



Policy Simulations to co-create resilient futures in the context of cross-borders climate impacts

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Centre for Systems Solutions



NEWS

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Egypt's Suez Canal blocked by huge container ship

© 24 March 2021



The giant ship is causing a traffic jam in one of the world's busiest waterways

A giant container ship the length of four football pitches has become wedged across Egypt's Suez Canal, blocking one of the world's busiest trade routes.

In pictures: Container ship blocking the Suez Canal finally on the move

© 29 March 2021



EPA

The huge container ship is four football fields long

CHALLENGES & RISKS



COMPLEXITY



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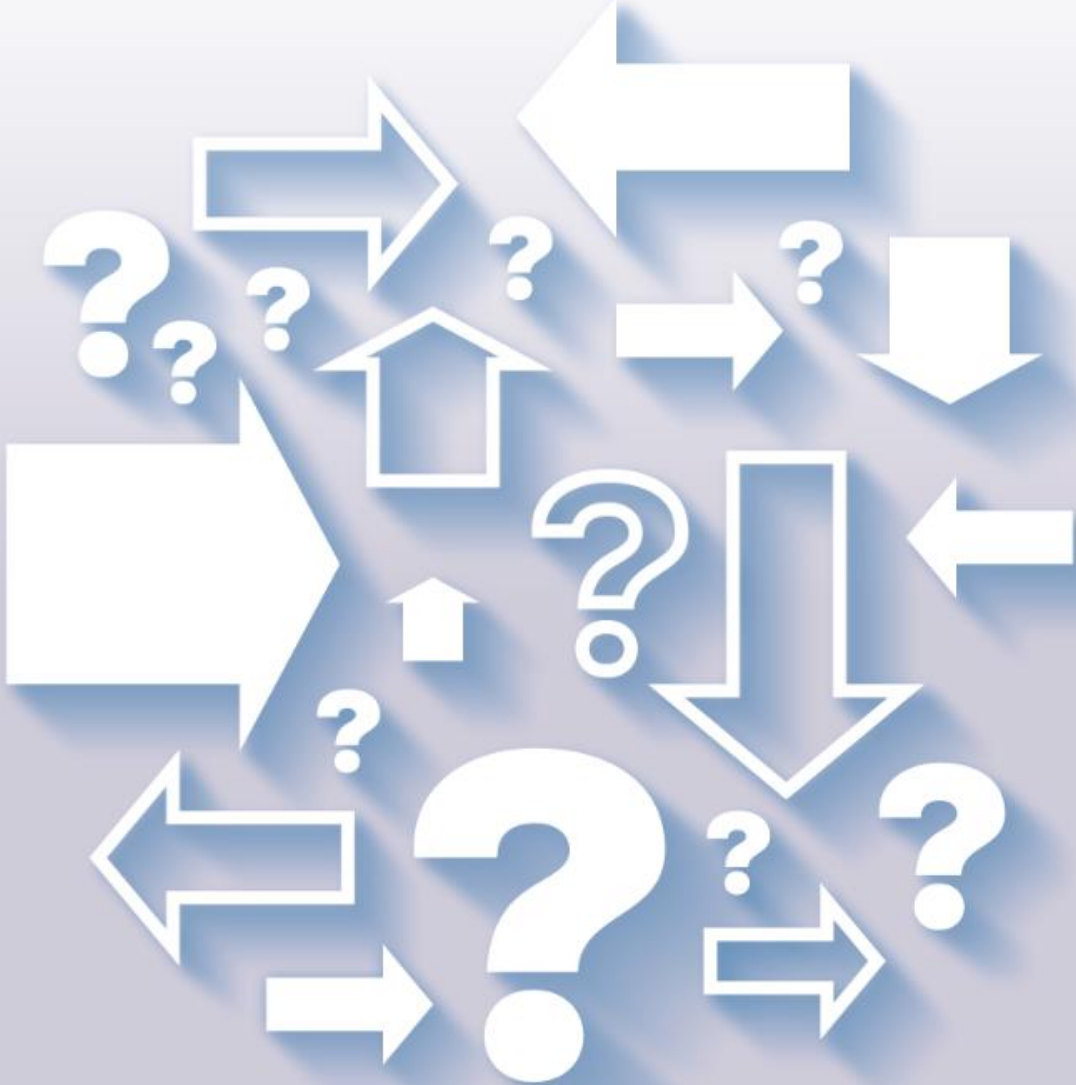
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UNCERTAINTY

