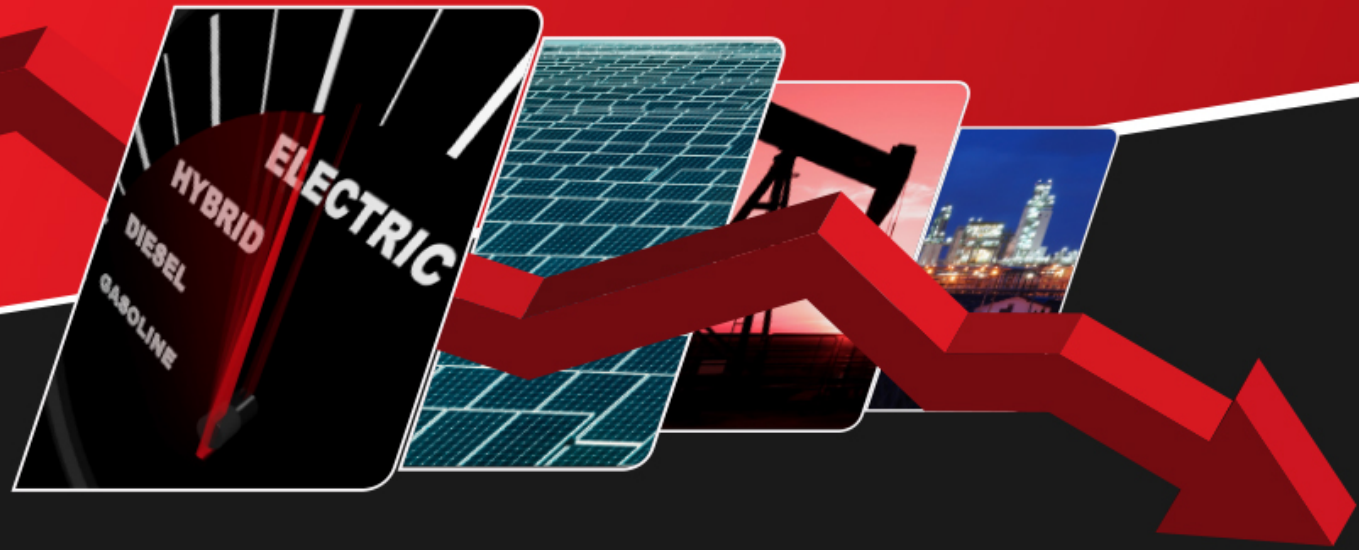




# **GUS SCHELLEKENS**

**Climate Change and Sustainability  
Services Partner, EY**



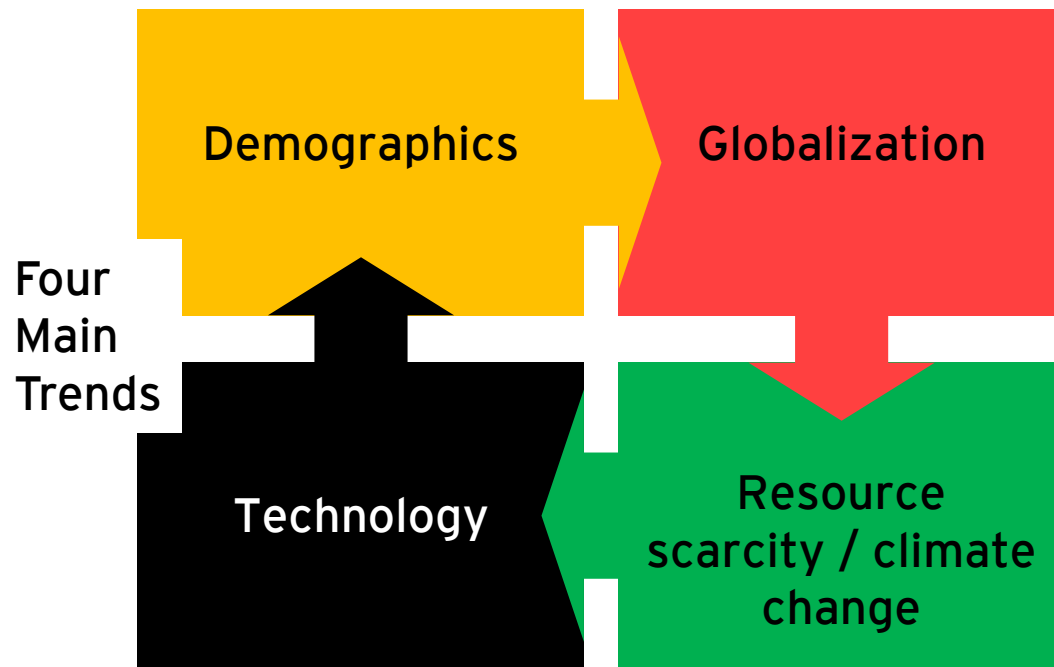
# Climate Change: Risks and opportunities for the oil and gas sector

# OUTLINE

1. What risks and why are we facing them?
2. Managing risks and creating opportunities

# What risks and why are we facing them?

Why are we facing these risks and what drives them?



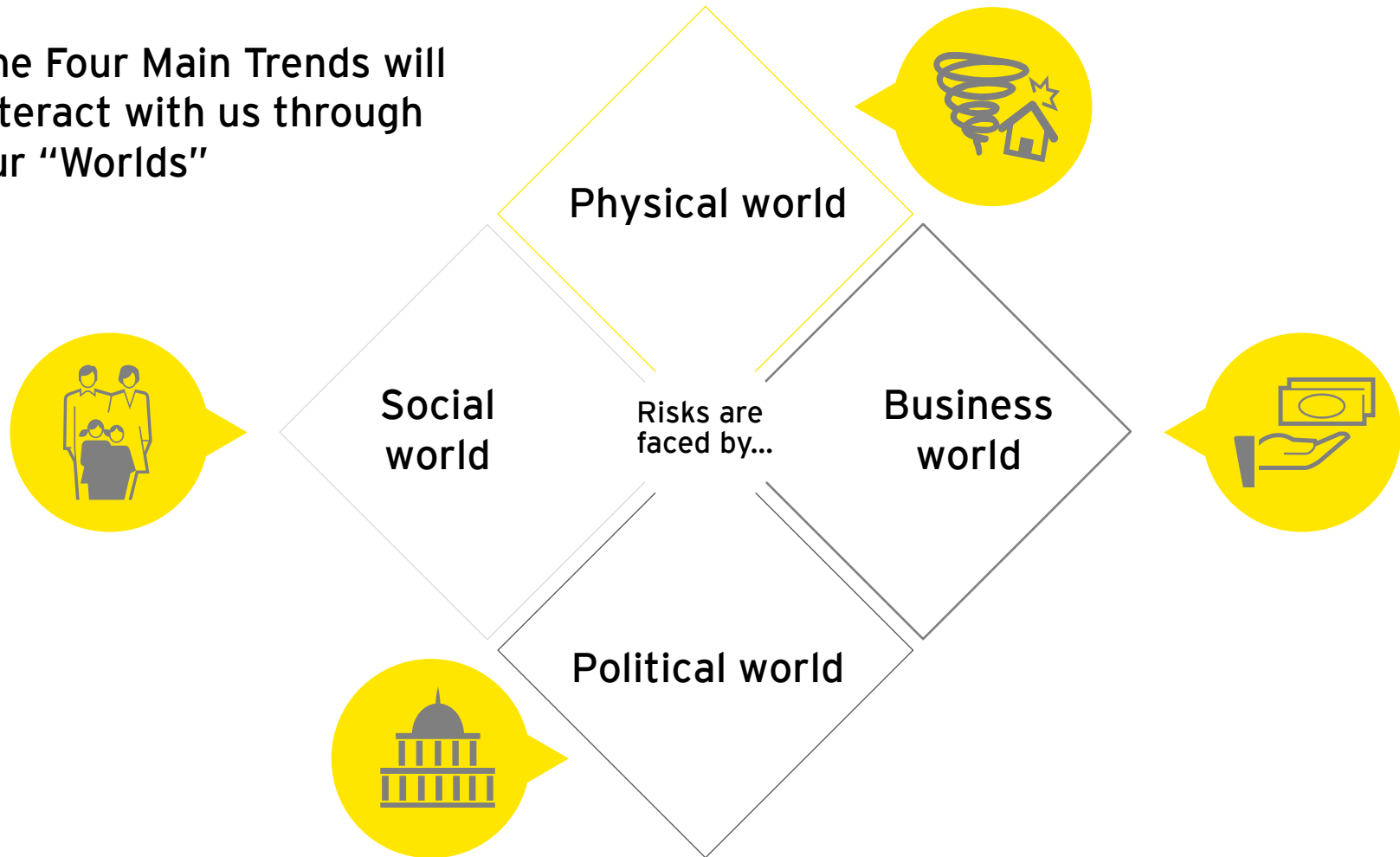
## Today's conference agenda

Cyber	Governance
Innovation	Complexity
Technology	IT
Geopolitical	Fraud
Energy	Audit
Climate change	

