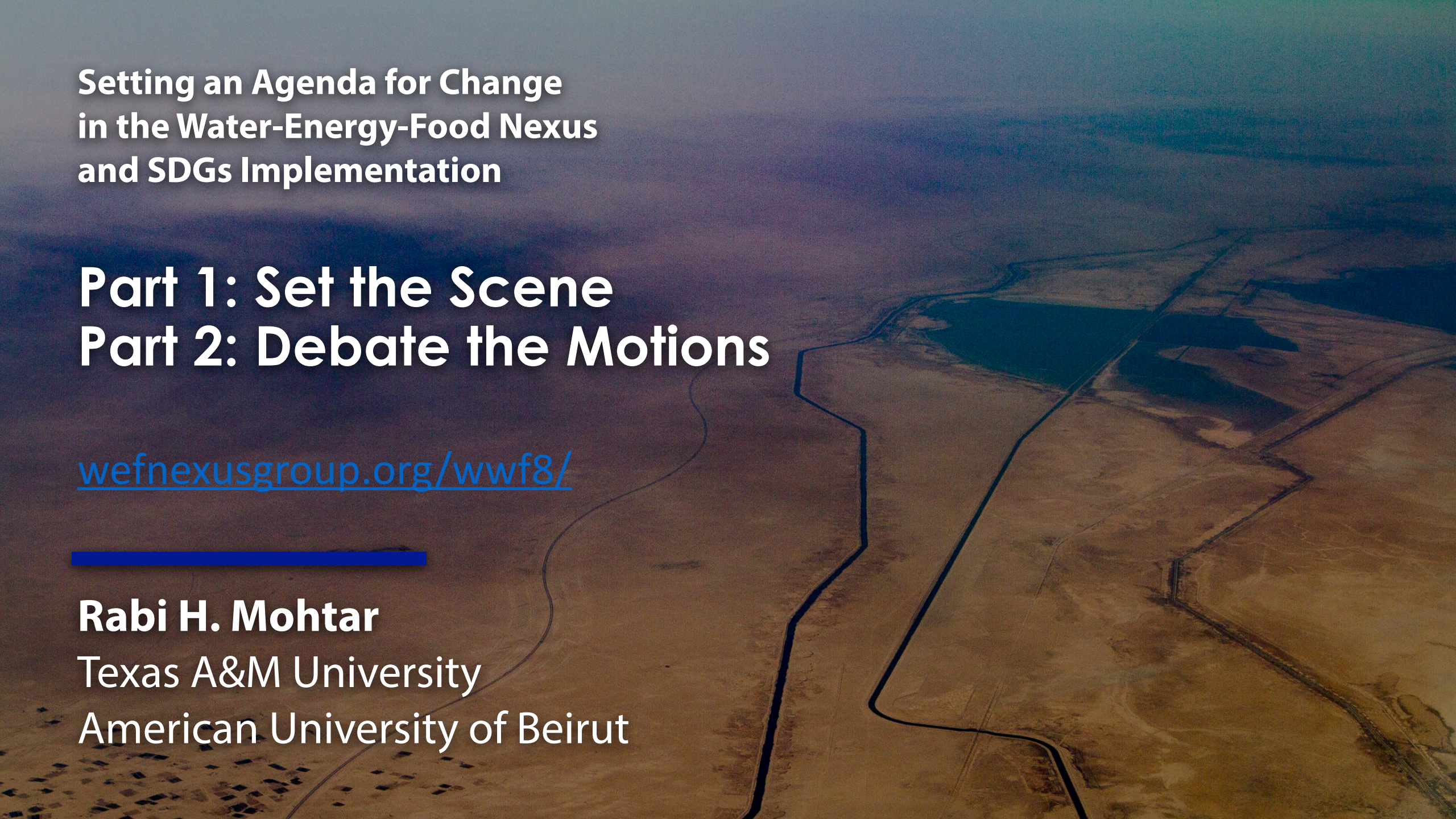

8th
World Water
Forum
Brasília-Brazil
2018

High Level Panel on Water video

https://youtu.be/jTkv-IYOLK0


Beyond Multi-Stakeholder Dialogues
Breaking the Barriers to Achieving the SDGs
Setting an Agenda for Change
in the Water-Energy-Food Nexus
and SDGs Implementation
Happy World Water Day 💦



Setting an Agenda for Change
in the Water-Energy-Food Nexus
and SDGs Implementation

Part 1: Set the Scene
Part 2: Debate the Motions

wefnexusgroup.org/wwf8/

Rabi H. Mohtar
Texas A&M University
American University of Beirut

Consortium Partners

Milestones

2016

WORLD WATER WEEK in Stockholm

2017

XVI World Water Congress

International Water Resources Association (IWRA)

Cancun, Quintana Roo, Mexico 29 May - 3 June, 2017

2018

8th World Water Forum

Brasília-Brazil 2018

Sharing water

March 18 to 23

HLPF 2018

HIGH-LEVEL POLITICAL FORUM 2018

9 - 18 JULY

SUSTAINABLE DEVELOPMENT GOALS

17 GOALS TO TRANSFORM OUR WORLD

Objectives

1) **Share** WEF Nexus lessons learned across scales and sectors toward SDGs implementation

2) **Facilitate** dialogue on the role of WEF Nexus in SDGs implementation between funding agencies, banks, academics, private and public sector, technology providers, entrepreneurs and civil society

3) **Discuss** ways to improve policy coherence across WEF sectors and scales.

Key Questions

1. **Science** How can scientific tools, technology (in particular information and communication technology), data, and case studies contribute coherence to WEF systems / SDGs implementation?

2. **Policy** What policies and incentives are needed to promote implementation of SDGs in the context of WEF systems?

3. **Lessons** What are some successful, cross-scale governance and technological lessons in WEF nexus implementation?

