

Heikentyneen maailmantalouden matka ilmastomurrokseen

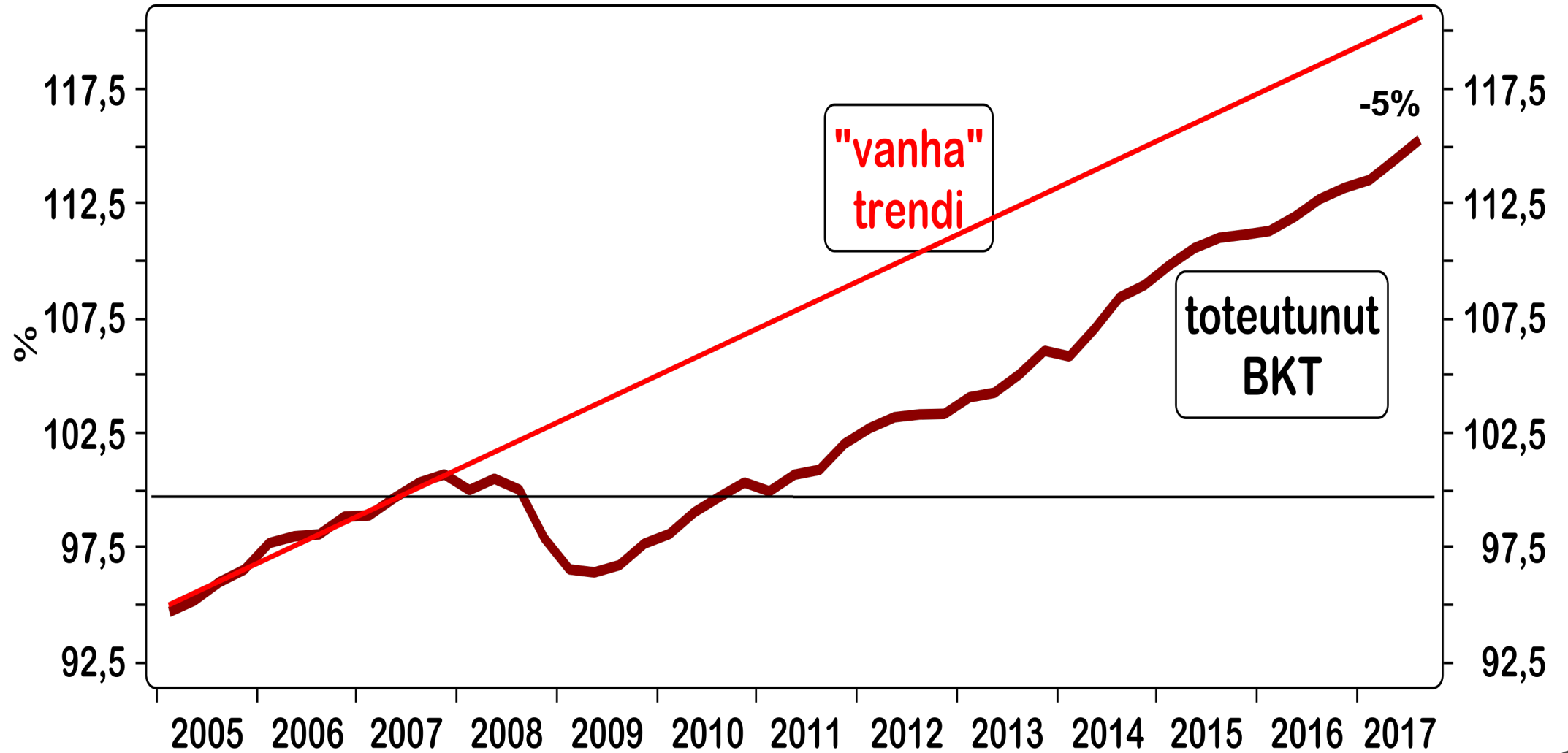
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Valtiotieteen tohtori, Certified Business Economist™
Pääekonomisti, Climate Leadership Coalition (CLC.fi)