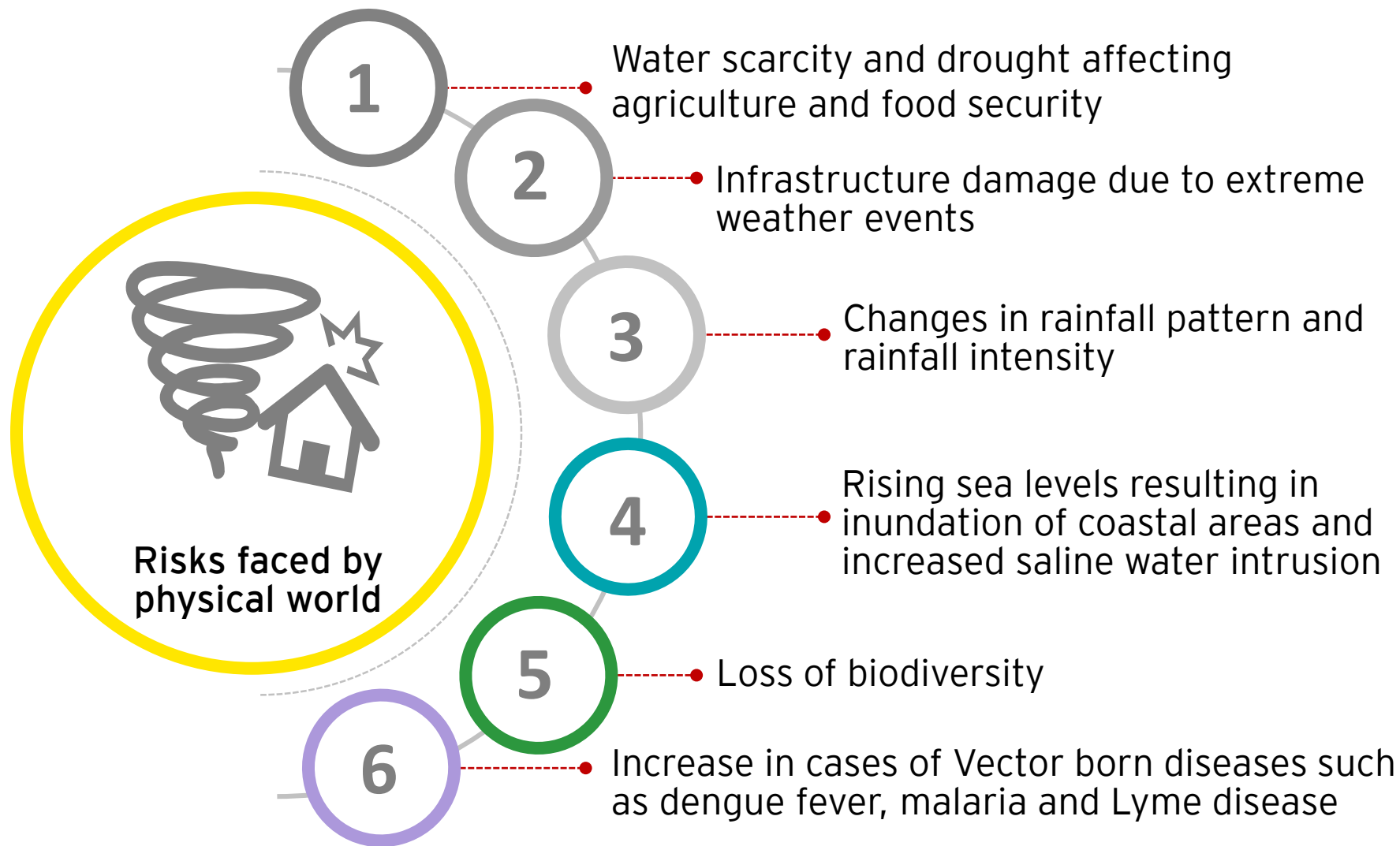
What can we understand about them to come up with a better solution to address them?

# What risks and why are we facing them?

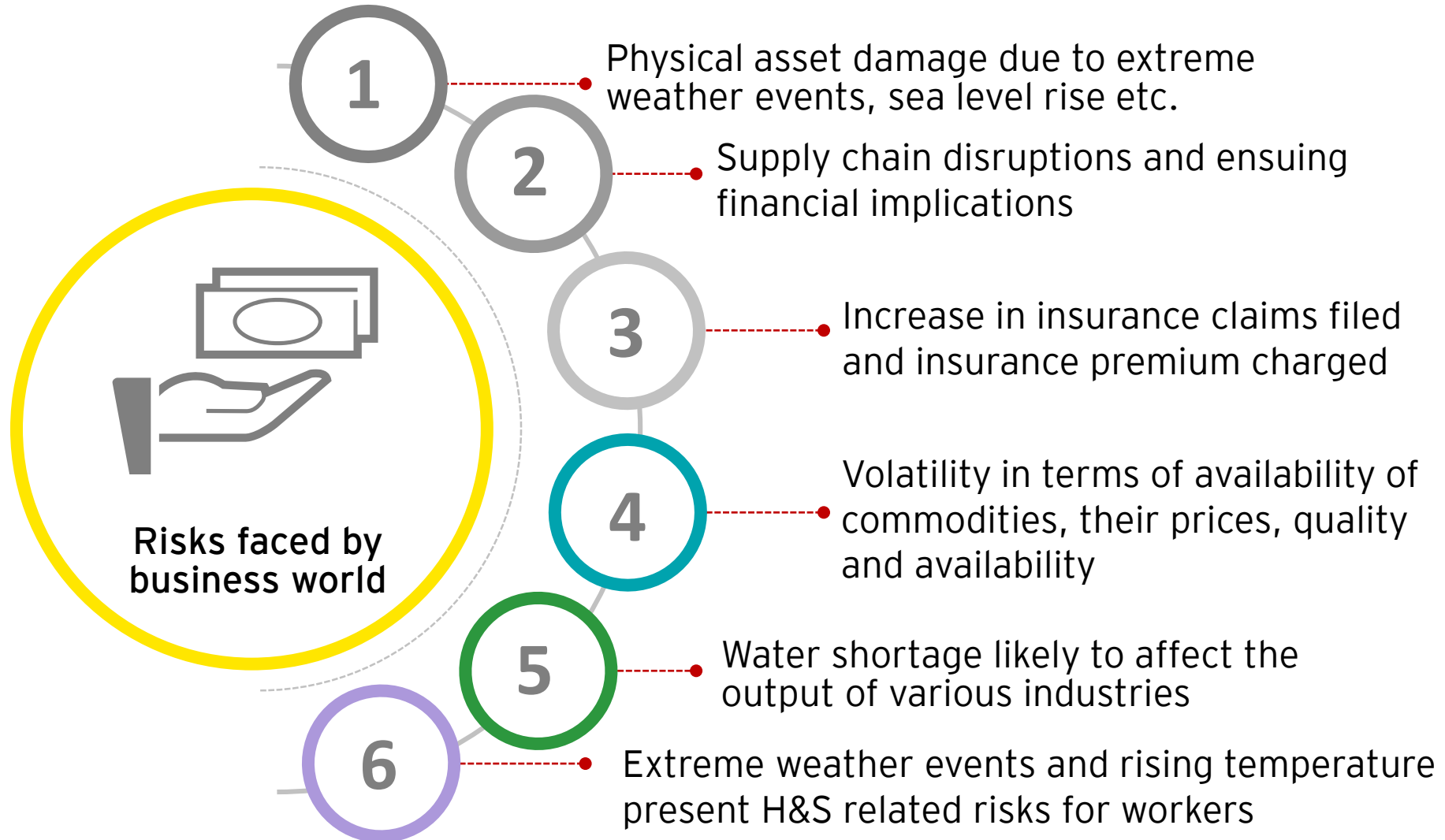
The Four Main Trends will interact with us through our "Worlds"