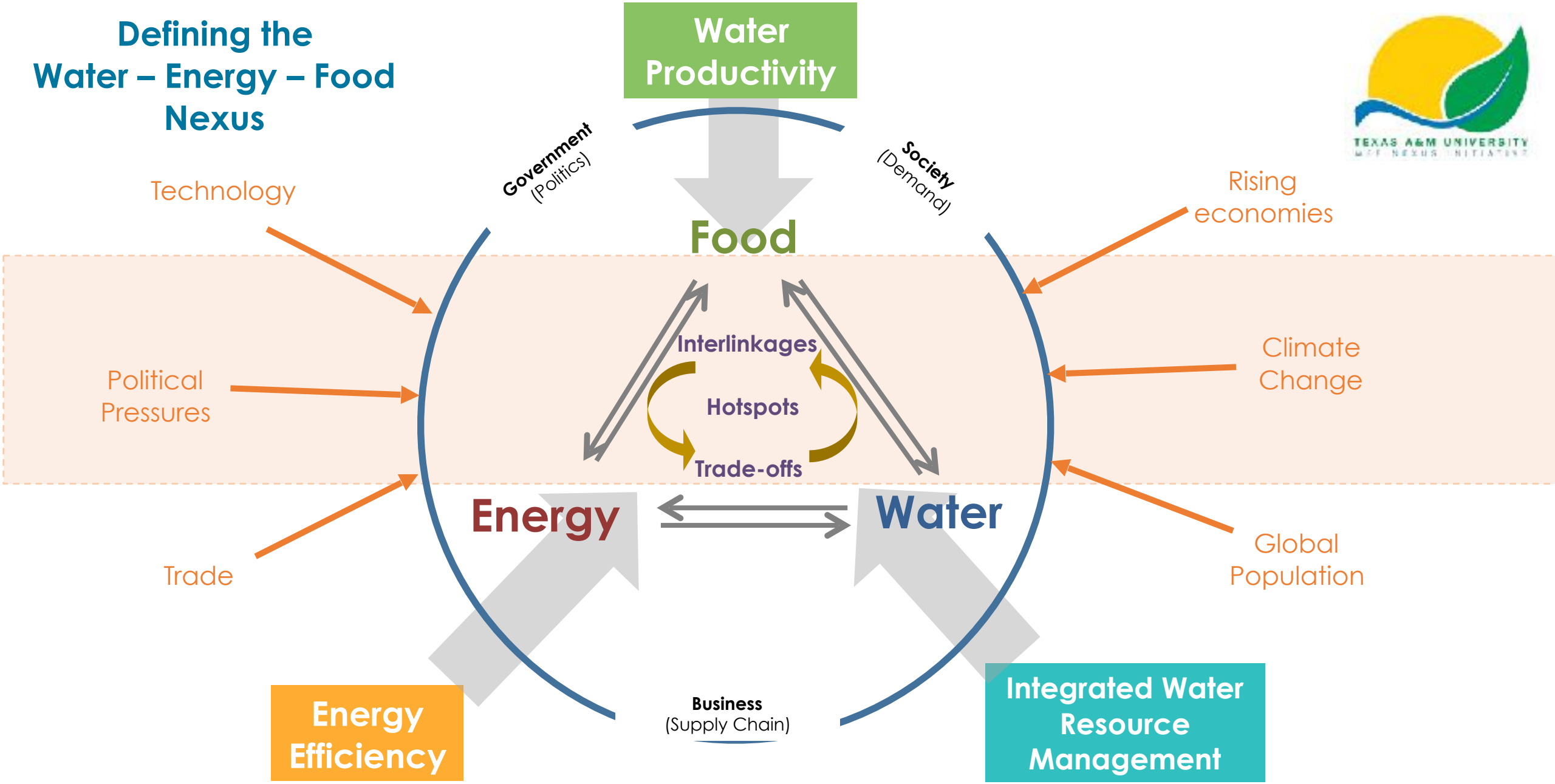
Key Questions

4. How can we **communicate** the WEF systems complexities and share positive **messaging**, while maintaining **momentum** toward change for a sustainable future?

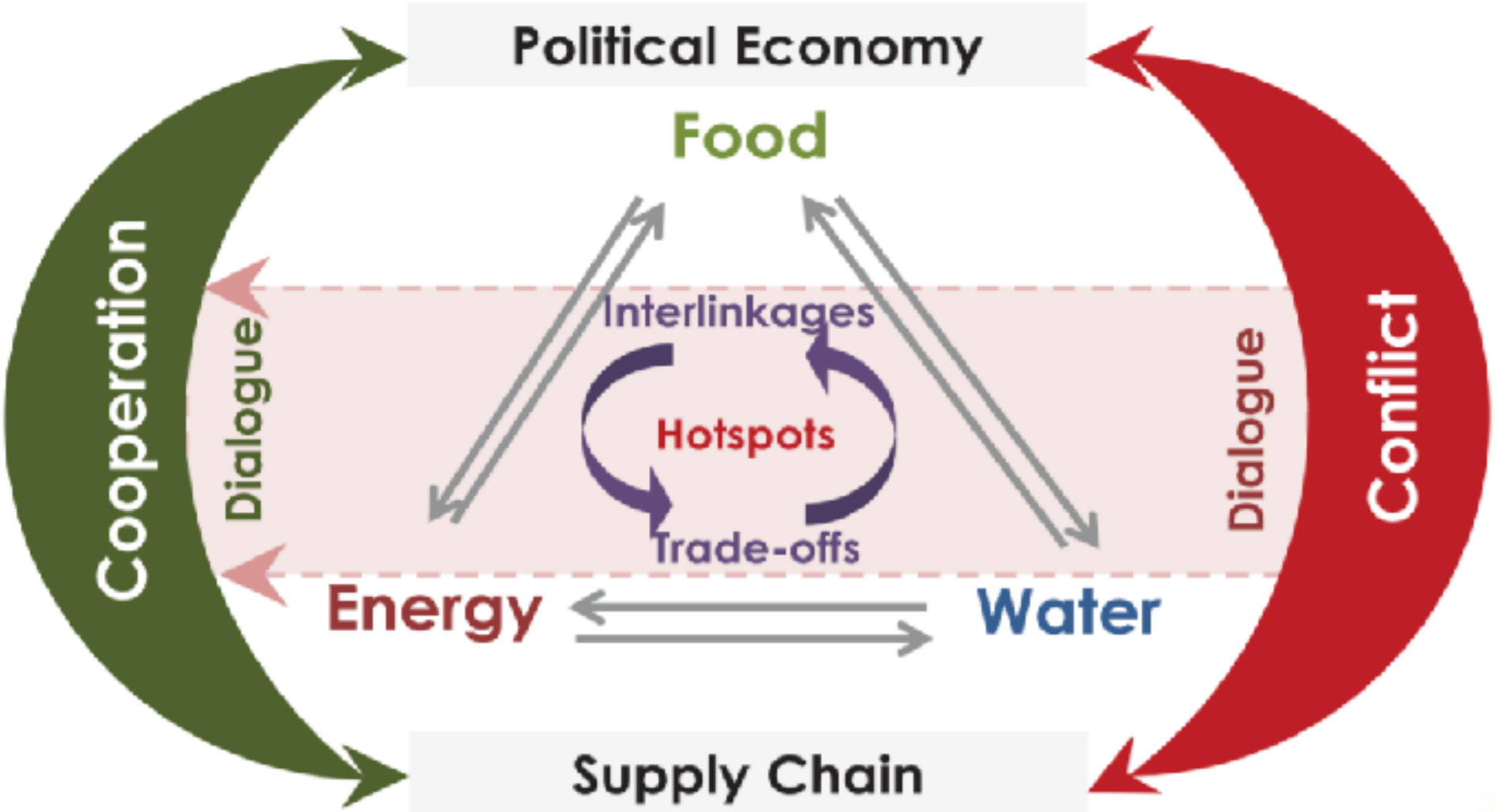
5. How do we maintain the **integrity** of **human rights** issues in the context of WEF systems solutions?

