuous technological innovation                   | Higher GDP does not automatically lead to greater happiness (the decoupling of growth and happiness) |
| Social harmony thanks to the prospect of prosperity   | Conflicts over resources and distribution                                                            |
| Secures tax revenue and social security schemes (AHV) | Growth paradigm: without growth, crises loom                                                         |

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### Jigsaw puzzle: Round 1 (advanced group)

**In the next part, you'll share this with your group**  
(Summarise the key points)

### Jigsaw puzzle: Round 2 (expert group)

#### Part 1: Discuss this in your group

In what ways does this view contradict the other three perspectives, and in what ways does it complement them?

**Similarities & Additions:**

**Differences & Contrasts**

#### Part 2: Come up with a strategy in your group

Your follow-up question for the discussion: Can you think of an example where growth has made life noticeably better?

**What might a sustainable growth path for the global economy look like in the future?**  
(Different growth paths can be combined)

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# Green Growth

*Sustainable growth is possible thanks to absolute decoupling.*

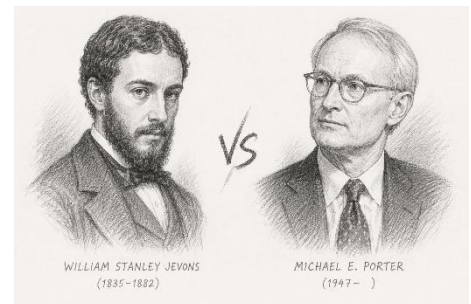
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## What is it about?

Green growth maintains economic growth whilst seeking to eliminate the associated environmental damage. Central to this is the idea of absolute decoupling: the economy grows whilst resource consumption and environmental impact fall in absolute terms. This is made possible by technological progress and efficiency gains, which are actively promoted through policy incentives. In theory, this view is based, amongst other things, on the environmental Kuznets curve. This suggests that environmental impact initially rises as income increases, but then falls again due to technological progress and efficiency gains. According to the Porter hypothesis, strict environmental regulations also lead to innovations that make companies more efficient and competitive. International organisations such as the OECD and the World Bank support this approach by promoting relevant initiatives. The scientific community, however, remains cautious: absolute decoupling has never been empirically proven. On the other hand, the so-called rebound effect (Jevons' paradox) has been demonstrated time and again. According to this, efficiency gains do not lead to lower consumption; they usually lead to an increase in production and can thus even result in higher consumption.

## Important concepts

- **Absolute decoupling:** The economy grows whilst material consumption and environmental damage nevertheless decline; this is the prerequisite for green growth.
- **Environmental Kuznets curve:** an inverted U-shaped model - environmental impact rises with income, but then falls again due to absolute decoupling.
- **Porter's hypothesis (1995):** Strict environmental regulations can force companies to innovate in ways that increase efficiency and competitiveness.
- **Rebound effect (Jevons, 1865):** When something becomes more efficient and cheaper, consumption of that item often increases. As a result, the savings achieved through efficiency gains are negated.



## Key requirements

- Institutional measures: e.g. the European Green Deal (climate neutrality by 2050)
- Carbon pricing and emissions trading
- Investment in and expansion of renewable energy and the circular economy (repair, reuse, recycling)

## Arguments

| Pro                                                                            | Con                                                                                    |
|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| Targeted technological innovation to decouple growth from environmental impact | Rebound effect cancels out efficiency gains                                            |
| Prosperity and a rising standard of living, whilst preserving the environment  | Absolute decoupling has not been empirically proven                                    |
| Compatible with the current economic system; no radical overhaul is required   | Too slow to limit global warming                                                       |
| Environmental regulations promote innovation and competitiveness               | A one-sided focus on carbon emissions: other planetary boundaries are being overlooked |

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# Stationäre Wirtschaft Steady-State Economy

*Die Wirtschaft kann und muss nicht mehr wachsen, um die Grundbedürfnisse aller zu befriedigen.*

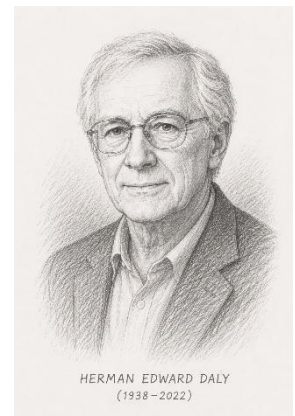
*One of four development paths that you will work on in the group puzzle.*