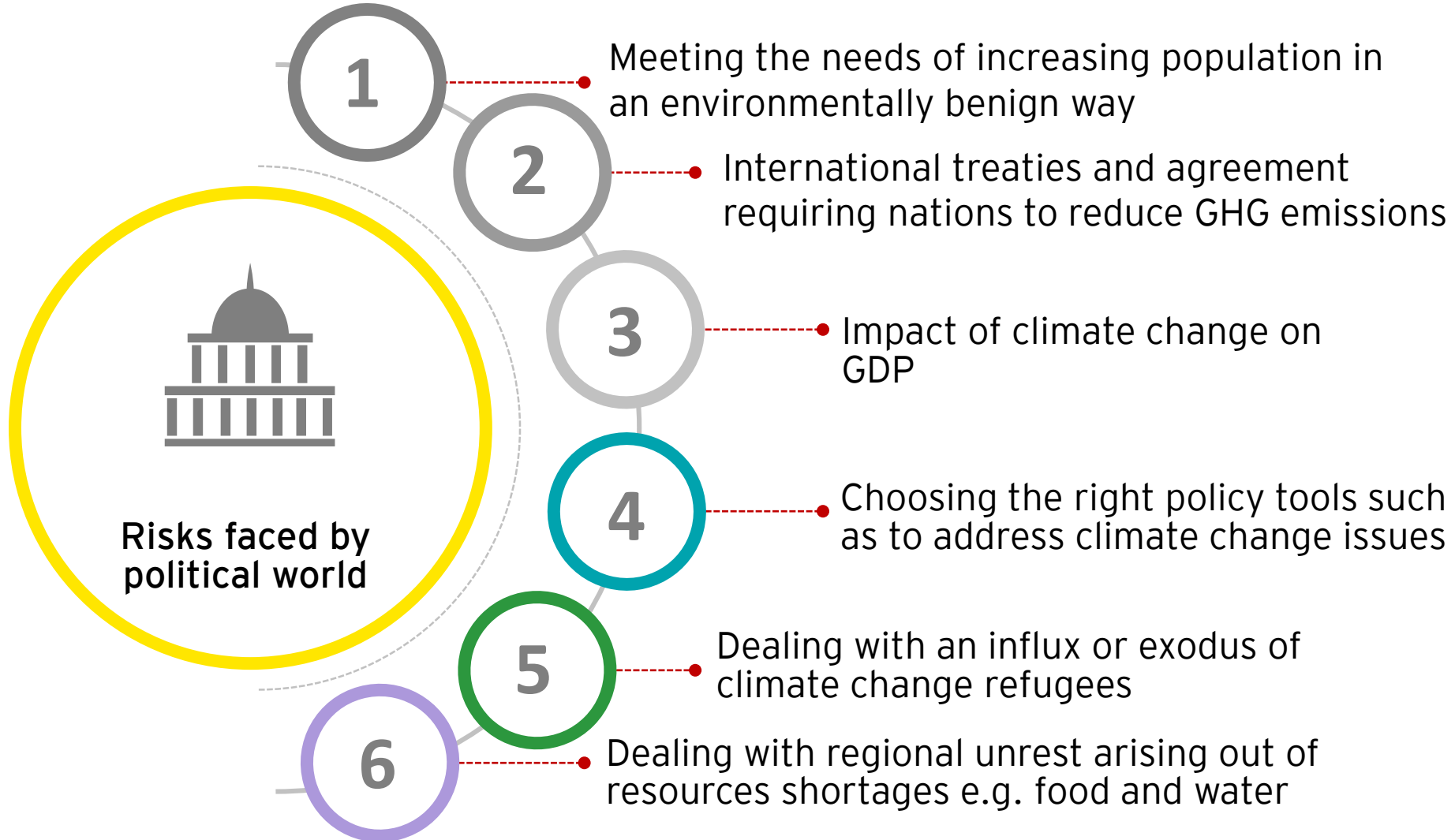
# What risks and why are we facing them?