6. How can opportunities be better **promoted** and **coordinated** between **cross-sectoral** players, at different scales?

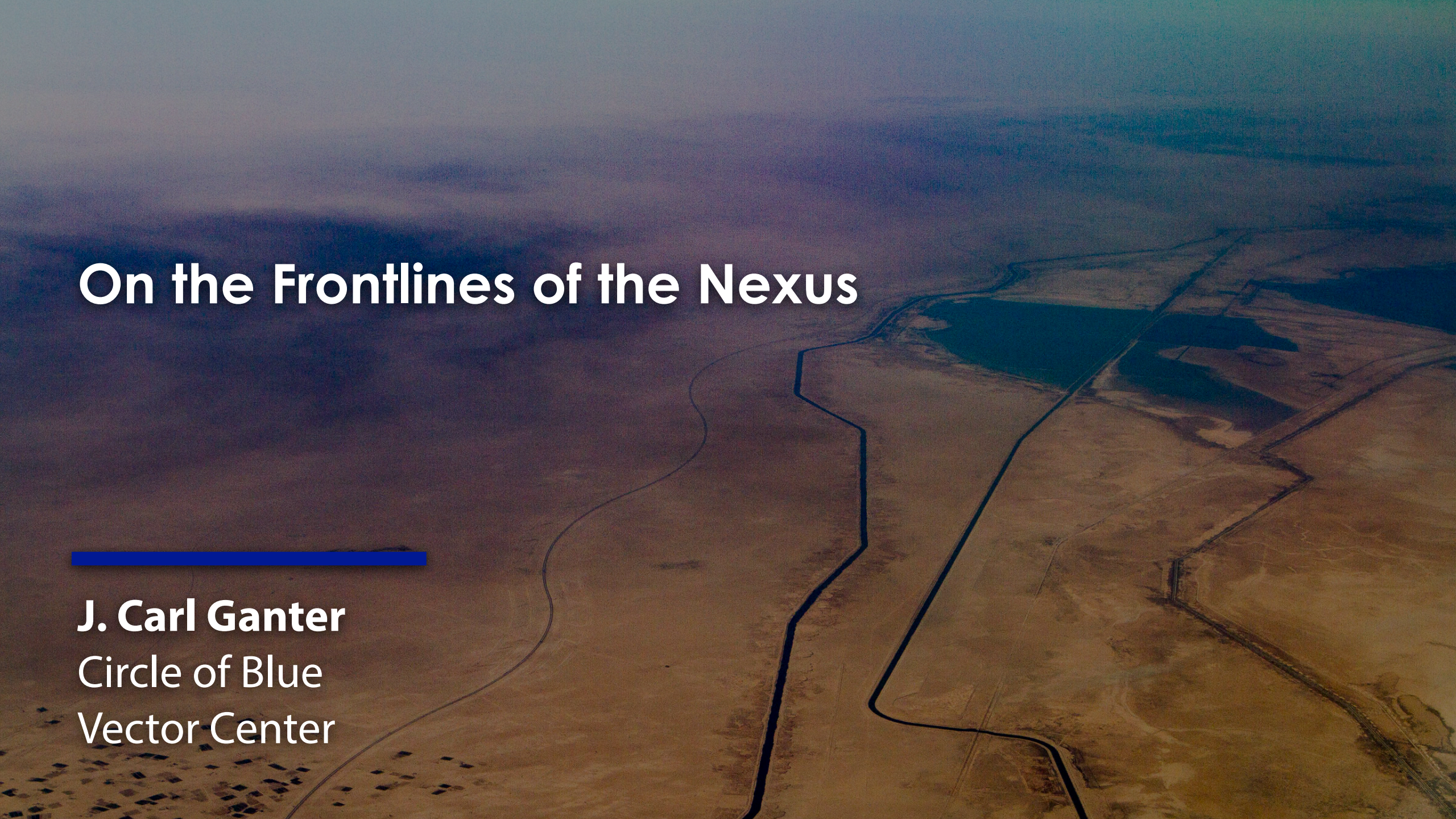
Defining the Water – Energy – Food Nexus