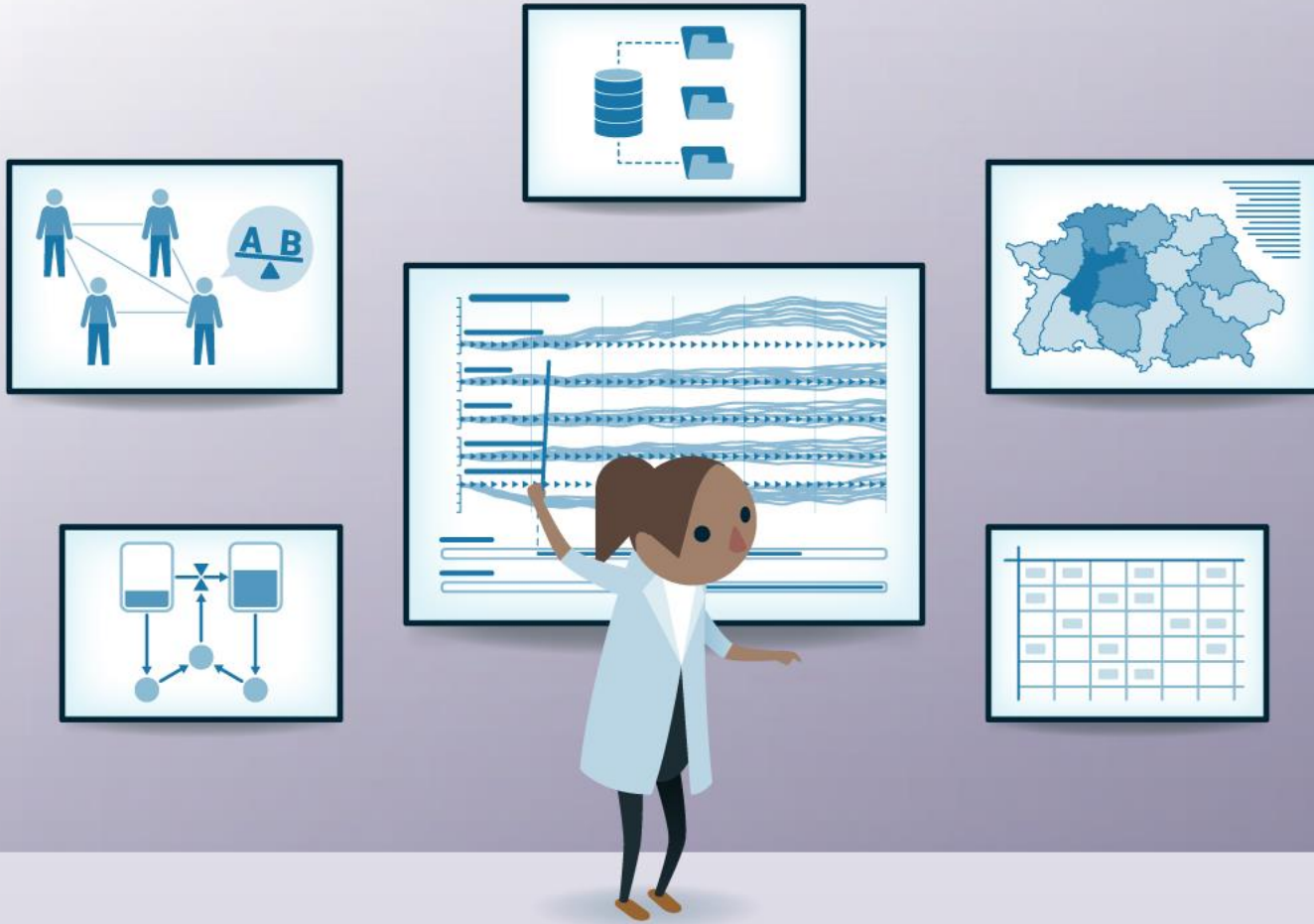




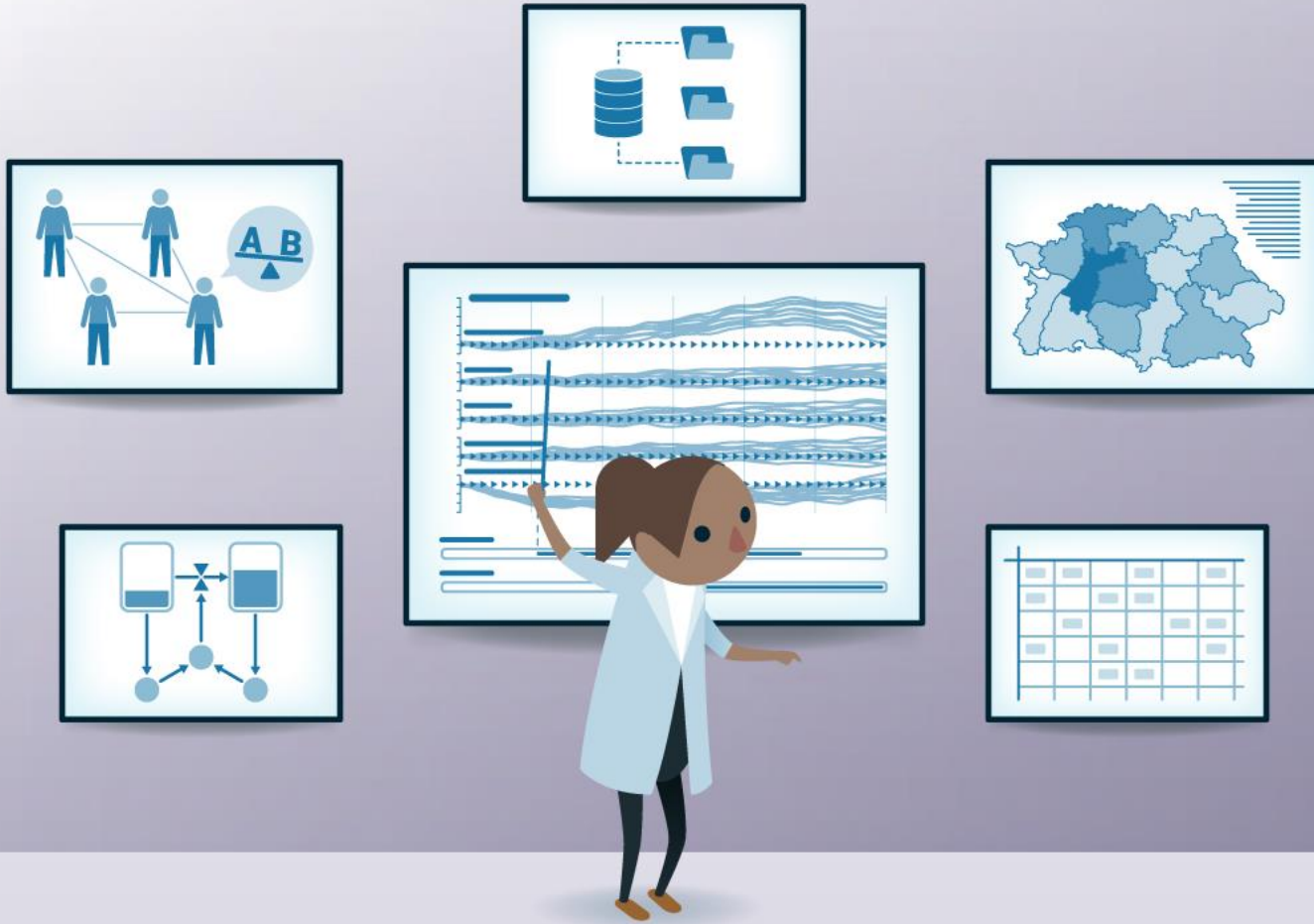
AMBIGUITY

**I'M SURE GLAD
THE HOLE ISN'T
IN OUR END**





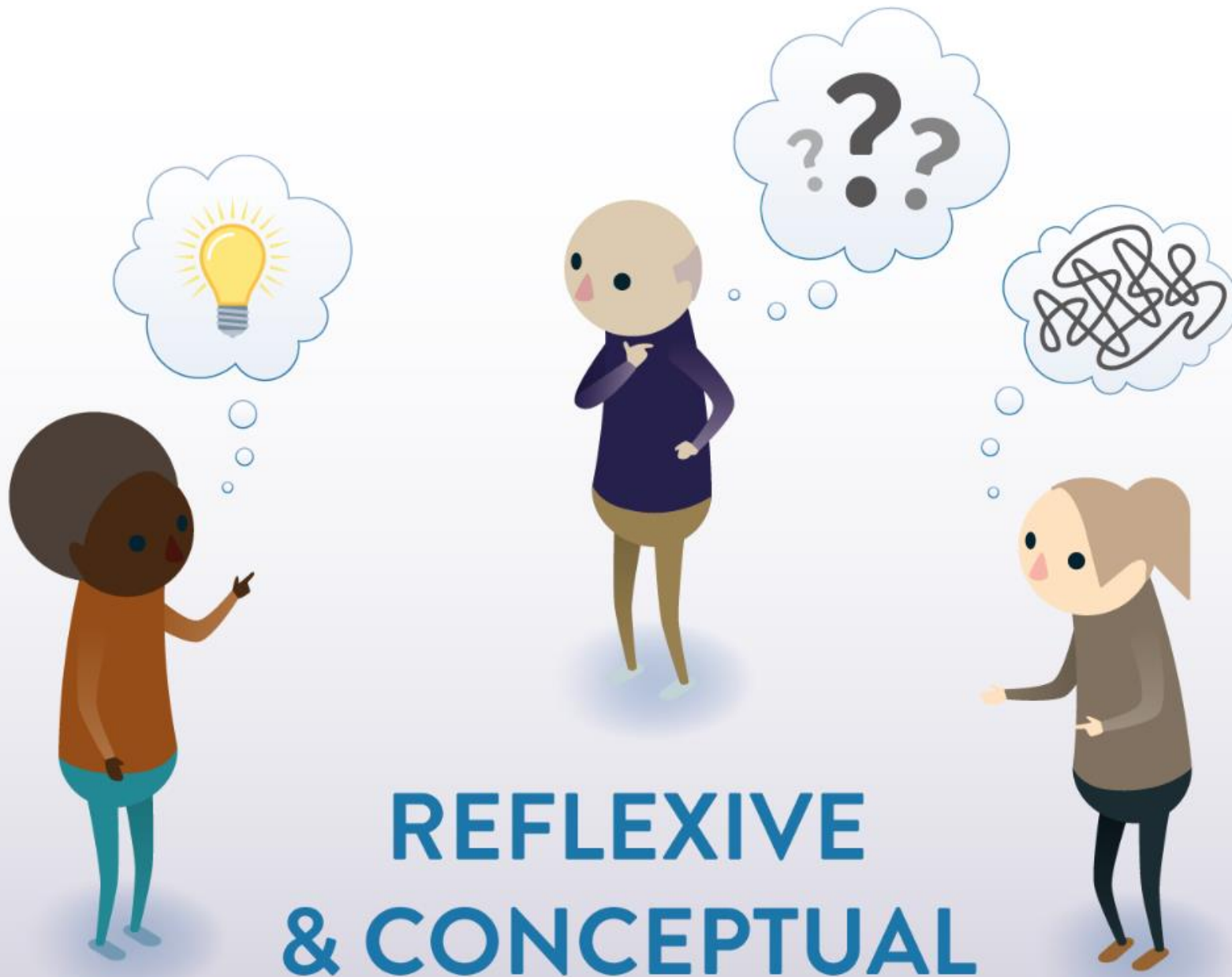
**SYSTEMS SCIENCE IS USED
TO TACKLE COMPLEXITY...**



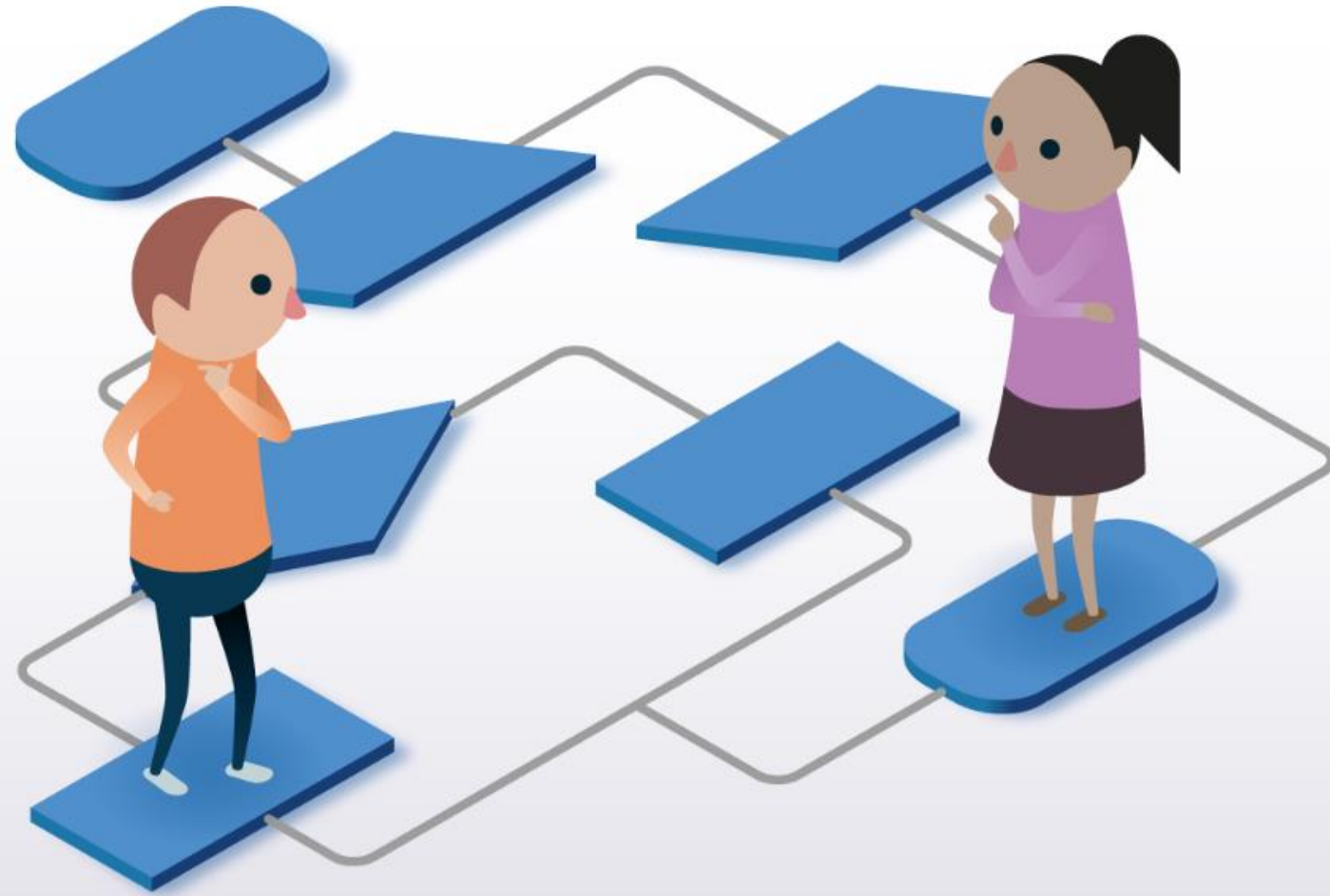
**SYSTEMS SCIENCE IS USED
TO TACKLE COMPLEXITY...**



**...WE ALSO NEED
ANOTHER
APPROACH**



**REFLEXIVE
& CONCEPTUAL**



ACTIVE & EXPERIENTIAL



PROBLEM-ORIENTED

PEOPLE-ORIENTED

**Communication
& Collaboration**



FUTURE-ORIENTED



Tell me and I forget,



Tell me and I forget,

***Show me and
I may remember,***



Tell me and I forget,

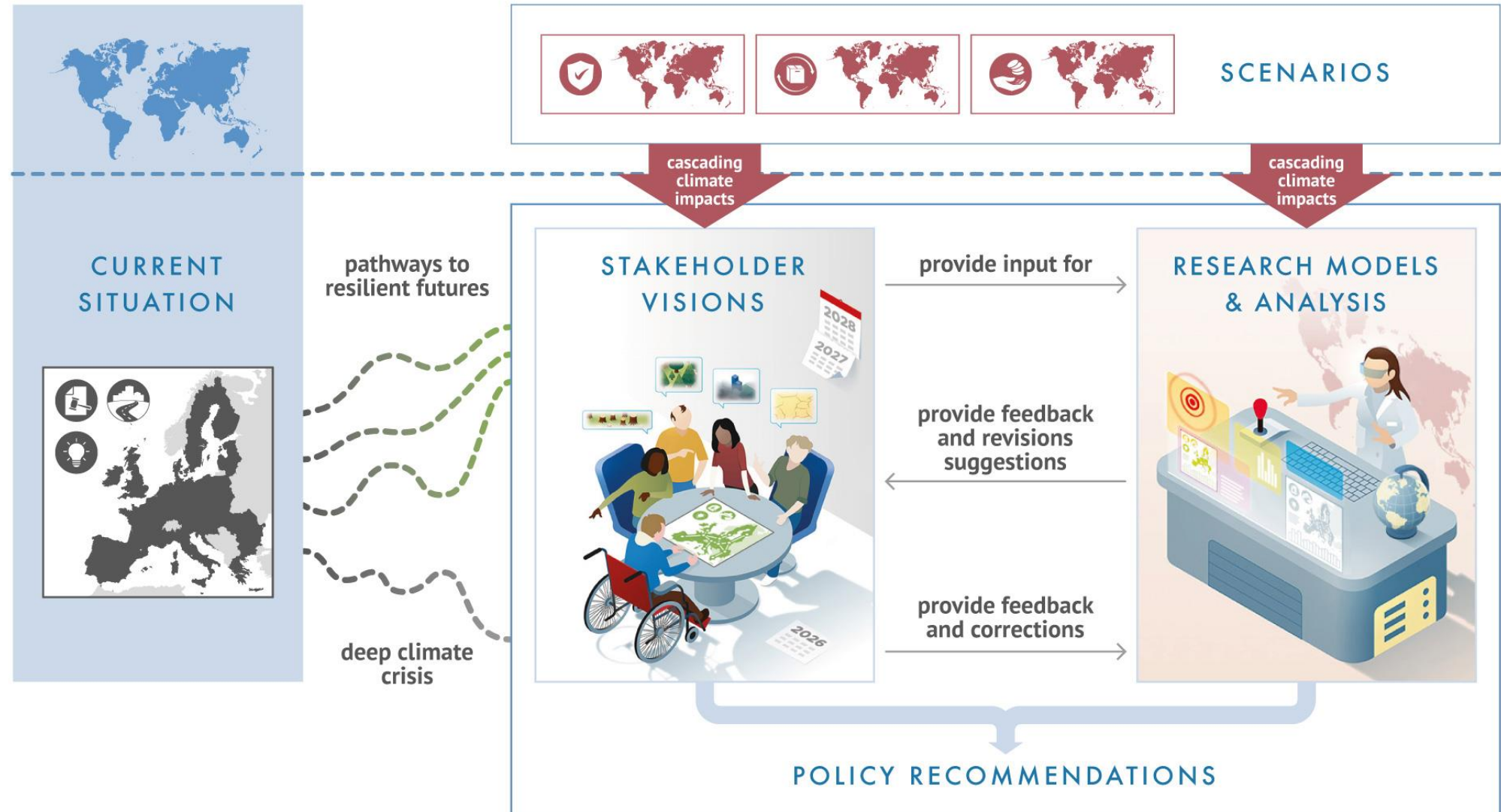
***Show me and
I may remember,***

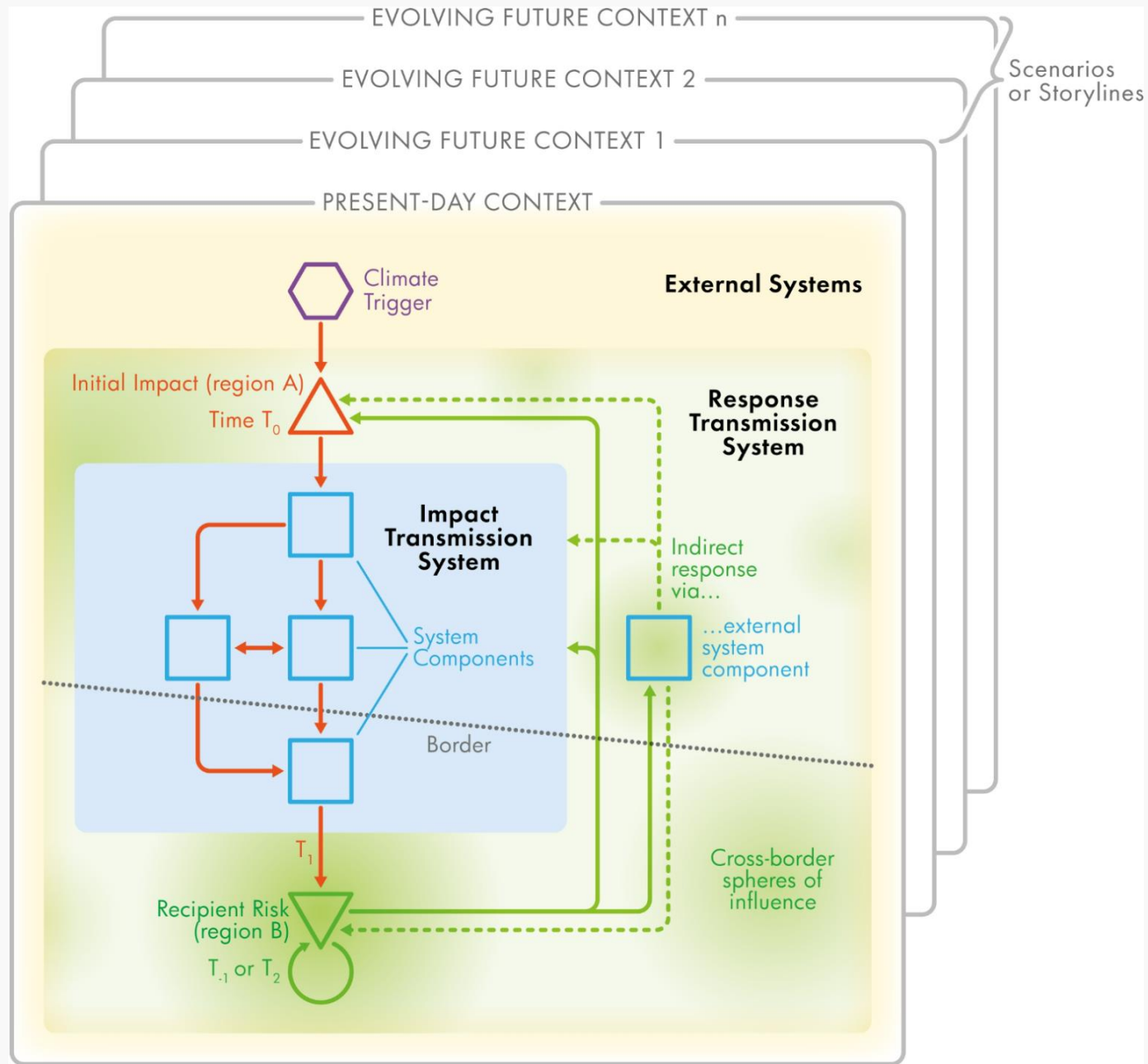
***Engage me and
I will understand.***

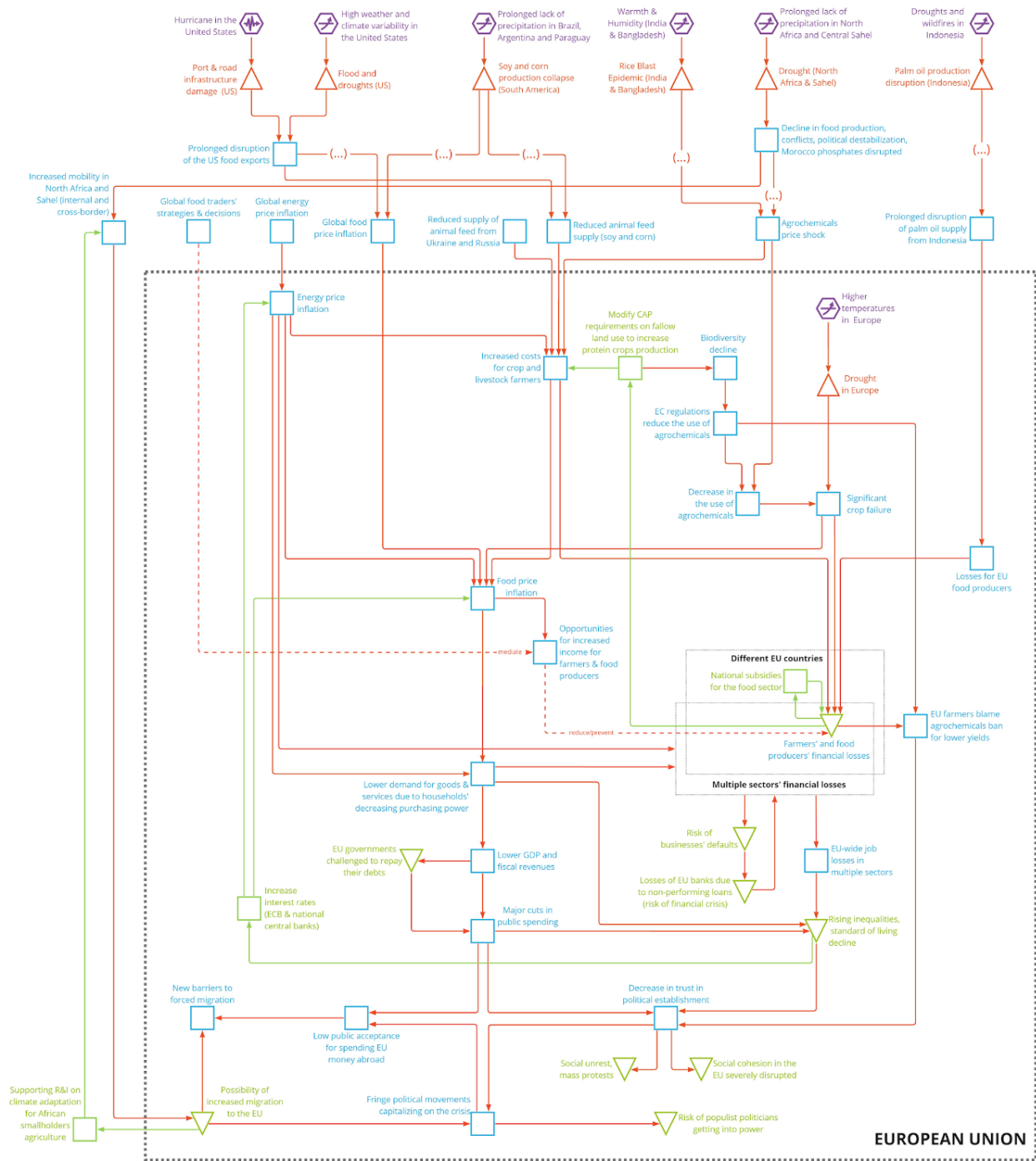
Xunzi

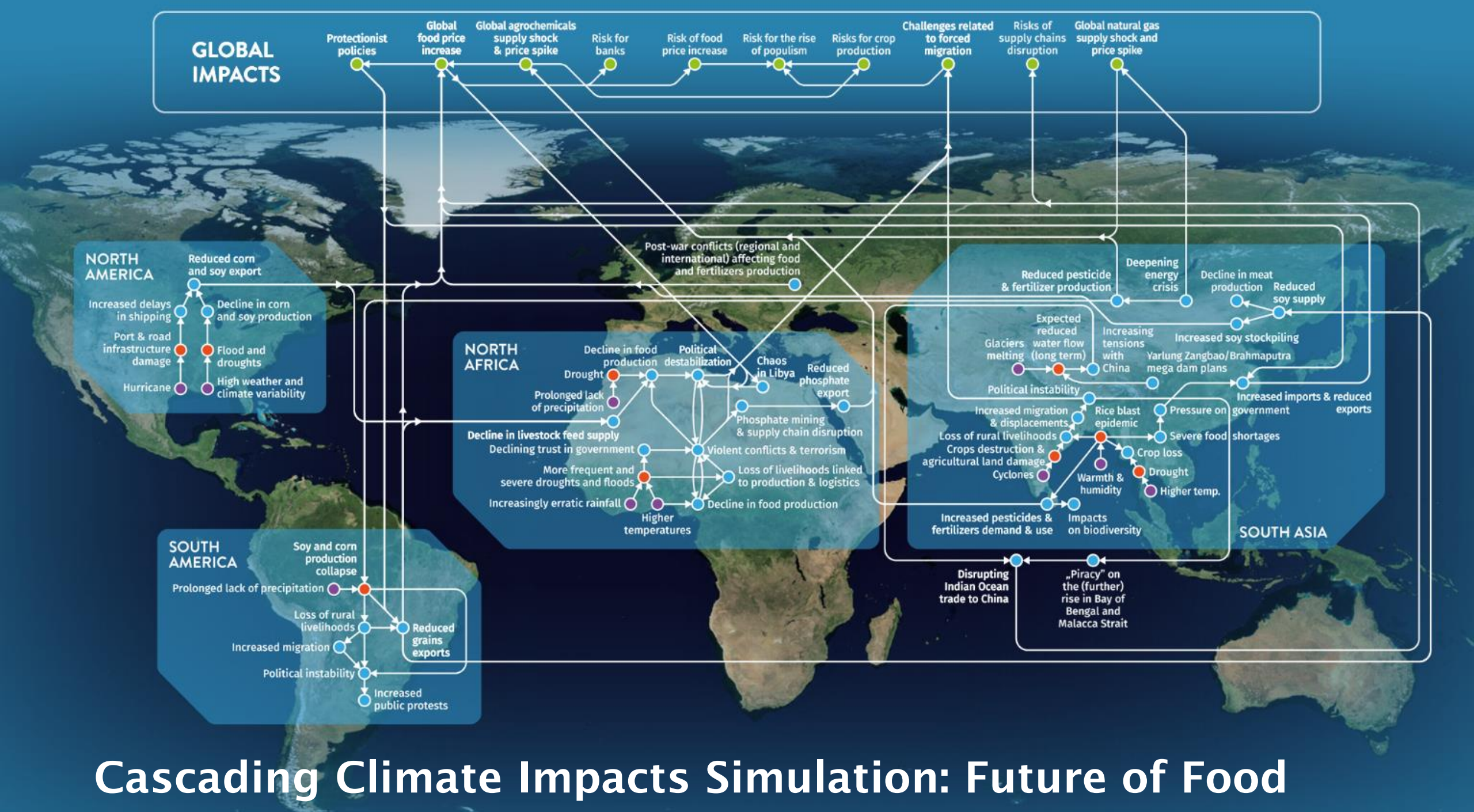


Stakeholder engagement validates and enriches the research









Cascading Climate Impacts Simulation: Future of Food

SOCIAL SIMULATIONS

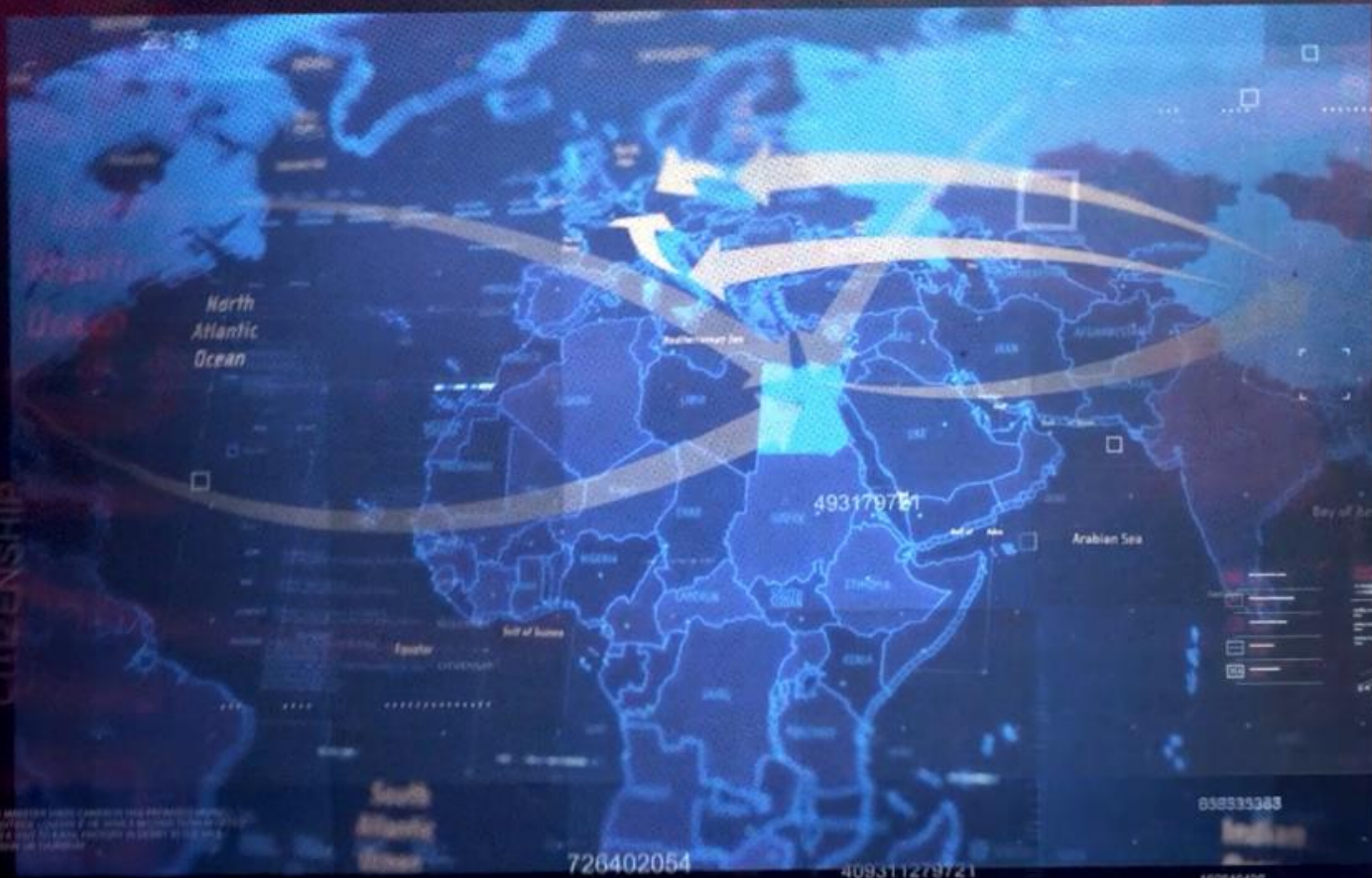
Take on diverse fictional roles

Confront perfect storm scenarios, human stories, and conflicting worldviews

Leave the role behind and bring new insights to the real world

Avidly negotiate, brainstorm, and vote on policy proposals





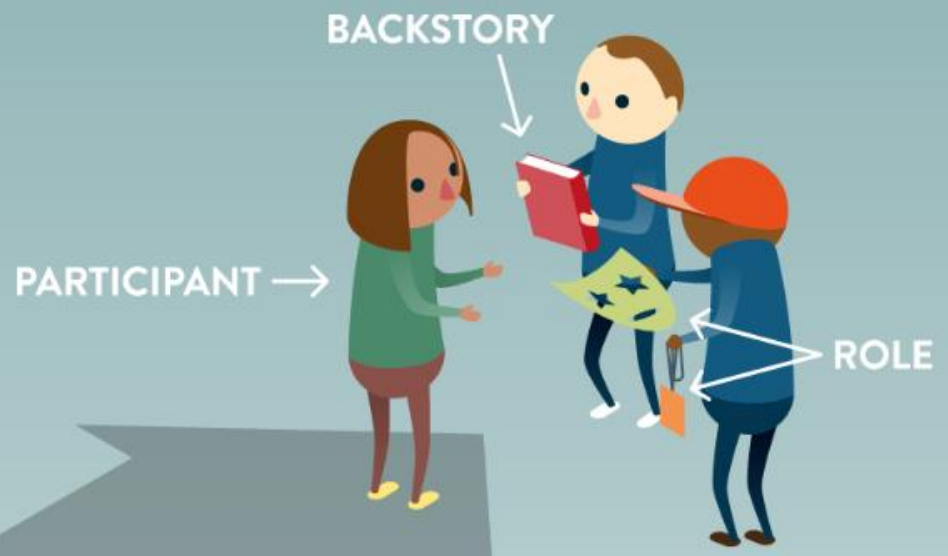