## What is it about?

In a steady-state economy, the stock of capital and the population are stabilised so that the economy functions with the lowest possible throughput of energy and materials. Growth is no longer the aim of economic activity. The consumption of raw materials to meet human (basic) needs is organised as efficiently as possible, thereby minimising waste. As early as 1848, John Stuart Mill saw such a 'steady state' not as an end to progress, but as an opportunity for a better quality of life. In 1971, Nicholas Georgescu-Roegen applied the so-called law of entropy to the economy: every production process irrevocably transforms valuable raw materials into low-value waste and waste heat, which is why production cannot be increased indefinitely. Herman Daly summarised these ideas in 1993 and described the economy as a subsystem of a finite Earth system rather than as an independent, unlimited system. It follows that the economic subsystem must be stabilised at a sustainable level within the Earth system. If the economy exceeds planetary carrying capacities, then additional economic growth costs more ecologically than it yields economically. It is important to distinguish between growth (more material and energy) and development (technological, social and cultural progress): material growth comes to a halt, whilst cultural and technical development continues.

## Important concepts

- **Throughput:** The flow of raw materials into the economy and of waste out of it; this should be kept to a minimum.
- **The Law of Entropy:** Energy and materials irrevocably lose value with every use – a physical limit on production and recycling (Georgescu-Roegen, 1971).
- **The economy as a subsystem:** The economy is a subsystem of a finite Earth system and is dependent on it (Daly, 1993).
- **Growth ≠ Development:** Progress is still possible in a stationary economy.



## Key requirements

- Extraction quotas to limit resource consumption (e.g. auctioning of licences)
- Reduction of working hours
- Upper and lower limits for income and assets respectively
- Unconditional basic services for all (housing, food, education)

## Arguments

| Pro                                                                                               | Con                                                                                          |
|---------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| Environmental sustainability within the Earth's carrying capacity                                 | Conflict with today's capitalist economic system                                             |
| A high quality of life through more leisure time and personal development rather than consumption | Fewer consumer goods and less choice                                                         |
| Social justice through redistribution                                                             | More political conflicts over the distribution of scarce resources                           |
| Resilient (economic) systems                                                                      | Unclear transition: social security systems and the interest rate system are built on growth |

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# Degrowth Economy

*The planet's carrying capacity has been exceeded. In industrialised nations in particular, the economy must shrink in order to be sustainable.*

*One of four development paths that you will work on in the group puzzle.*

## What is it about?

Degrowth is based on the premise that developed economies are already exceeding the Earth's carrying capacity ('overshoot'). The solution is a democratically planned reduction in production and consumption, so that sustainable economic activity becomes possible. The economist Peter Victor set out the rationale for this approach in 2008 with the phrase 'by design, not disaster': an orderly, democratically shaped transformation rather than chaotic destruction brought about by crises. This is not simply about a lower gross domestic product (GDP), but about an economy geared towards people's well-being and basic needs rather than profit. Degrowth draws a particularly sharp distinction from green growth: due to the rebound effect (when something becomes more efficient and cheaper, people often consume more of it, thereby negating the savings made through efficiency gains) and because a switch to renewable energy means less energy is available overall, absolute decoupling is considered impossible. Unlike a random economic slump, degrowth is conceived as a planned path towards a stable economy in which a good life is possible within planetary boundaries.

## Important concepts

- **Overshoot:** a state in which consumption exceeds the Earth's capacity to regenerate.
- **'By design, not disaster' (Victor, 2008):** An orderly, planned decommissioning is better than an unplanned collapse.
- **Sufficiency / Needs-based approach:** Enough rather than more: The economy is geared towards (basic) needs, not profit.
- **Criticism of decoupling:** Doubts as to whether green growth is even possible (rebound effect, energy issues).



## Key requirements

- A shorter working week, with a focus on socially essential work
- The right to repair rather than planned obsolescence: devices should be repairable and built to last, rather than being designed to break down quickly
- Unconditional basic services for all (food, housing, healthcare, education, transport)
- Replacing GDP with social and environmental indicators

## Arguments

| Pro                                                | Con                                                                             |
|----------------------------------------------------|---------------------------------------------------------------------------------|
| Environmental and social sustainability            | Consuming less and making do with less in everyday life                         |
| Resilient (economic) systems                       | Politically almost impossible to implement                                      |
| Global justice between rich and poor countries     | The decline in influence of industrialised nations vis-à-vis emerging economies |
| Planned restructuring rather than chaotic collapse | Risky transition: there is a risk of recession rather than an orderly wind-down |

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