WEF Framework



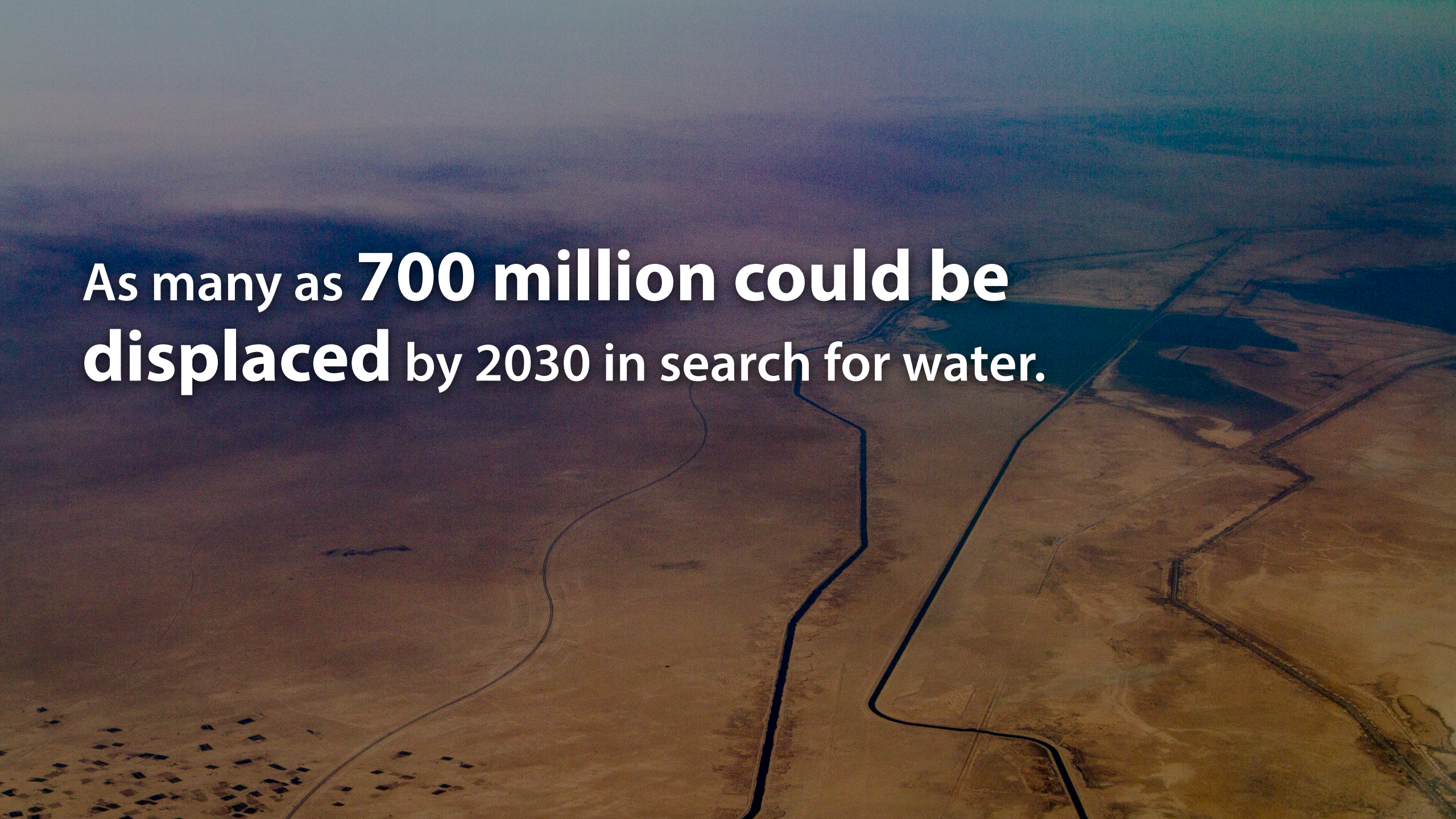
TEXAS A&M UNIVERSITY

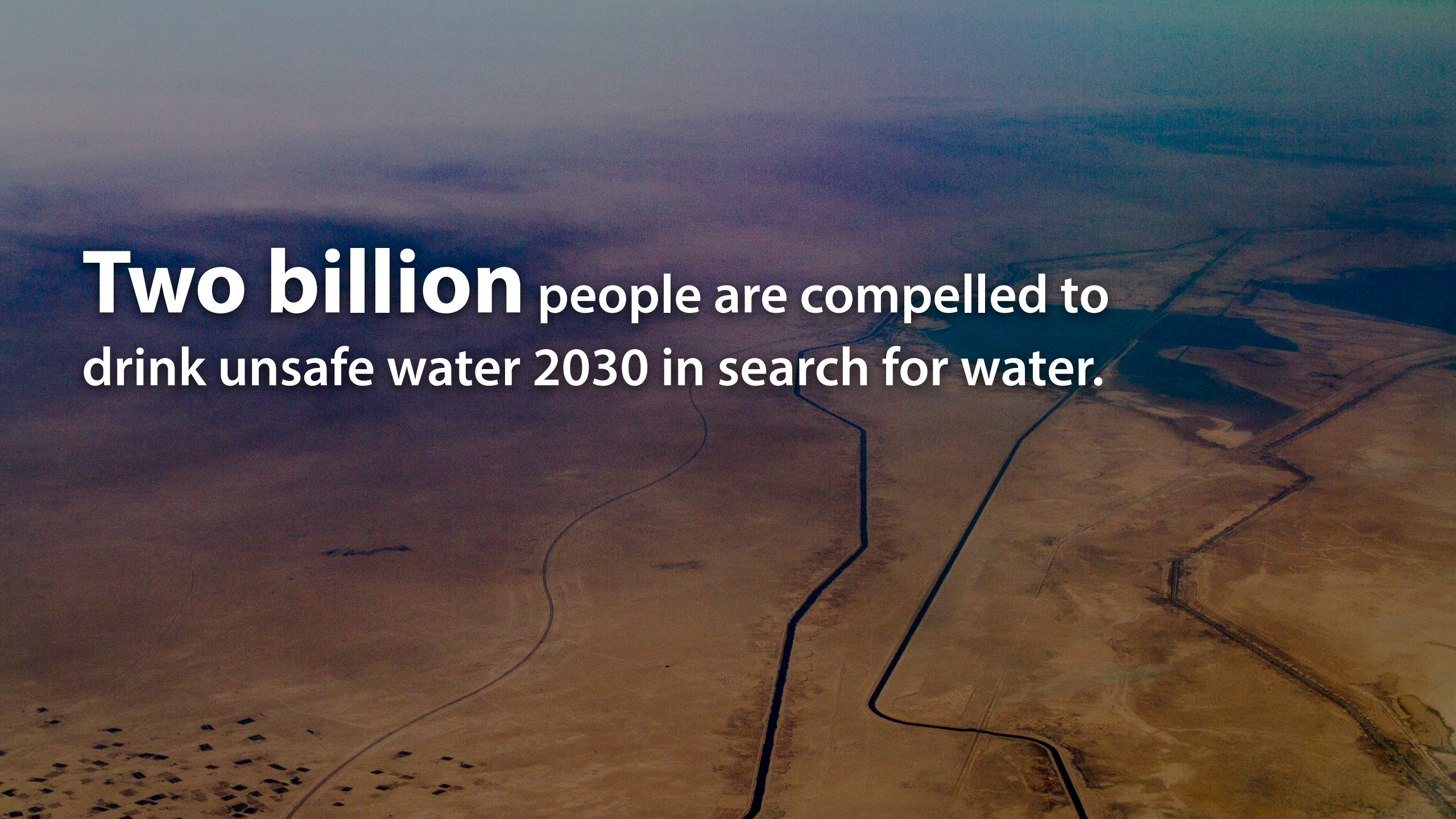


On the Frontlines of the Nexus

J. Carl Ganter
Circle of Blue
Vector Center


40 percent of the world's people are
being affected by water scarcity.