# What risks and why are we facing them?

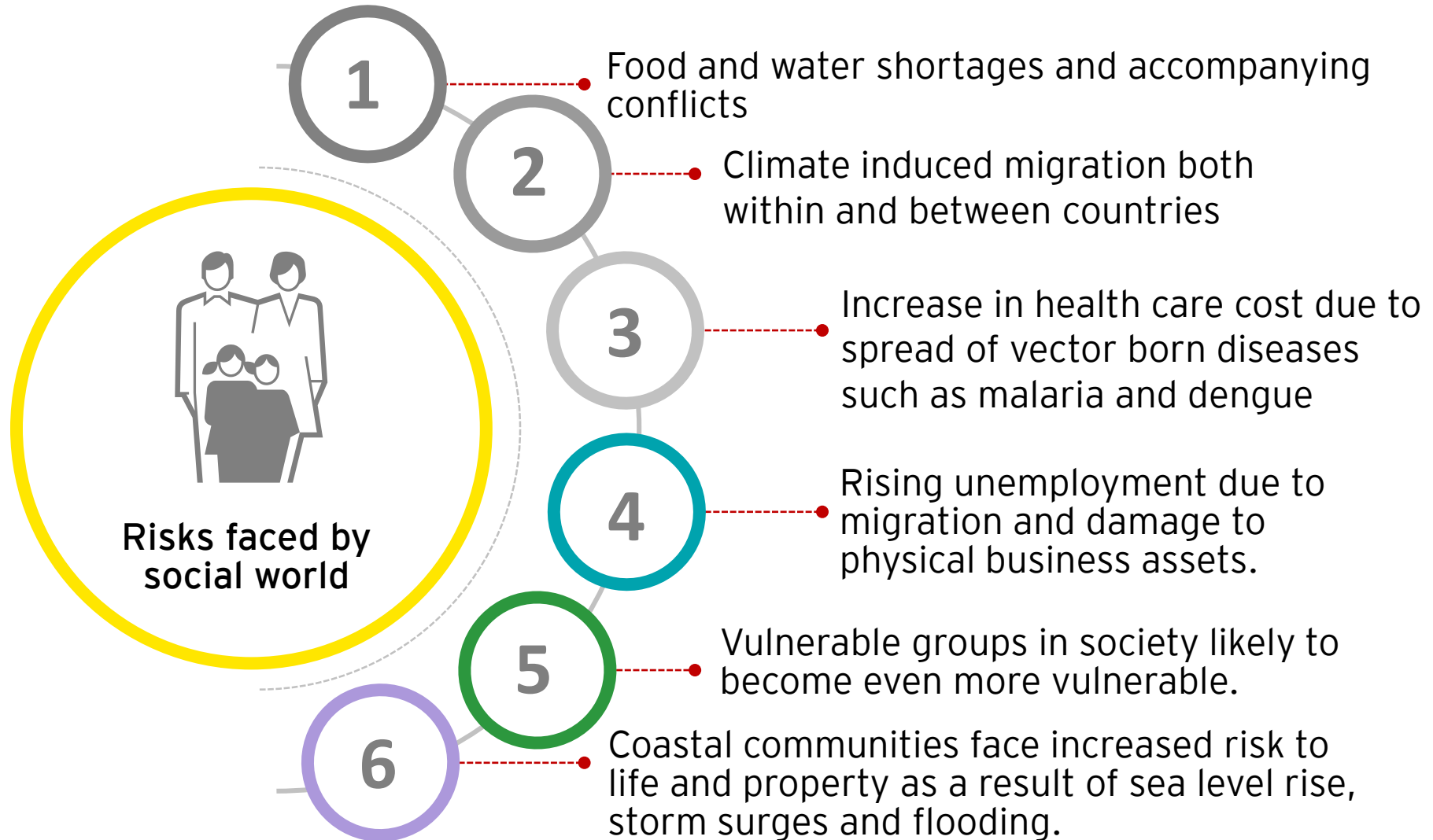


# What risks and why are we facing them?

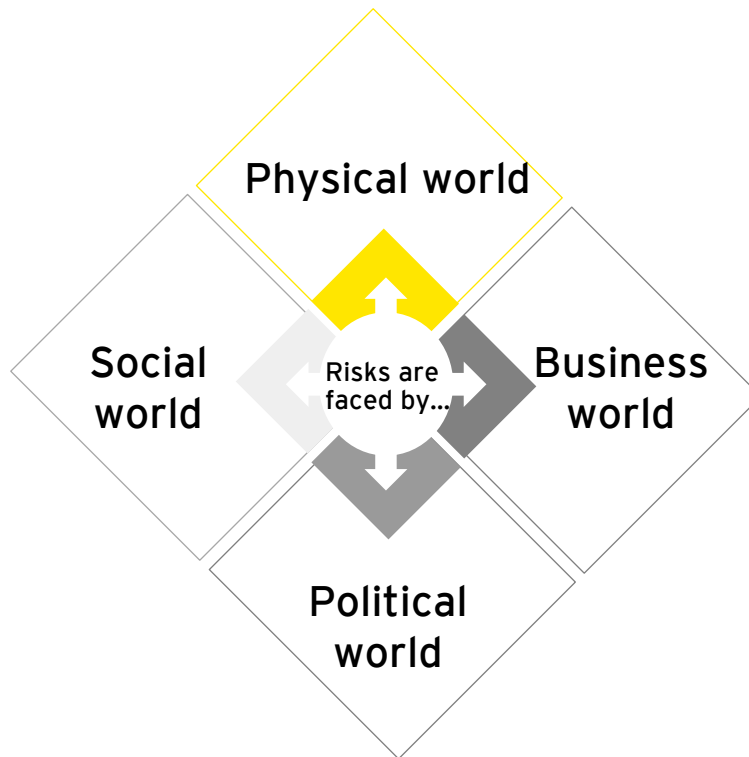




# What risks and why are we facing them?



# What risks and why are we facing them?



- ▶ All of these trends and risks interact with each other.
- ▶ While Climate Change will have a direct impact in the Middle East region... some of the greatest impacts on the Middle East may come as a result of the effects of Climate Change in *other countries around the world...*

## Certain climate change risks specific to oil & gas sector



**Increasing regulatory pressure** to reduce GHG emissions.

**Example:**

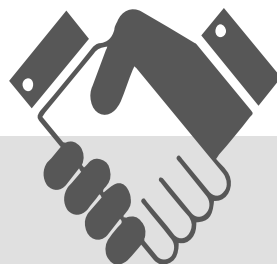
US EPA is likely to come up with new regulations to meet the target of reducing methane emission from oil and gas industry by 40-45% from 2012 levels by 2025.



**Water scarcity** likely to affect E&P activities in water stressed regions across the globe.

**Example:**

A recent report by World Resource Institute (WRI) states that 38% of world's shale resources face high to extremely high water stress or arid conditions.



**License to operate** is given by the society and failure to factor their concerns presents business continuity risk.

**Example:**

O&G exploration in the Adriatic Sea has raised concerns about the impact on the tourism industry.



**Extreme weather events hamper production** especially on offshore facilities.

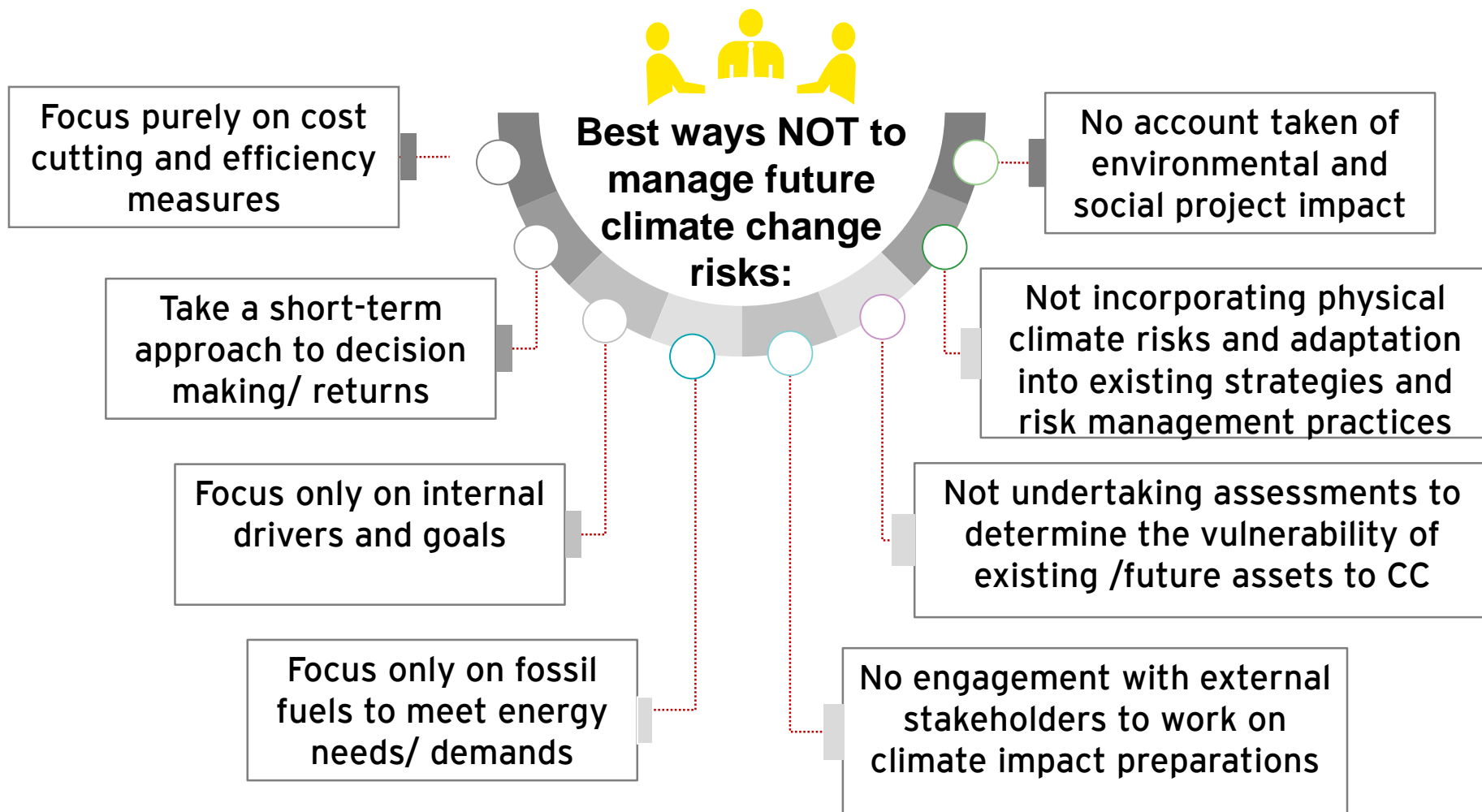
**Example:**

In 2008, Hurricane Ike crashed into Gulf Coast, taking approx. 700,000 barrels per day of oil production offline in Gulf

# OUTLINE

1. What risks and why are we facing them?
2. **Managing risks and creating opportunities**

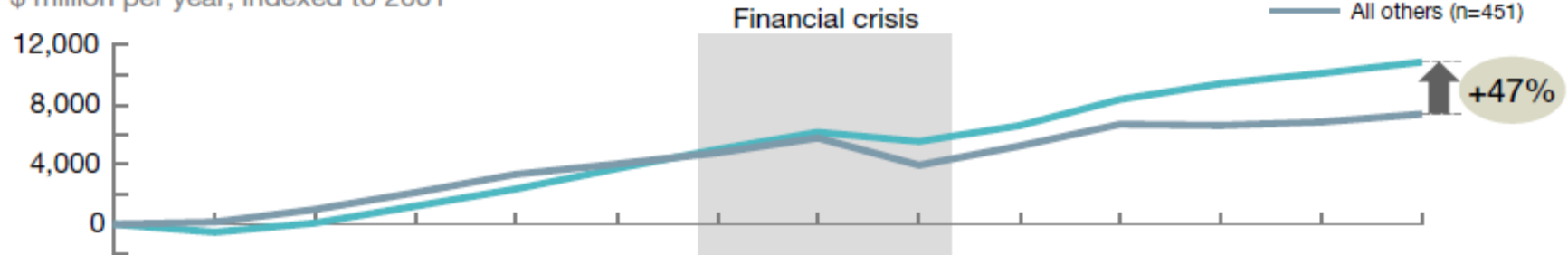
# Managing risks and creating opportunities