IR DAY 1.10.2020

**Mitä voidaan oppia
finanssikriisin
aiheuttamista
menetyksistä?**

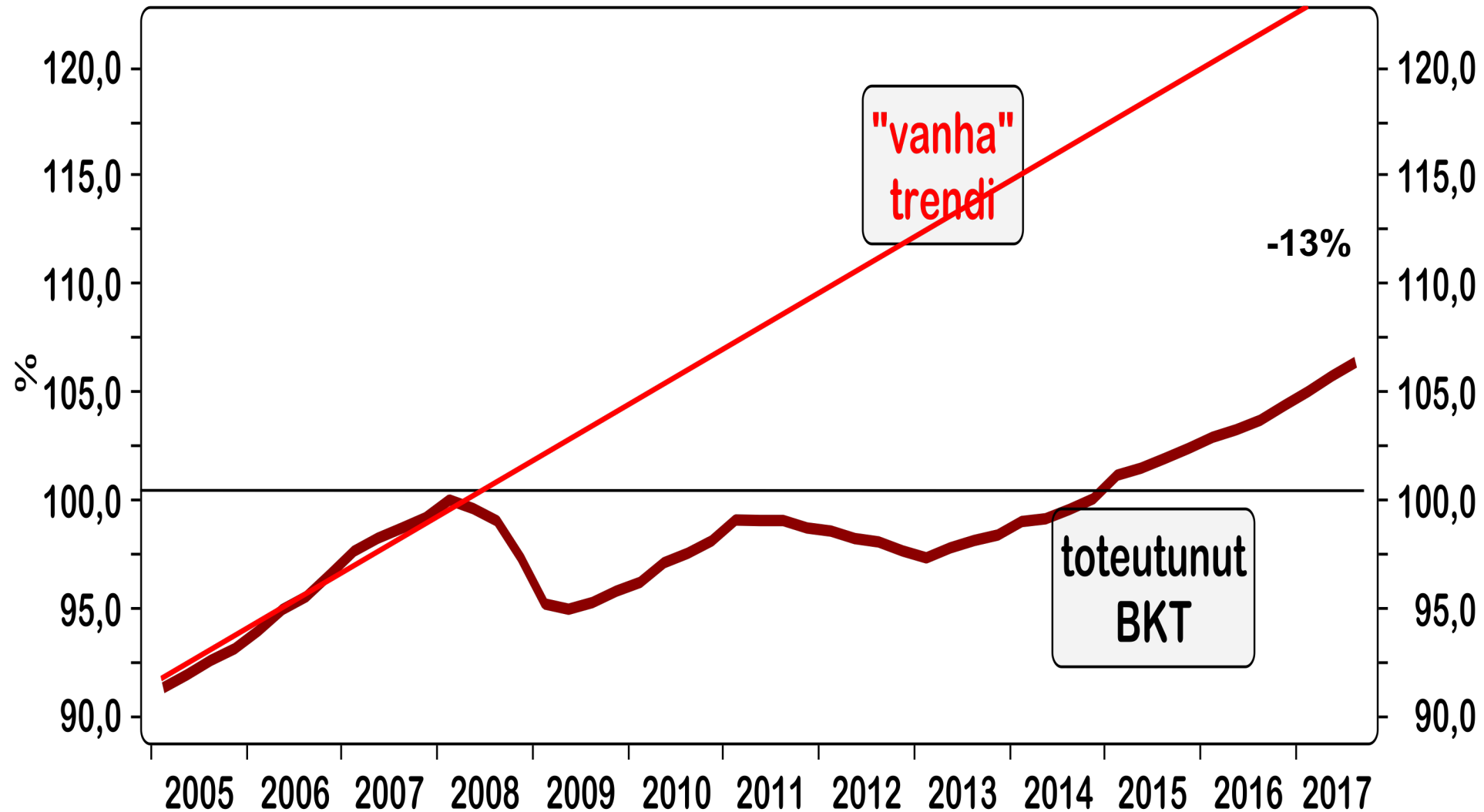
USA: BKTn "vanha" trendi ja toteutunut BKT