As many as **700 million could be displaced** by 2030 in search for water.


Two billion people are compelled to
drink unsafe water 2030 in search for water.


More than 4.5 billion do not have
safely managed sanitation.

Beyond bullet points

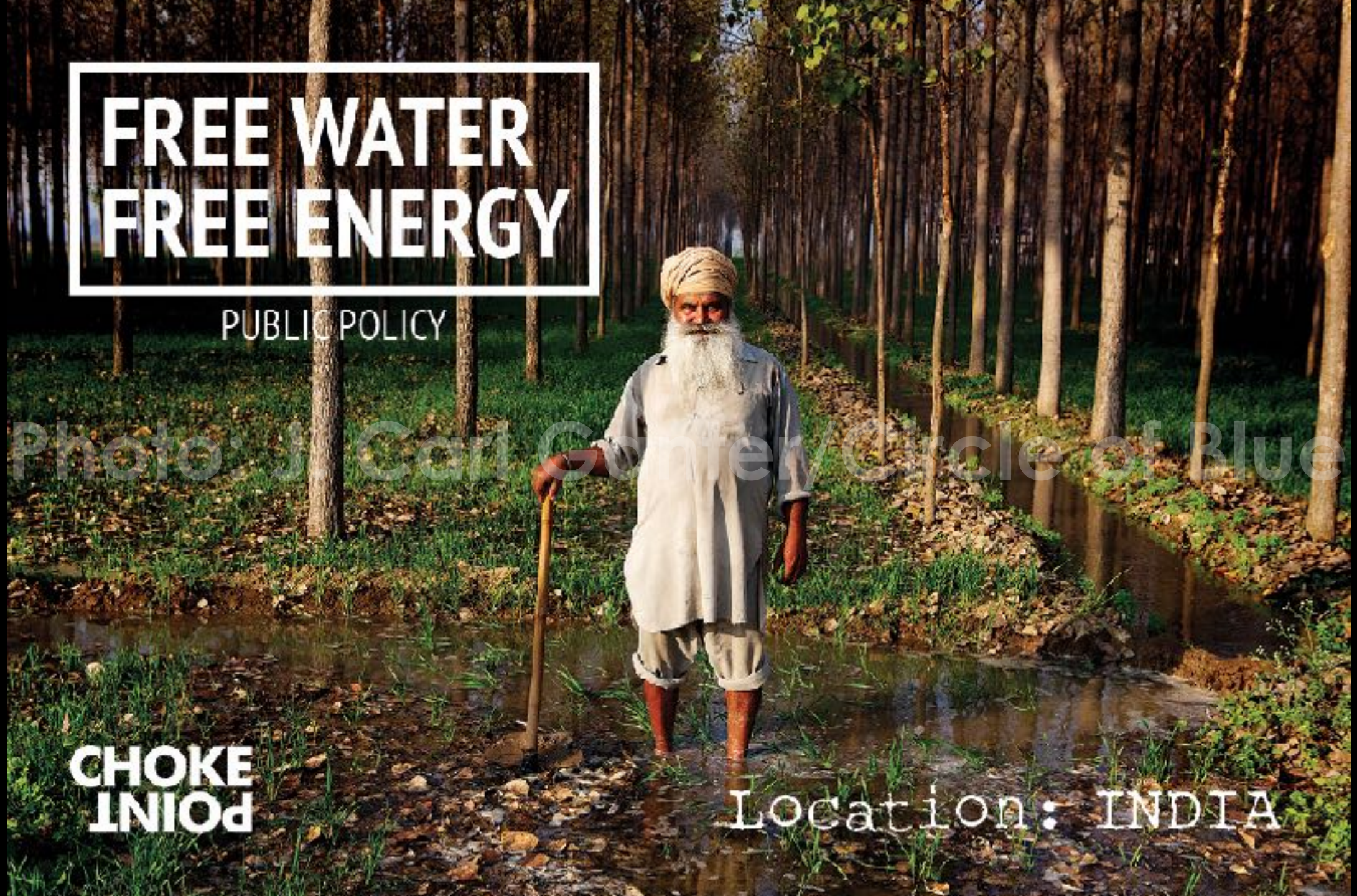
- Real People
- Real Places
- Real Relevancy


Photo: J. Carl Ganter/Circle of Blue


Photo: J. Carl Ganter/Circle of Blue


Photo: Aaron Jaffe/Circle of Blue


Photo: J. Carl Ganter/Circle of Blue


FREE WATER
FREE ENERGY
PUBLIC POLICY
Photo: J. Carl Ganter/Circle of Blue
CHOKE POINT
Location: INDIA


POLLUTION
TOXIC ALGAE
CHOKE POINT
Location: CHINA


Photo: Circle of Blue
DIMINISHING
GROUNDWATER
CHOKE POINT
Location: KANSAS


RECORD LOW
WATER LEVELS
Carl Ganter/Circle of Blue
CHOKE POINT
Location: LAKE MEAD


CHALLENGED
CULTURE
Photo: J. Carl Ganter/Circle of Blue
CHOKE POINT
Location: AUSTRALIA


SYSTEMIC
CROP FAILURE
Photo: J. Carl Ganter/Circle of Blue
CHOKE POINT
Location: AUSTRALIA


Photo: Bre Stirton/Circle of Blue


Photo: J. Carl Ganter/Circle of Blue


NFL


Photo: J. Carl Ganter/Circle of Blue


Photo: J. Carl Ganter/Circle of Blue

Jerson Kelman
President of the Sanitation Company of the State of Sao Paulo (Sabesp)