CASCADING CLIMATE IMPACTS

Cascading Climate Impacts Simulation



← THE FUTURE OF FOOD SIMULATION

2026
2022



← THE FUTURE OF FOOD SIMULATION

EMERGENCY SUMMIT

ON THE FUTURE OF FOOD



TROUBLES IN AMERICAN BREADBASKETS



FOOD CRISIS... OR TRANSFORMATION?



THE PHOSPHATE DEBACLE



AN EPIDEMIC OF FUNGI AND DISTRUST



THE DEMISE OF THE SOY & CORN BASKET



A dead animal, possibly a goat or sheep, lies on its side on a vast, cracked, and parched landscape. The ground is composed of numerous irregular, polygonal shapes of dry earth, indicating severe drought. The animal's body is dark and appears lifeless, with its legs splayed out. The overall scene is desolate and conveys the impact of climate change.

DROUGHT IN
THE HORN OF AFRICA



Belgium: Department of Foreign Policy

NEW

INVITATIONS

POLICY PROPOSITIONS

CONFERENCE CENTER

LOG OUT



LATEST NEWS **LIVE** **EUROWIRE** **24** **BREAKING NEWS** - CLICK TO ENTER - **BREAKING NEWS** - CLICK TO ENTER **2**

CHAT **E-MAIL** 3

Belgium: Department of Transport

How should we proceed with the negotiations?

Let's stick to our principles.

Belgium: Department of Finance

But can we do that and find a common ground with others?

Let's see how the things will work out.

Belgium: Department of Transport

This can be difficult but we'll manage.

type your message...