# Managing risks and creating opportunities

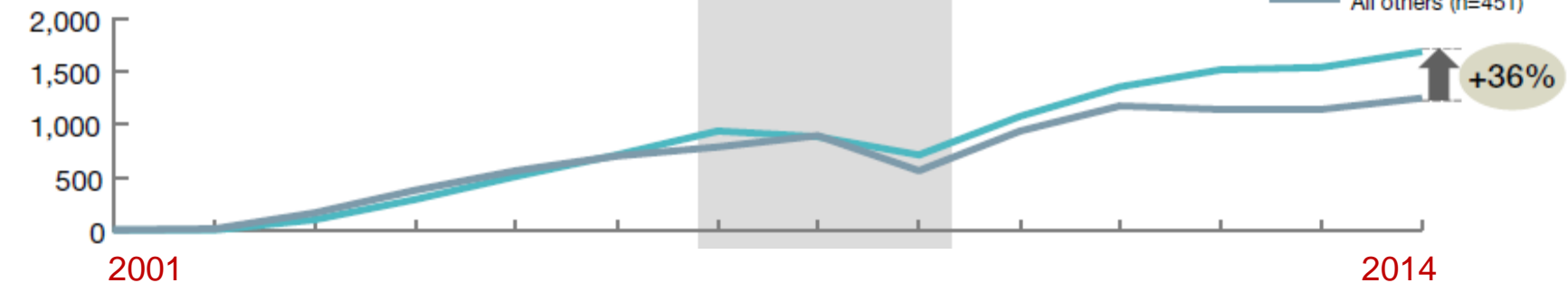
## Average company revenue

\$ million per year, indexed to 2001



## Average company earnings

\$ million per year, indexed to 2001



*“...firms with a long-term mindset exhibit stronger fundamentals and performance...”*

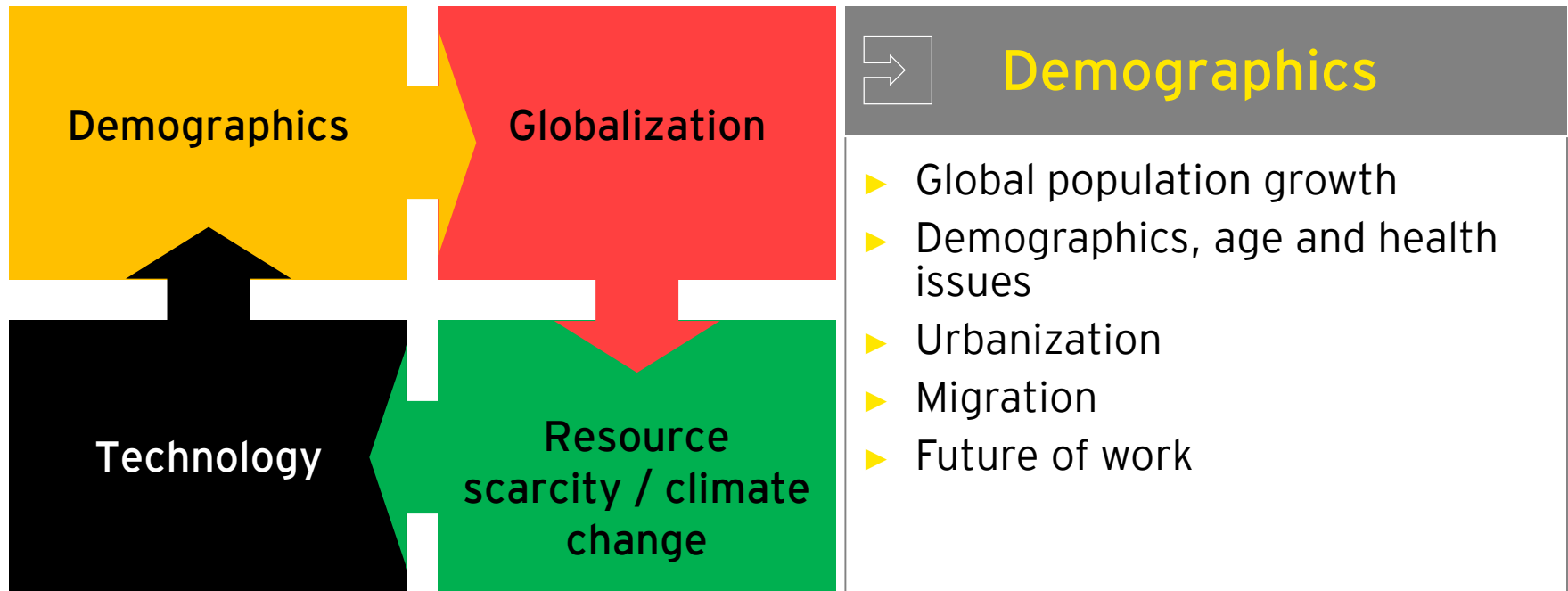
MCKINSEY GLOBAL INSTITUTE

MEASURING THE ECONOMIC  
IMPACT OF SHORT-TERMISM

FEBRUARY 2017

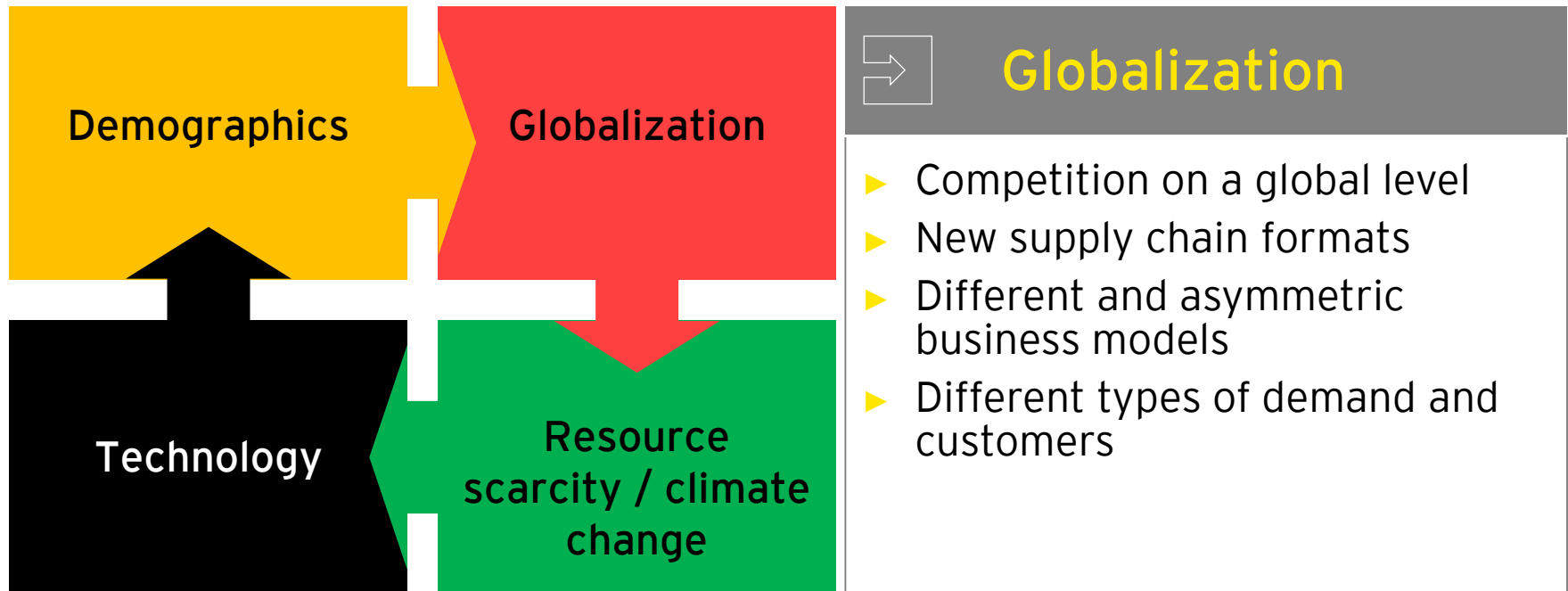
# Managing risks and creating opportunities

Recognize that a transition is underway driven by:



# Managing risks and creating opportunities

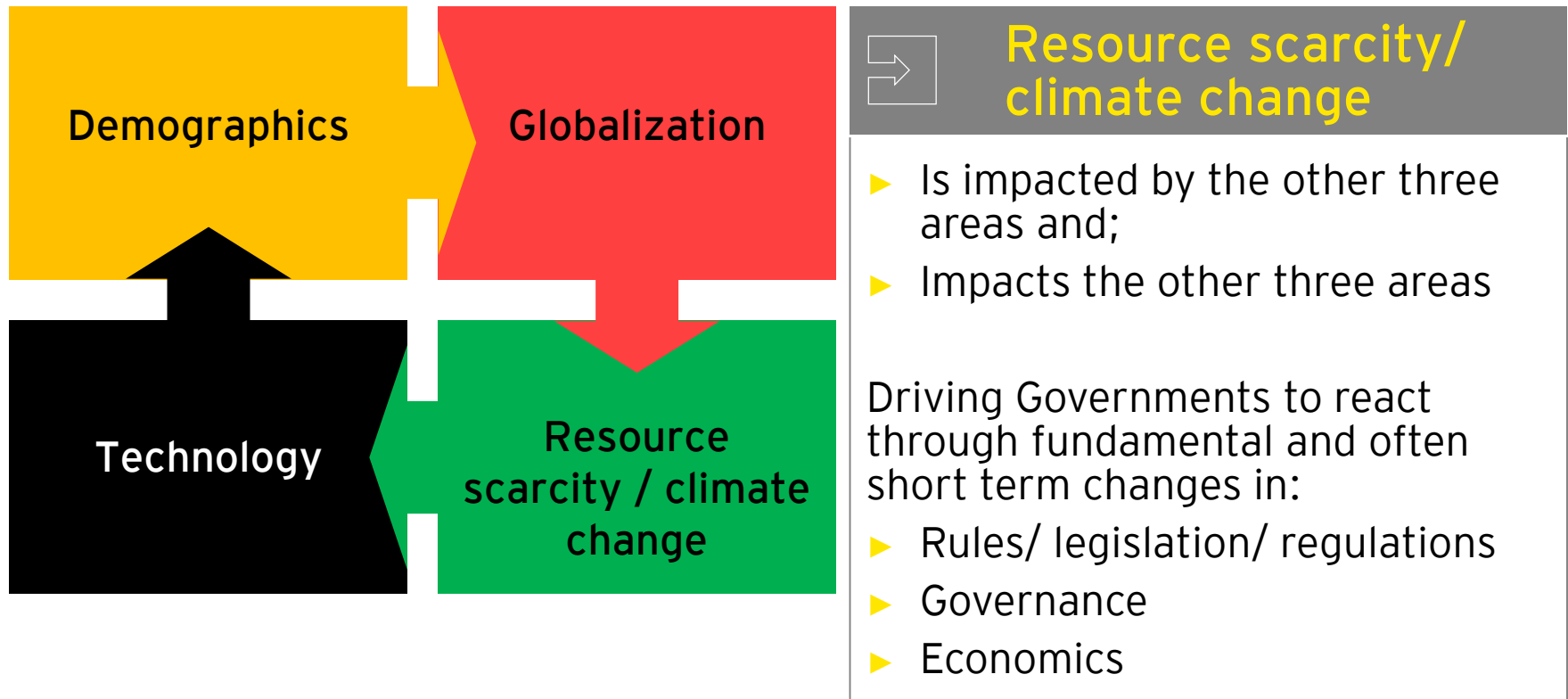
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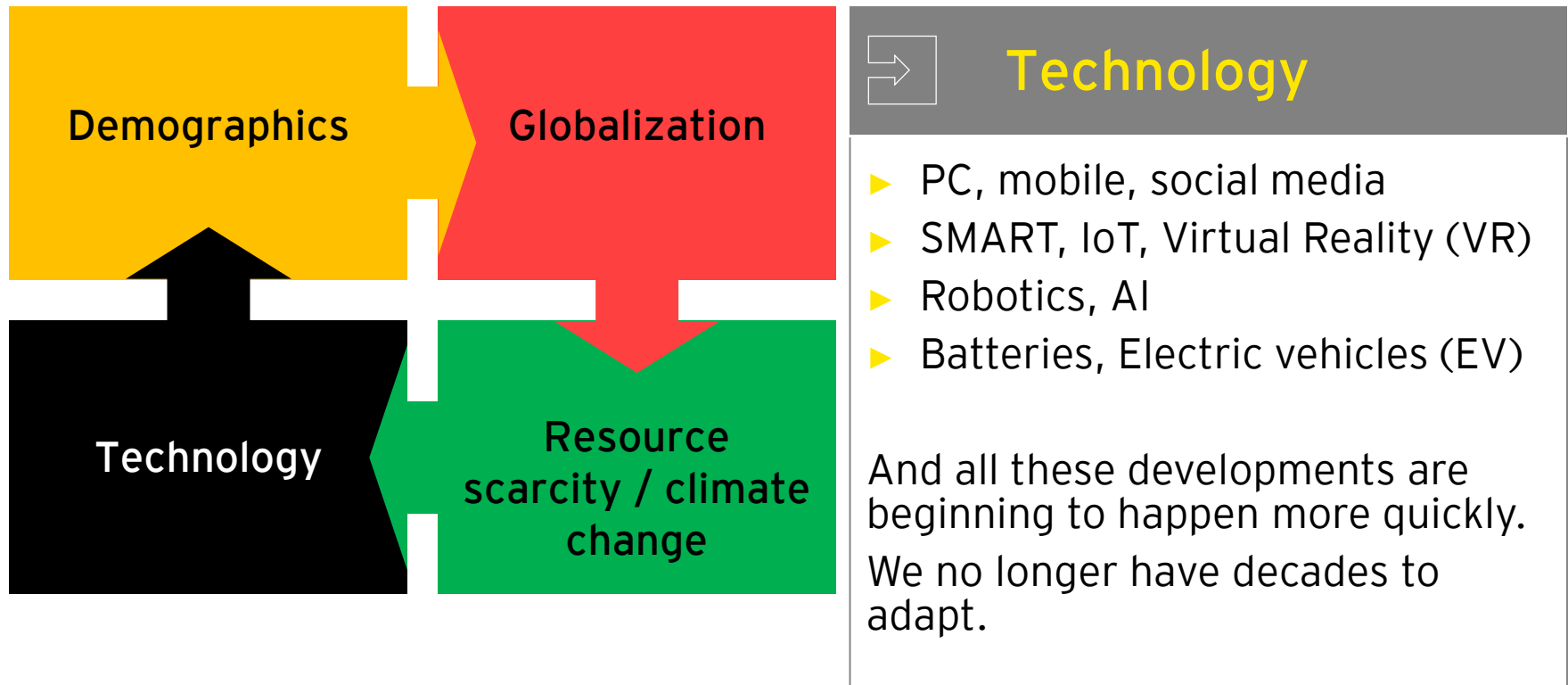
# Managing risks and creating opportunities

Recognize that a transition is underway driven by:



# Managing risks and creating opportunities

Recognize that a transition is underway driven by:



# Managing risks and creating opportunities



## Global Climate Agreements

- ▶ The Paris Conference of Parties (COP21) held in December 2015 resulted in a universal agreement to limit global greenhouse gas (GHG) emissions, with an aim to keep average global temperature rises this century below 2 degrees Celsius.
- ▶ Signatories are expected to take concrete action to deliver the GHG reductions set out in their climate plans (Nationally Determined Contributions or NDCs).
- ▶ These actions will have a profound impact on the way in which energy is produced and consumed.

How will the agreement impact the O&G firms?

1

What is the potential for cost effective GHG mitigation?

2

What is the impact of the agreement on production cost?

3

What is the impact of GHG targets on competitiveness?

4

How will the agreement impact the demand for products?

5

What are the long term impacts of targets on the demand for fossil fuels?

6

# Managing risks and creating opportunities

**Step 1:** Start by asking questions around the following five areas

1. What business do we want to be in? How will this fit with the outcomes being driven by the four trends?

2. Who are our customers? What will they want in a new world?

3. What is our value proposition? How robust is this?

4. Who are our competitors in this area? What are the risks that we face?

5. What is the risk of doing nothing and staying with BAU?



# Managing risks and creating opportunities

Step 2: Consider the UN Sustainable Development Goals as the Target Operating Model for the World in 2030

## The Global Goals for Sustainable Development



# Managing risks and creating opportunities

Translating SDG's into areas of opportunity for O&G companies

By creating an inclusive culture, free of discrimination, with equal pay and opportunities for all.

By improving operational efficiency, energy efficiency via product stewardship principles, developing cleaner fuels and sharing knowledge



By providing energy, caring for the health and safety of workers, investing in community health system and combating infectious diseases.