2003 recipient of the King Hassan II World Water Prize

Water-Energy-Food (WEF) Nexus and SDGs Implementation

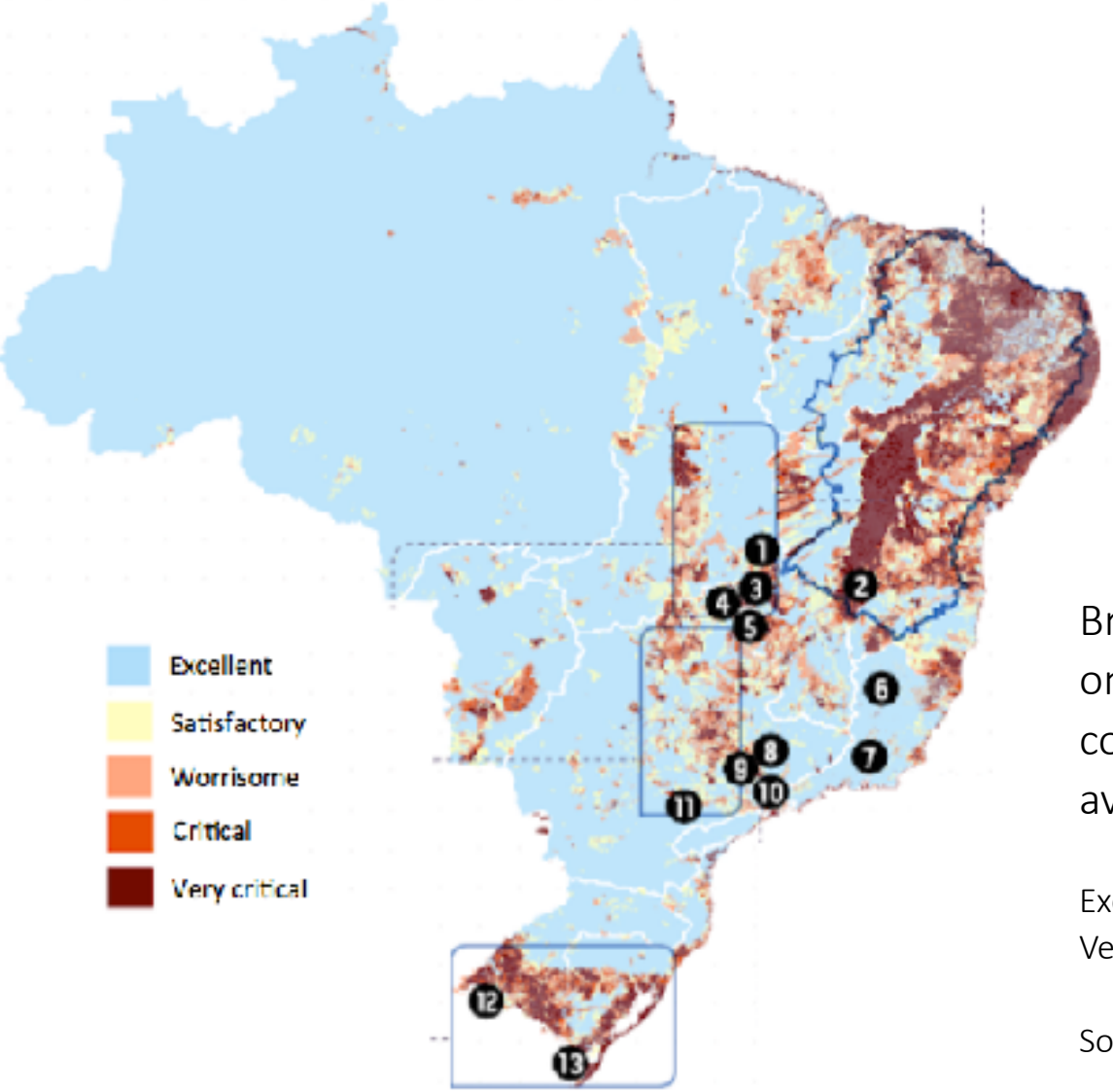
The San Francisco River Basin Case Study

March 22, 2018

D22-T900-Room Águas Claras

Jerson Kelman

CEO of Sabesp

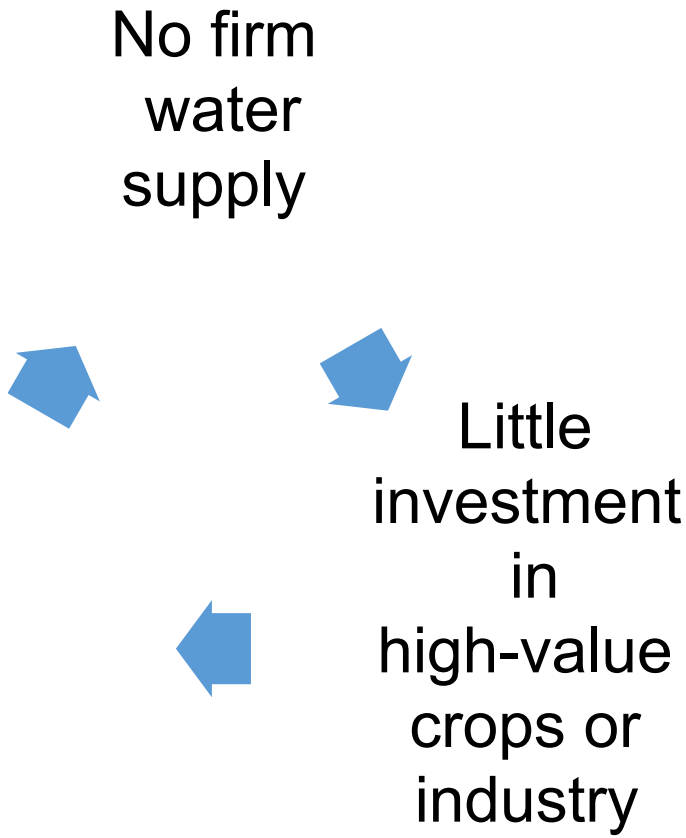


Brazilian quantitative water balance based on the ratio of water withdrawal for consumptive uses and the water availability

Excellent: less than 10%
Very critical: more than 40%

Source: ANA

HYDROLOGICAL VICIOUS CYCLE



It is necessary an initial stock of investments on water infrastructure before reaching the "inflexion point… and then real progress starts