SEND

We are in favor of freedom. However, we are also in favor of Justness.

0 replies

Reduced number of cars in the streets also have great side effects: more livable cities, with less traffic and congestion, and more public space available.

0 replies

International Association for Electric Vehicles

Electric cars were supposed to be the remedy for many problems, and now, when they are more accessible, and people finally become convinced, you want to introduce limits...

0 replies

We have to consume less, so we don,t have to worry about running of metals

0 replies

Have you seen what is happening in DRC or China? Do we really need so many cars?

0 replies

International Association for Electric Vehicles

Well, DRC is a developing country which needs funds. Limits will - maybe not kill, but - diminish their export.

0 replies

International Association for Electric Vehicles

A quote from e-mail I just got from Green Tech Association:

0 replies

There has to be another path for them, for us, for the sustainable future...

0 replies

International Association for Electric Vehicles

"A strict blanket regulation on car ownership will result in a lot of losers should it be enacted."

0 replies

Congo Republic - SVC

Corruption and mafia control of the primary energy source, charcoal is hampering progress in the DRC

0 replies

write a message...



SEND

CLOSE

INVITE

LEAVE

ING METALS' DEMAND



E-MAIL



Green Tech Association

12:07:21

We need regulations that are adapted to local conditions

Dear Participant,

It is true that there are more and more cars in the streets, which are contributing heavily to air pollution and carbon emissions. In fact, some cities have already imposed car ownership regulations and are already reaping the benefits. But we also have to remember that not everyone is in the same situation or has the same capacities. A strict blanket regulation on car ownership will result in a lot of losers should it be enacted.

We should not be hasty in imposing regulations until we at least have an idea of the potential scope of their impacts in the short and long term, and adopt regulations adapted to local conditions.

We hope that you consider these arguments when making your decision.

Yours sincerely,
Board of Directors
Green Tech Association

RETURN



PRESS

SOCIAL MEDIA



Severe Drought Hits Lithium Triangle



Climate Strategies Spur EV Adoption



Europe Leading The Way In Electric Vehicles Uptake; Asia To Follow



Increase Demand For Electric Vehicles Pressures Raw Materials Supply



ROOMS



MAIL / CHAT



NEWS



POLICIES

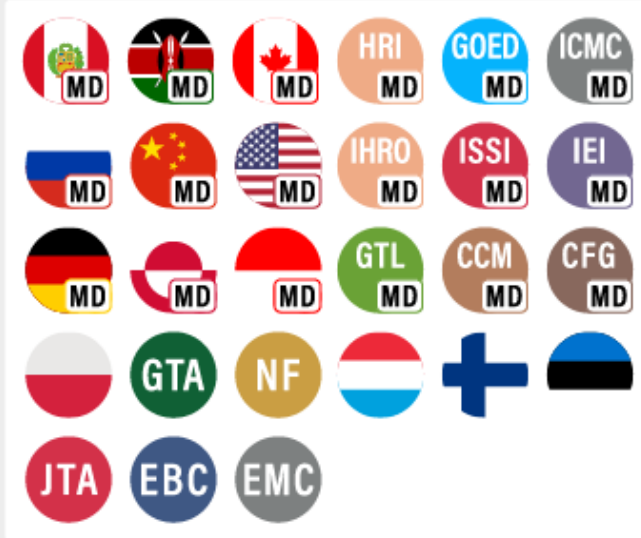


DESCRIPTION

PARTICIPANTS