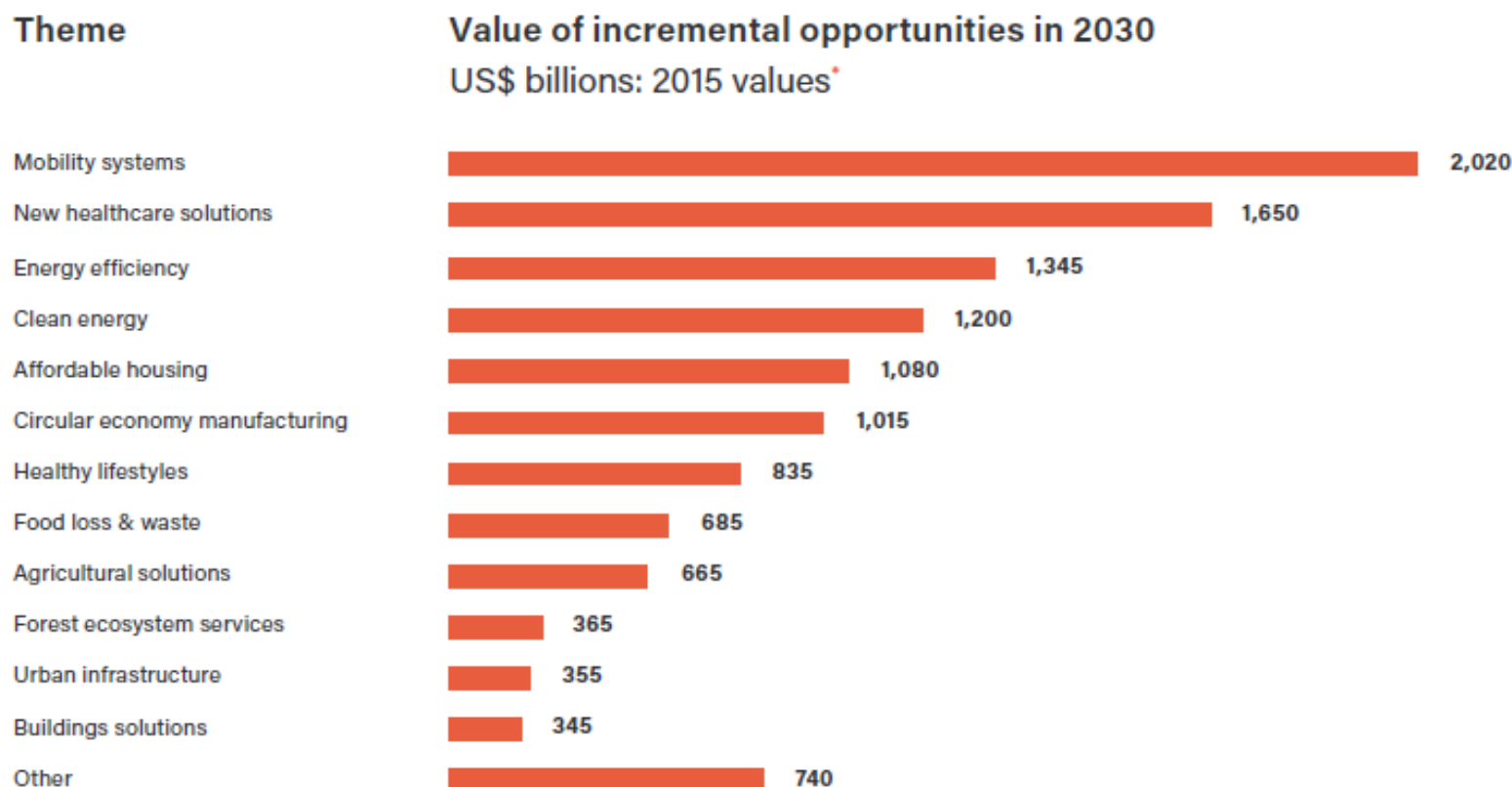
By identifying opportunities to improve how cities generate and use energy, provide cleaner power generation by providing natural gas.



By putting ecological risk management strategies in place, reclaiming sites at the end of life of a producing asset and instituting biodiversity offsets.

# Managing risks and creating opportunities

12 largest business themes in a world economy heading for the Global Goals

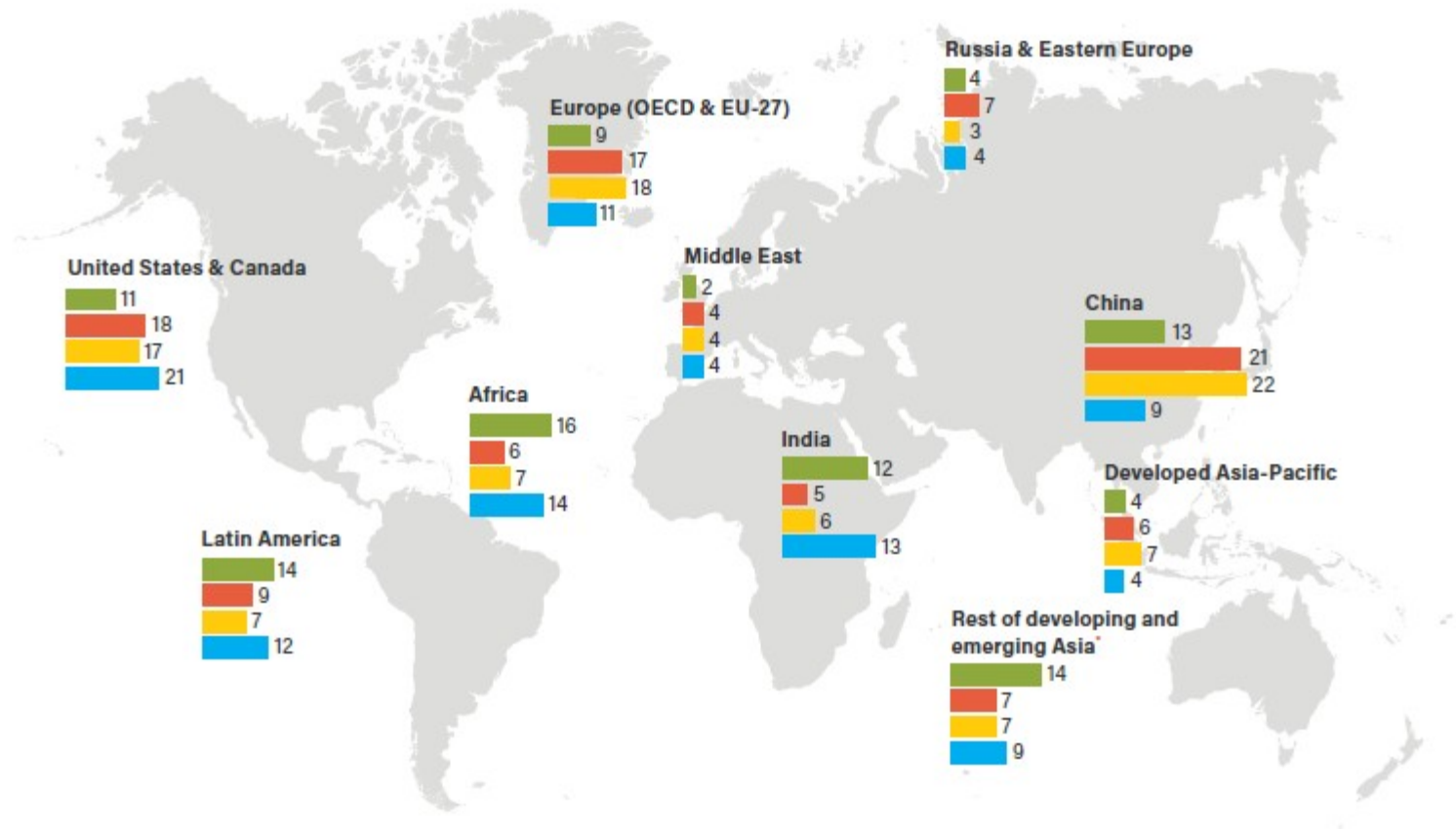


Source: <http://businesscommission.org/news/release-sustainable-business-can-unlock-at-least-us-12-trillion-in-new-market-value-and-repair-economic-system>

# Managing risks and creating opportunities

Share of value of SDG business opportunities by region and system; Percent

Food and Agriculture Cities Energy and Materials Health and Well-Being



Source: <http://businesscommission.org/news/release-sustainable-business-can-unlock-at-least-us-12-trillion-in-new-market-value-and-repair-economic-system>



# Managing risks and creating opportunities

## Step 3

Consider using a Total Value type model to collect and analyze the right information / data and allow you to make better decisions

Existing valuation methods have not kept pace with shareholder's and public's appetite for better information about the way in which economic activities impact communities, and the extent to which those impacts reflect back on the businesses involved.