2008Q1=100



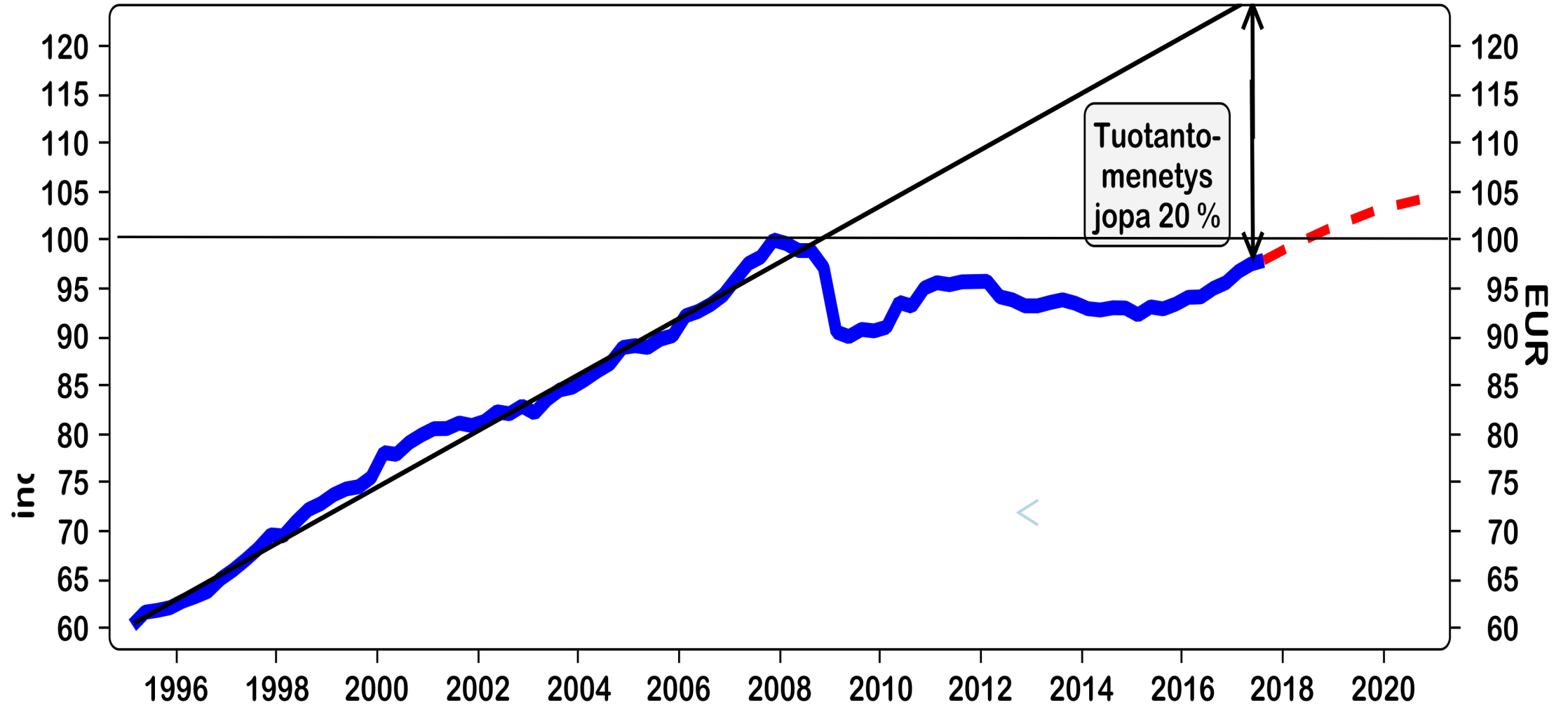
EMU: BKTn "vanha" trendi ja toteutunut BKT

2008Q1=100



FIN: BKTn volyymi

indeksi 2007Q4=100 ja ennuste 2018-2021



**Talouden epävarmuuksia
on paljon ja ne
vaihtelevat.**

**Ilmastonmuutos on
varma.**

MITÄ ILMASTONMUUTOS JA SEN ETENEMINEN MAKSAA?

**Arviot ilmastonmuutoksen
aiheuttamista hyvinvointitappioista ja
taloudellisista kustannuksista ovat
nousseet radikaalisti**

(lähde: Climate Change Mitigation: What Do We Do?, OECD 2008)