DISCUSSION

Working Group 1: Social & Environmental Standards



ROOMS



MAIL / CHAT



NEWS



POLICIES



SUBMIT

PROPOSED POLICIES

VOTING

POLICIES I CAN VOTE ALL POLICIES

Voting Group 01

Critical raw materials demand has been steadily increasing in the past decades and is expected to continue outpacing global production. The high demand for critical raw materials is leading to unsustainable extraction and processing practices, leading to local and international conflicts and disrupting trade. Policies proposed below aim to improve the situation.

LIMITS ON CAR OWNERSHIP FOR EACH COUNTRY AND A GLOBAL PERMIT TRADING SYSTEM FOR THESE PERMITS

MANDATORY METALS RECYCLING WITH „PRODUCER OWNERSHIP” MODEL



ROOMS



MAIL / CHAT



NEWS



POLICIES

EXAMPLES OF POLICIES PROPOSED BY PARTICIPANTS

Cascading Climate Impacts: Future of Food Simulation

Africa-EU food systems partnership

15% of the EU R&I budget should be spent on food systems support in Africa: smallholder farmers, access to markets, green energy, support etc.

Promote local solutions and regenerate our scarce natural resources

The time has come to reduce the use of imported inputs to increase food production. We should systematically encourage local solutions. Imported inputs and seeds all have local substitutes. Reuse, recycle and regenerate.