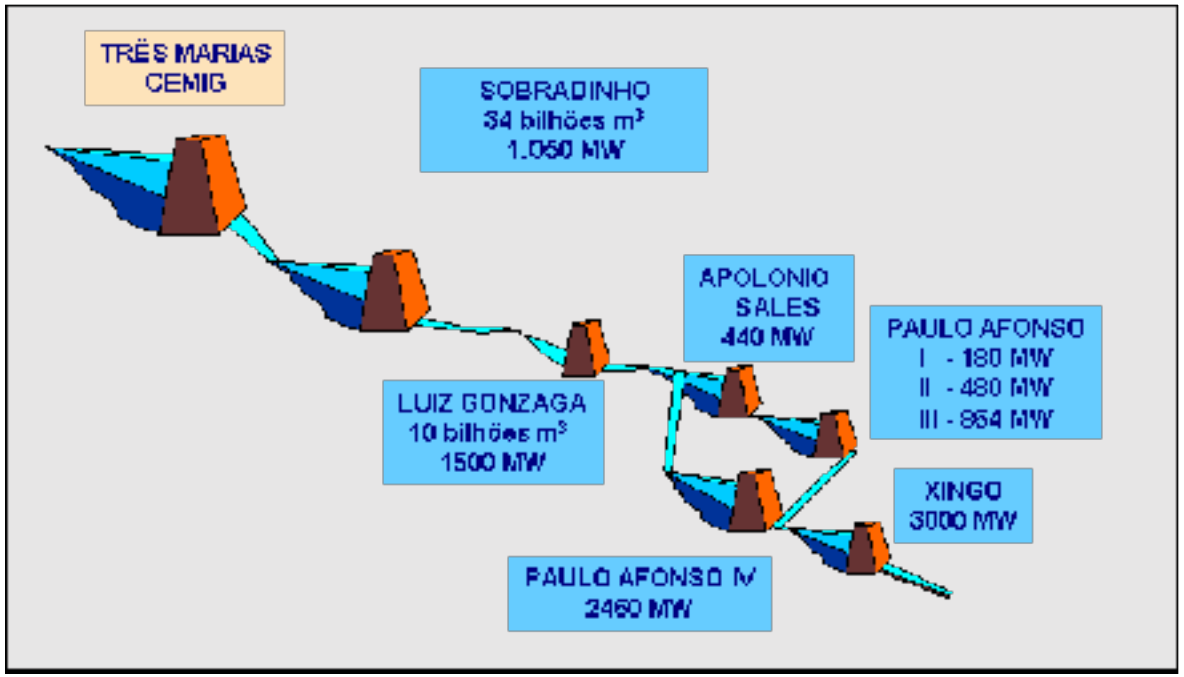
(David Grey and Claudia Sadoff, "Sink or Swim? Water security for growth and development")

Additionally, one has to take into consideration the WEF nexus…

The San Francisco River Basin
640,000 Km^2

Mean Flow 2850 m^3/s

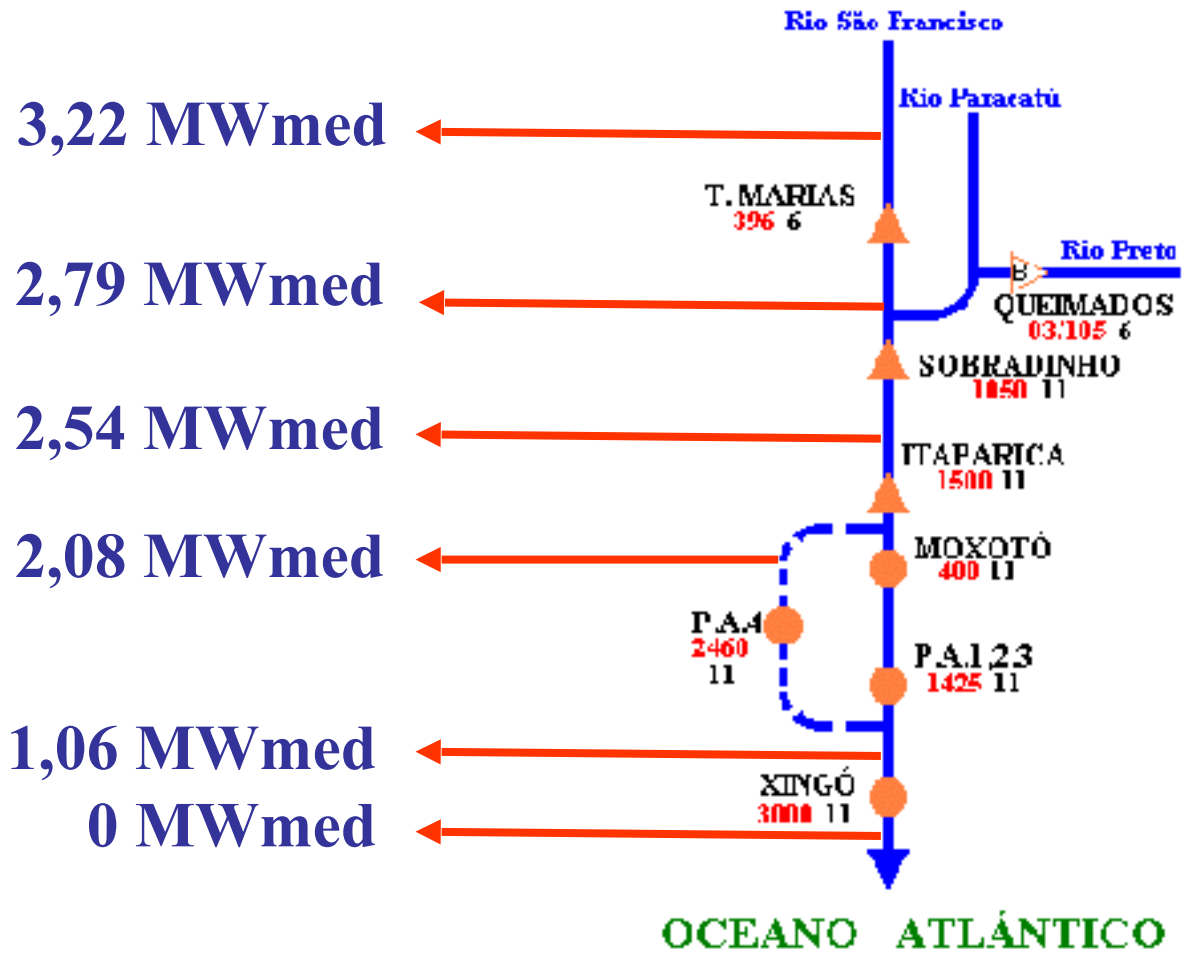
The “Brazilian Nile”



Hydropower

10,356 MW
50 million MWh/year
45 billion m^3 storage,
US$ 20 billion

Irrigation
800 thousand hectares (2013)
200 m^3/s (?)