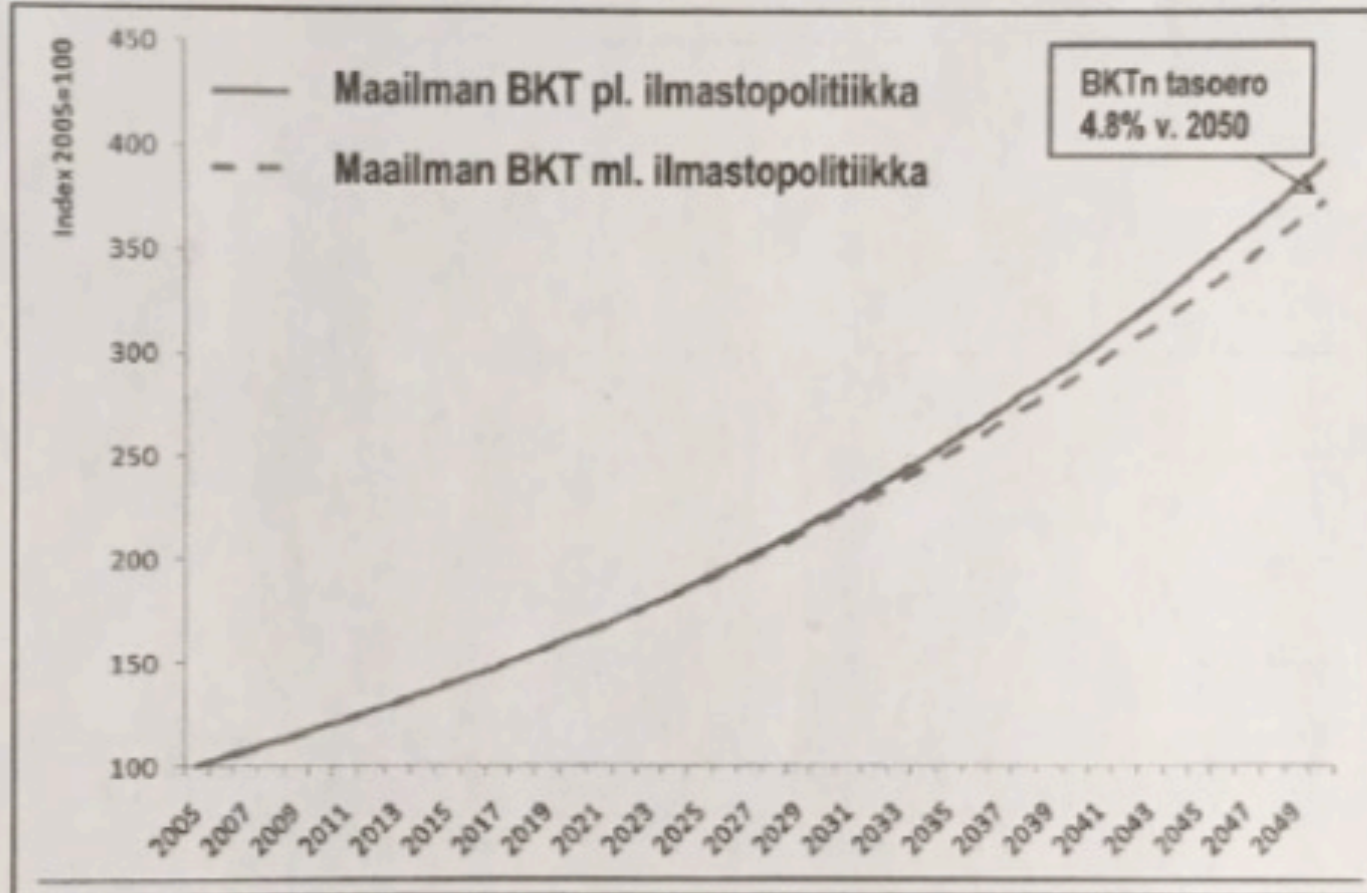
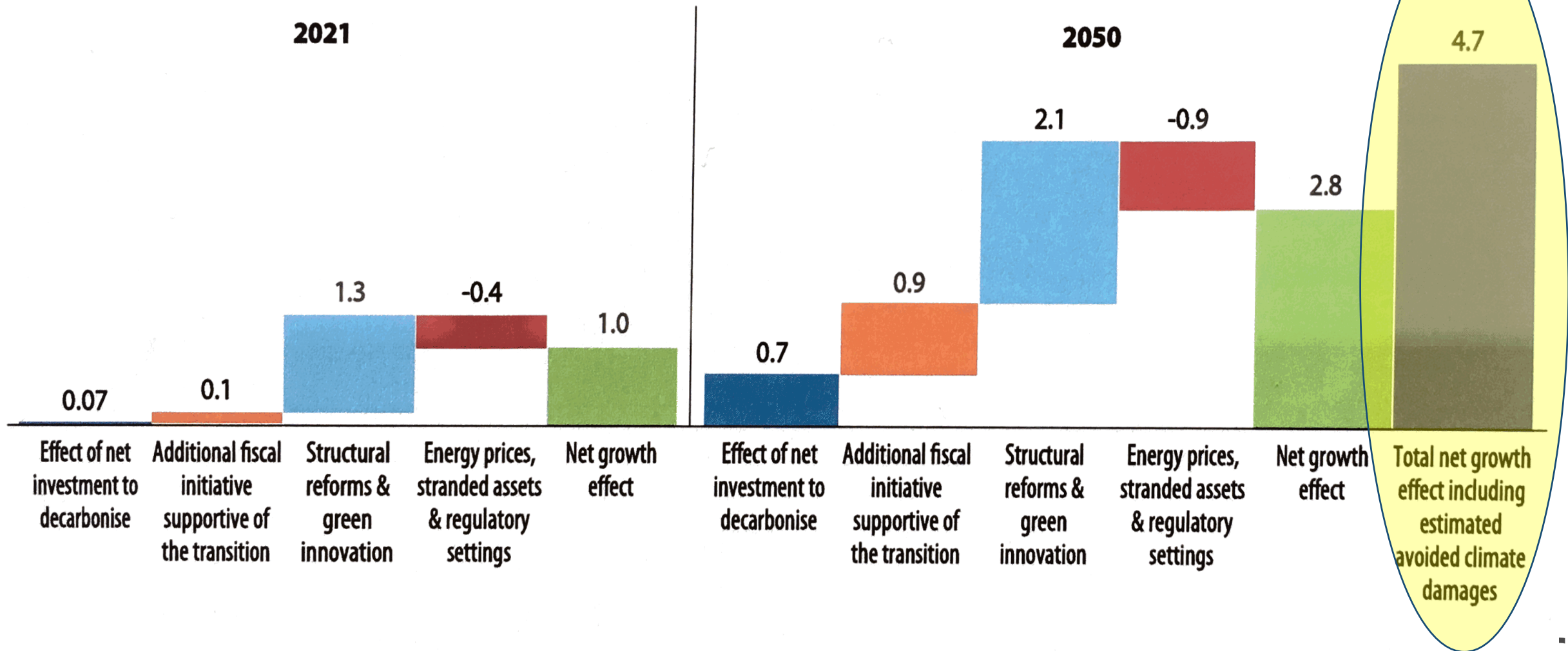