We need to think beyond the set of indicators by which we currently measure and manage success. Indicators that consider social, environmental and economic outcomes.

This has consequences for the way in which risks and opportunities are managed.  
A broader definition of value can be game changing.

# Managing risks and creating opportunities

Businesses need to manage three embedded layers of value that regularly interact with each other and involve an increasingly broad range of stakeholders

## Tangible value

Financial and manufactured capital, already commonly reported...

## Intangible value

Intellectual and human capital and their effects on innovation, competitive advantage, productivity...

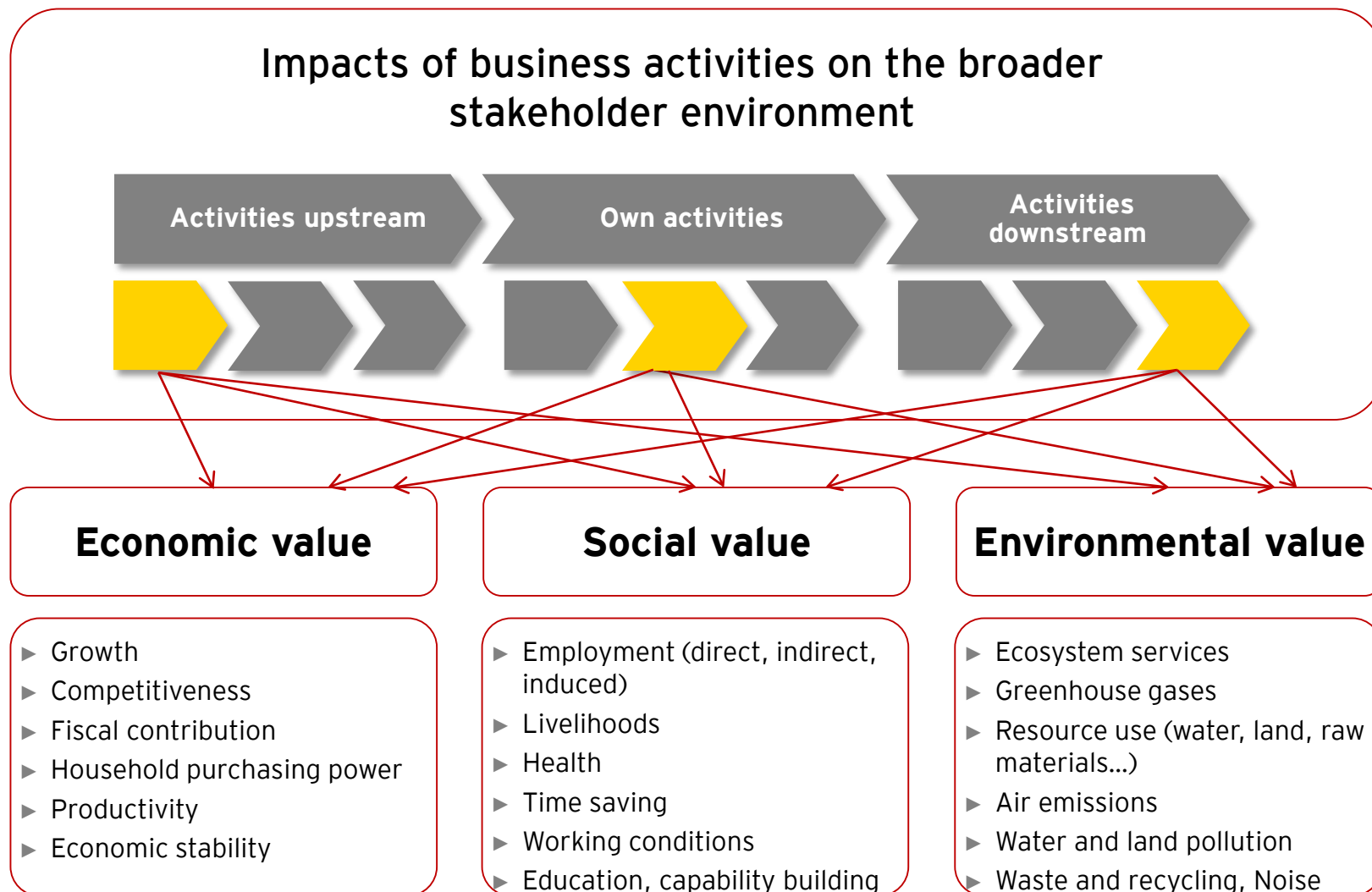
## Externalities and value to society

Social and environmental capital and their effects on brand value, social license to operate, ability to manage scarcity

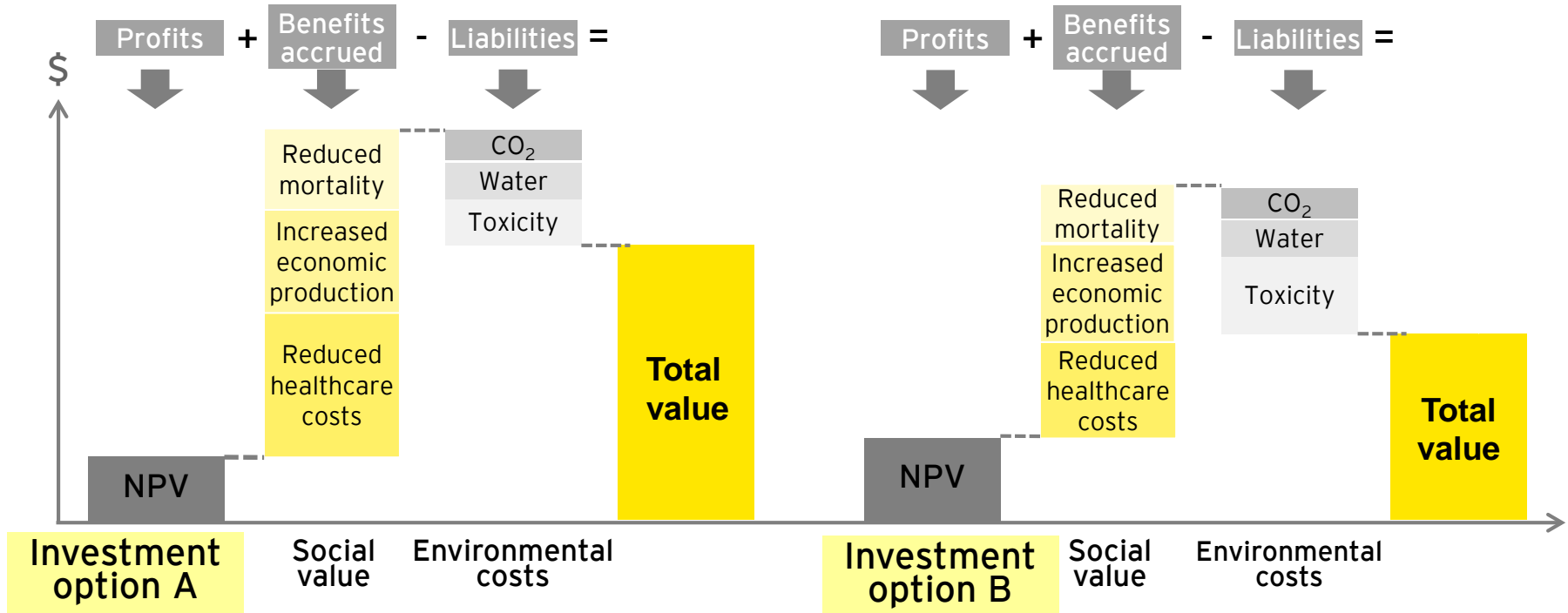
Rethinking the total value of a business

# Managing risks and creating opportunities

## Impacts of business activities on the broader stakeholder environment



# Managing risks and creating opportunities



- ▶ Option A is preferable from a Total Value perspective because of higher social value and limited environmental costs.
- ▶ Resources within Option B could be allocated differently in order to deliver greater social value.

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ED None

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# THANK YOU.



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