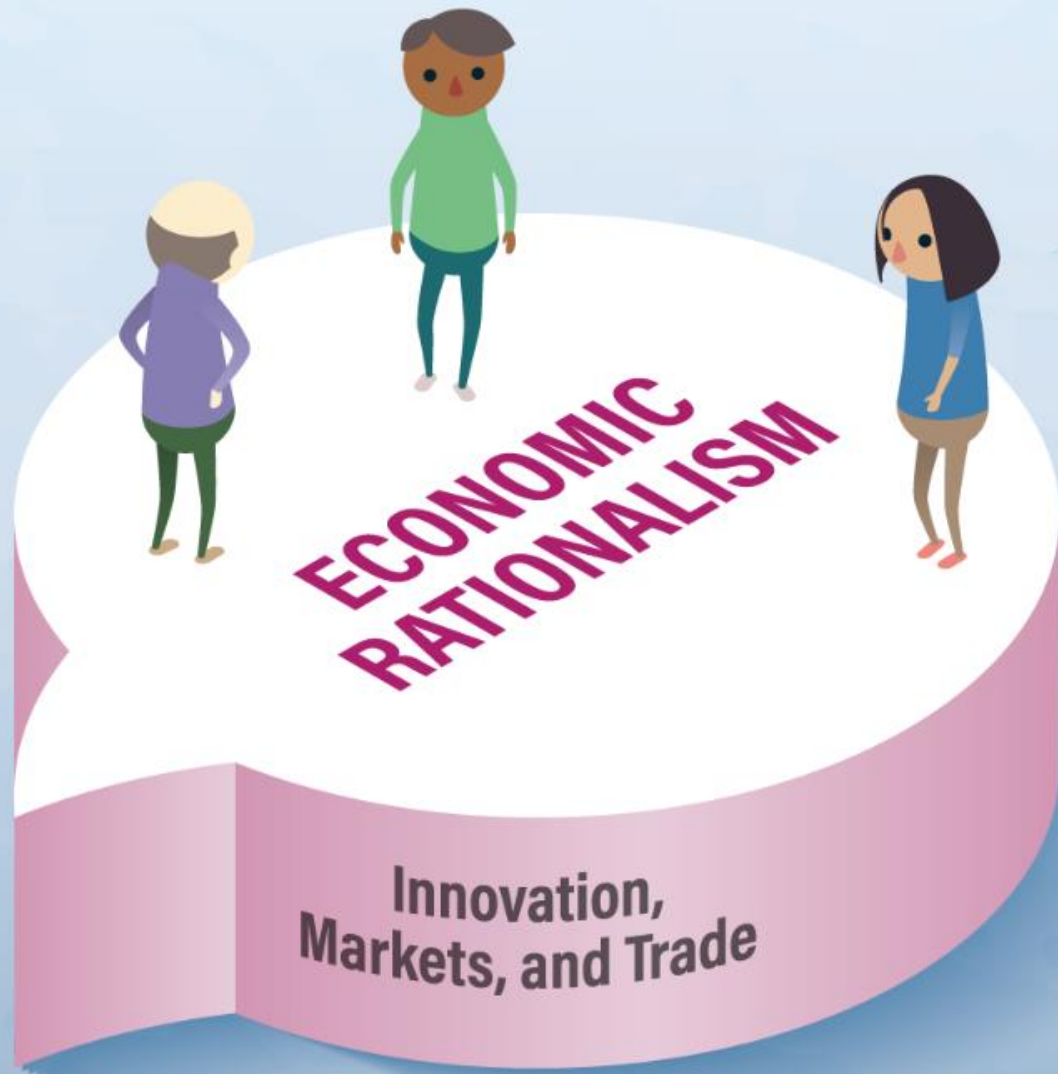
Pact for food security

- a) a significant cut in tariffs and equivalent reduction in non-tariff barriers on food products;
- b) a global moratorium on export bans;
- c) a new pan-European Agricultural Transformation Facility for support to reform, adaptation, and regeneration of European farming.

DISCOURSES



SHARED WAYS OF
APPREHENDING
THE WORLD



“Free markets and international trade are key mechanisms supporting human wellbeing.”



“With good management and innovation bringing eco-technologies, we can decouple economic growth from environmental impacts.”



“We need an economic system and social norms that sustain the natural basis of life.”



“The European elites have lost touch with reality and no longer have the best interests of ordinary citizens in mind.”

The CASCADES Policy Simulations

Future of Food

futureoffood.socialsimulations.org

Raw Materials Challenge

rawmaterials.socialsimulations.org

Arctic Future

arcticfuture.socialsimulations.org

The Cascades Game

cascades.socialsimulations.org

Cascades Project website

www.cascades.eu/topic/simulations-and-serious-game/



SOCIAL SIMULATIONS

 systemsolutions.org

 socialsimulations.org

 twitter.com/socsim

 youtube.com/user/crspoland





Policy Simulations in the Cascades project

Web: cascades.eu

Email: info@cascades.eu

Twitter: [@CASCADES_EU](https://twitter.com/CASCADES_EU)



The project has been funded by the European Union's Horizon 2020 research and innovation programme under grant agreement No. 821010



Working Groups

WG I: Trade, Supply & Value Chains

WG II: Foreign Policy, Security, Development

WG III: Finance and Business

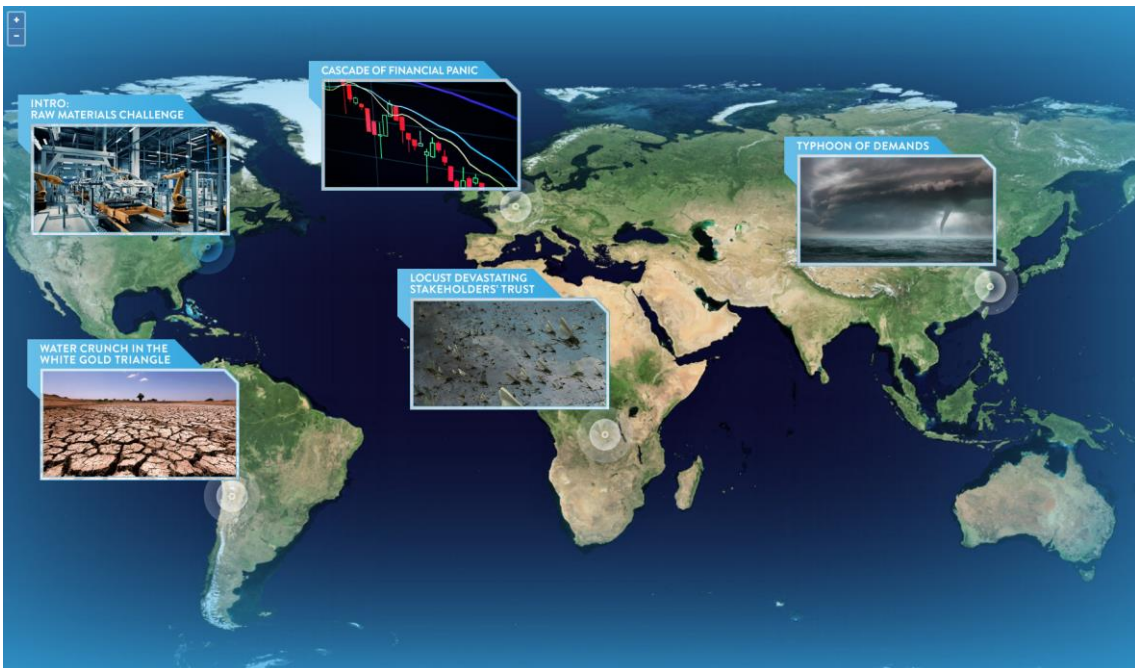


Future of Food

<https://engage.socialsimulations.org/future-of-food-stories>

Sessions for:

Cascades Consortium, SAPEA, Belmont Forum, AAAS, The World Academy of Science, UN General Assembly Science Summit.



Raw Materials Challenge

<https://engage.socialsimulations.org/cop26>

Sessions for:

Cascades Consortium, AAAS, The World Academy of Science, Carnegie Europe, International Network for Government Science Advice.

DISCOURSES

I want the best for my **COUNTRY**.

Don't blame others. You are **RESPONSIBLE** for what happens to you.

Climate change? I have to **FEED** my kids.