Figure 1. Positive growth effects for the G20 by combining climate action with economic reforms in a decisive transition (50% probability of achieving 2°C)*

Average across G20, GDP difference to baseline, %



Task Force on Climate-related Financial Disclosures

Overview of Report
and Implementation Guidance

December 2016

CLIMATE-RELATED RISKS AND OPPORTUNITIES

| Type | Climate-Related Risks | Type | Climate-Related Opportunities | |
|---|---|---|---|--|
| Transition Risks | Policy and Legal <ul style="list-style-type: none"> – Increased pricing of GHG emissions – Enhanced emissions-reporting obligations – Mandates on and regulation of existing products and services – Exposure to litigation | Resource Efficiency | <ul style="list-style-type: none"> – Use of more efficient modes of transport – More efficient production and distribution processes – Use of recycling – More efficient buildings – Reduced water usage and consumption | |
| | Technology <ul style="list-style-type: none"> – Substitution of existing products and services with lower emissions options – Unsuccessful investment in new technologies – Upfront costs to transition to lower emissions technology | | Energy Source | <ul style="list-style-type: none"> – Lower-emission sources of energy – Supportive policy incentives – Emergence of new technologies – Participating in carbon market – Energy security and shift towards decentralization |
| | Markets <ul style="list-style-type: none"> – Changing customer behavior – Uncertainty in market signals – Increased cost of raw materials | Products and Services | | <ul style="list-style-type: none"> – Develop and/or expand low emission goods and services – Climate adaptation and insurance risk solutions – R&D and innovation – Diversify business activities – Shifting consumer preferences |
| | Reputation <ul style="list-style-type: none"> – Shift in consumer preferences – Stigmatization of sector – Increased stakeholder concern or negative stakeholder feedback | | | Markets |
| | Physical Risks | Acute <ul style="list-style-type: none"> – Increased severity of extreme weather events such as cyclones and floods | Resilience | |
| Chronic <ul style="list-style-type: none"> – Changes in precipitation patterns and extreme weather variability – Rising mean temperatures – Rising sea levels | | | | |

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DISCLOSURE RECOMMENDATIONS (CONTINUED)

The four recommendations are supported by specific **recommended disclosures** organizations can include in financial filings to provide decision-useful information about their climate-related risks and opportunities.

| Governance | Strategy | Risk Management | Metrics and Targets |
|---|---|---|--|
| <p>Disclose the organization's governance around climate-related risks and opportunities.</p> | <p>Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.</p> | <p>Disclose how the organization identifies, assesses, and manages climate-related risks.</p> | <p>Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities.</p> |
| <p>Recommended Disclosures</p> | <p>Recommended Disclosures</p> | <p>Recommended Disclosures</p> | <p>Recommended Disclosures</p> |
| <p>a) Describe the board's oversight of climate-related risks and opportunities.</p> | <p>a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.</p> | <p>a) Describe the organization's processes for identifying and assessing climate-related risks.</p> | <p>a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.</p> |
| <p>b) Describe management's role in assessing and managing climate-related risks and opportunities.</p> | <p>b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.</p> | <p>b) Describe the organization's processes for managing climate-related risks.</p> | <p>b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.</p> |
| | <p>c) Describe the potential impact of different scenarios, including a 2° c scenario, on the organization's businesses, strategy, and financial planning.</p> | <p>c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.</p> | <p>c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.</p> |

What questions should we ask?

Are our climate actions in line with our ambition level?

How are our customers ranking in terms of climate performance?

How are our suppliers ranking in terms of climate performance?

What does our carbon intensity look like compared to peers?

What is relevant climate performance information for investors, lenders and asset managers?

Climate Performance Analytics

Climate Leadership Coalition – liiketoimintaratkaisuja ilmastonmuutoksen hillintään



*“Suurin osa ilmastonmuutoksen hillintään tarvittavista pääomista tulee yksityiseltä sektorilta. Varat eivät tule jollei hillintä ole hyvä business – parempi kuin entinen.”
CLC kehittää ratkaisuja, joilla tämä toteutuisi riittävän nopeasti.*

Kansainvälinen verkosto



”In economics, things take longer to happen than you think they will, and they happen faster than you thought they could.”

Rudiger Dornbusch



AJAN HENKI

**Suuri ranskalainen kirjailija,
romaanin *Les Misérables* (=Kurjat)
luoja *Victor Hugo* sanoi 1800-luvun
melskeisenä aikana:**

**”Miehitysarmeijaa voi vastustaa,
vaan ei ideaa jonka aika on tullut”.**

EU GREEN DEAL 2020

KIINA HIILINEUTRAALI 2060

CLIMATE-RELATED RISKS AND OPPORTUNITIES

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| | - Enhanced emissions-reporting obligations | - Use of recycling | |
| | - Mandates on and regulation of existing products and services | - More efficient buildings | |
| | - Exposure to litigation | - Reduced water usage and consumption | |
| Transition Risks | Technology | Energy Source | - Lower-emission sources of energy |
| | - Substitution of existing products and services with lower emissions options | | - Supportive policy incentives |
| | - Unsuccessful investment in new technologies | | - Emergence of new technologies |
| | - Upfront costs to transition to lower emissions technology | - Participating in carbon market | |
| | Markets | - Energy security and shift towards decentralization | |
| Transition Risks | - Changing customer behavior | Products and Services | - Develop and/or expand low emission goods and services |
| | - Uncertainty in market signals | | - Climate adaptation and insurance risk solutions |
| | - Increased cost of raw materials | | - R&D and innovation |
| | Reputation | - Diversify business activities | |
| | - Shift in consumer preferences | - Shifting consumer preferences | |
| Physical Risks | - Stigmatization of sector | Markets | - New markets |
| | - Increased stakeholder concern or negative stakeholder feedback | | - Public-sector incentives |
| | Acute | | - Community needs and initiatives |
| | - Increased severity of extreme weather events such as cyclones and floods | - Development banks | |
| | Chronic | Resilience | - Participate in renewable energy programs and adopt energy-efficiency measures |
| - Changes in precipitation patterns and extreme weather variability | - Resource substitutes/diversification | | |
| Physical Risks | - Rising mean temperatures | - New assets and locations needing insurance coverage | |
| | - Rising sea levels | | |

**UUSI
VALLANKUMOUKSELLINEN
MURROSTEKIJÄ: VETY**

Power-to-X

**Onko nopea
teknologiaavetoinen
murros realismia?**

The New Rhythm of Global Business

10 years is a long time

Easter morning 1900: 5th Ave, New York City. Spot the automobile.



Source: US National Archives.

The New Rhythm of Global Business

10 years is a long time!

**Easter morning 1913: 5th Ave, New York City.
Spot the horse.**



Source: George Grantham Bain Collection.