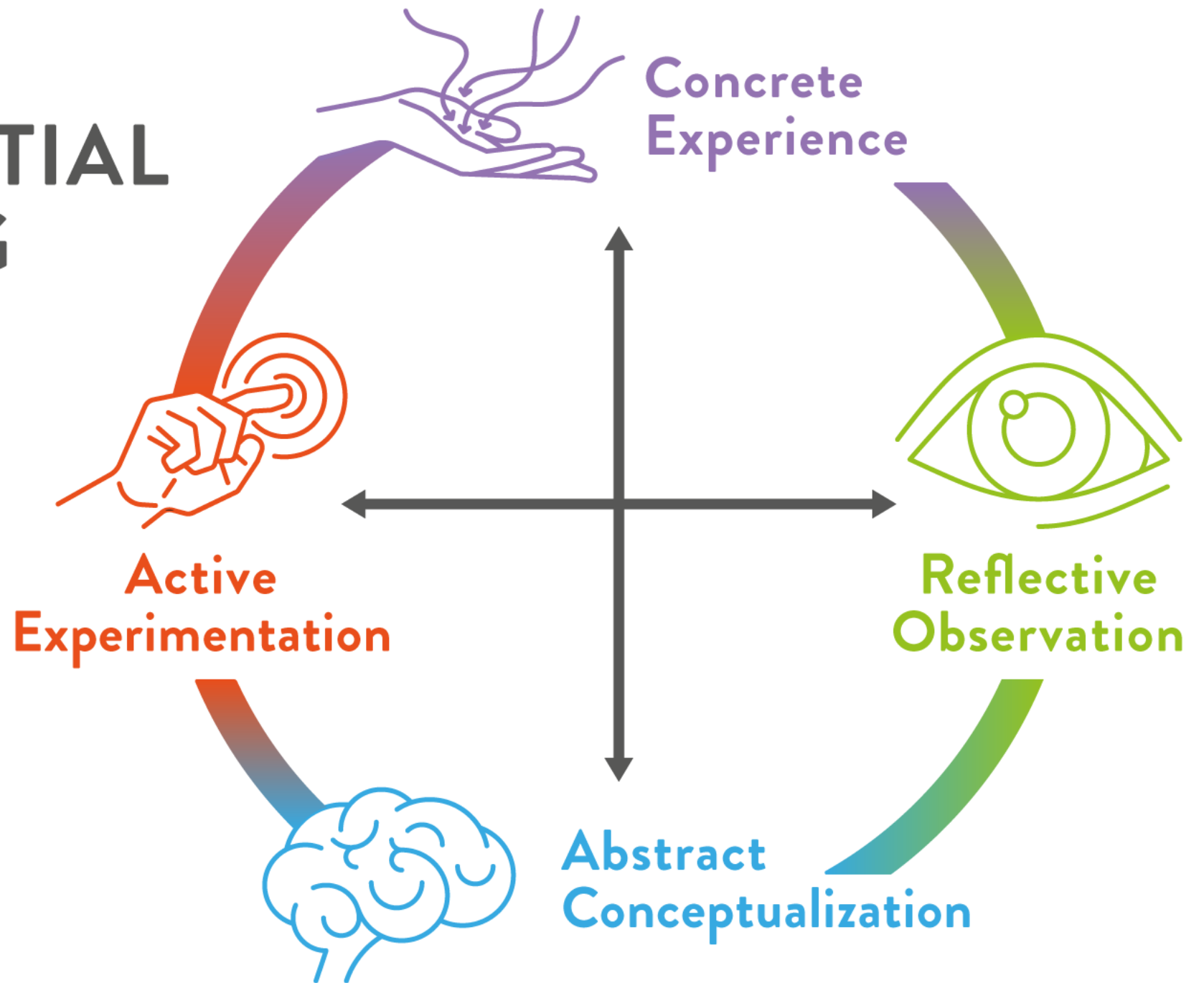
The **WORLD** is going to end soon!

TECHNOLOGY and **MARKETS** solve our problems.



EXPERIENTIAL LEARNING

David Kolb



MAGAZINE SPRING 2001

Decision Making: It's Not What You Think

Henry Mintzberg and Frances Westley • April 15, 2001

Different Approaches to Decision-making



„Thinking first“

features the qualities of

science
planning,
programming
the verbal
facts



„Seeing first“

features the qualities of

art
visioning,
imagining
the visual
ideas



„Doing first“

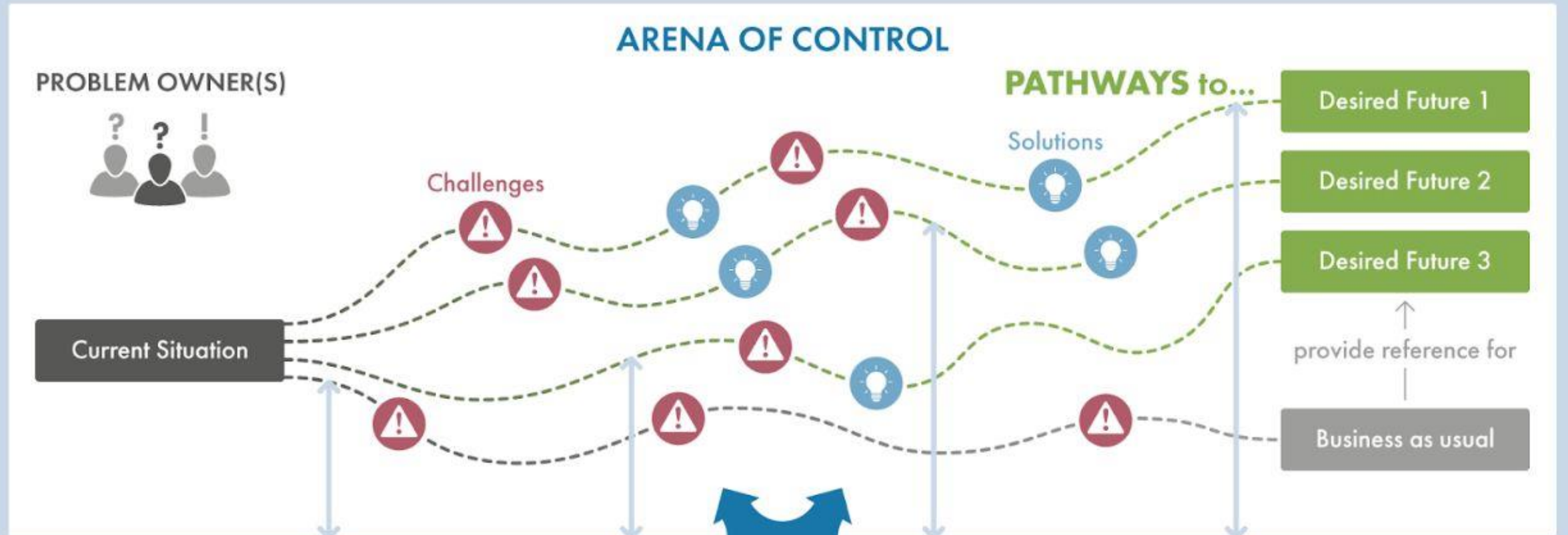
features the qualities of

craft
venturing,
learning
the visceral
experiences

UNCERTAINTY SPACE

ARENA OF INFLUENCE

ARENA OF CONTROL



STAKEHOLDERS:

Investors

Business

Citizens

SCENARIOS

Government(s)

Regulators

Communities

NGOs

National Legislation

Technology Development

Demographics

Climate Change

EU Policies

Social Values

1. REAL-WORLD PROBLEM SITUATION

2. SIMULATION CO-DESIGN

3. SIMULATION PERFORMANCE

4. DEBRIEFING

5. STAKEHOLDERS' DIALOGUE



1. REAL-WORLD PROBLEM SITUATION





2. SIMULATION CO-DESIGN

SOCIAL SIMULATIONS

TIMELINE



ROLES & BACKSTORIES

FUTURE

NOW



3. SIMULATION PERFORMANCE

GAMEFLOW
1-2-3-4



BREAKING NEWS
SOCIAL MEDIA

19-01

CRISIS

BACK-STORY

NOW

FUTURE



BACK-STORIES



DECISIONS

A, B, C

§



4. DEBRIEFING

FUTURE

NOW

BREAKING NEWS

SOCIAL MEDIA

19:01

5. STAKEHOLDERS' DIALOGUE



5. STAKEHOLDERS' DIALOGUE

1. REAL-WORLD PROBLEM SITUATION



4. DEBRIEFING

2. SIMULATION CO-DESIGN

3. SIMULATION PERFORMANCE

FUTURE
NOW

CRISIS

GAMEFLOW
1-2-3-4

PATHWAYS

BREAKING NEWS
SOCIAL MEDIA

BACK-STORY

BACK-STORIES

DECISIONS

ROLES & BACKSTORIES

CRISIS ACTIONS OUTCOMES

SOCIAL SIMULATIONS
TIMELINE