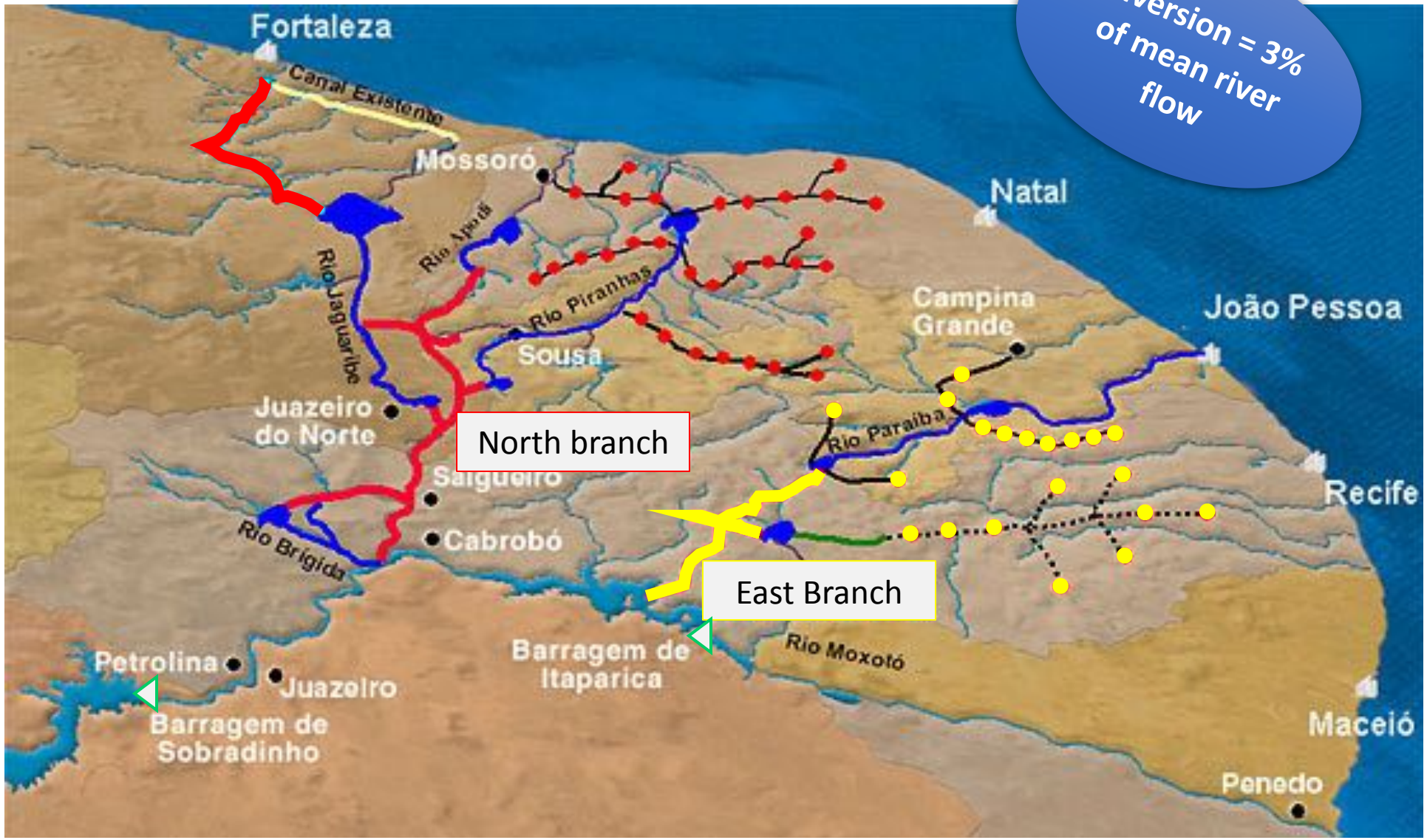


Decrease of the firm yield of electric energy as a function of each 1 m^3/s consumed in irrigation

For example, the opportunity cost for the water allocated to a new irrigation plot in this river reach is at least 5 cents of dollar per cubic meter

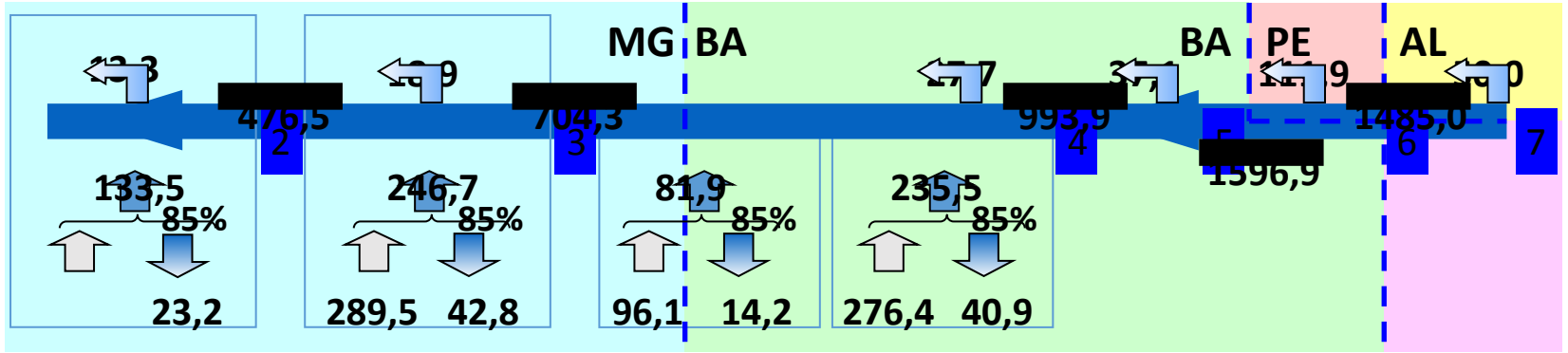
The unit cost of water outside the basin is at least three times the cost within the basin

San Francisco Water Diversion (US$ 3 billion)



Water permit for the diversion

Dry mode: 26 m^3/s
Wet mode: 127 m^3/s



Water allocation in the San Francisco river basin

Upper river irrigation

X

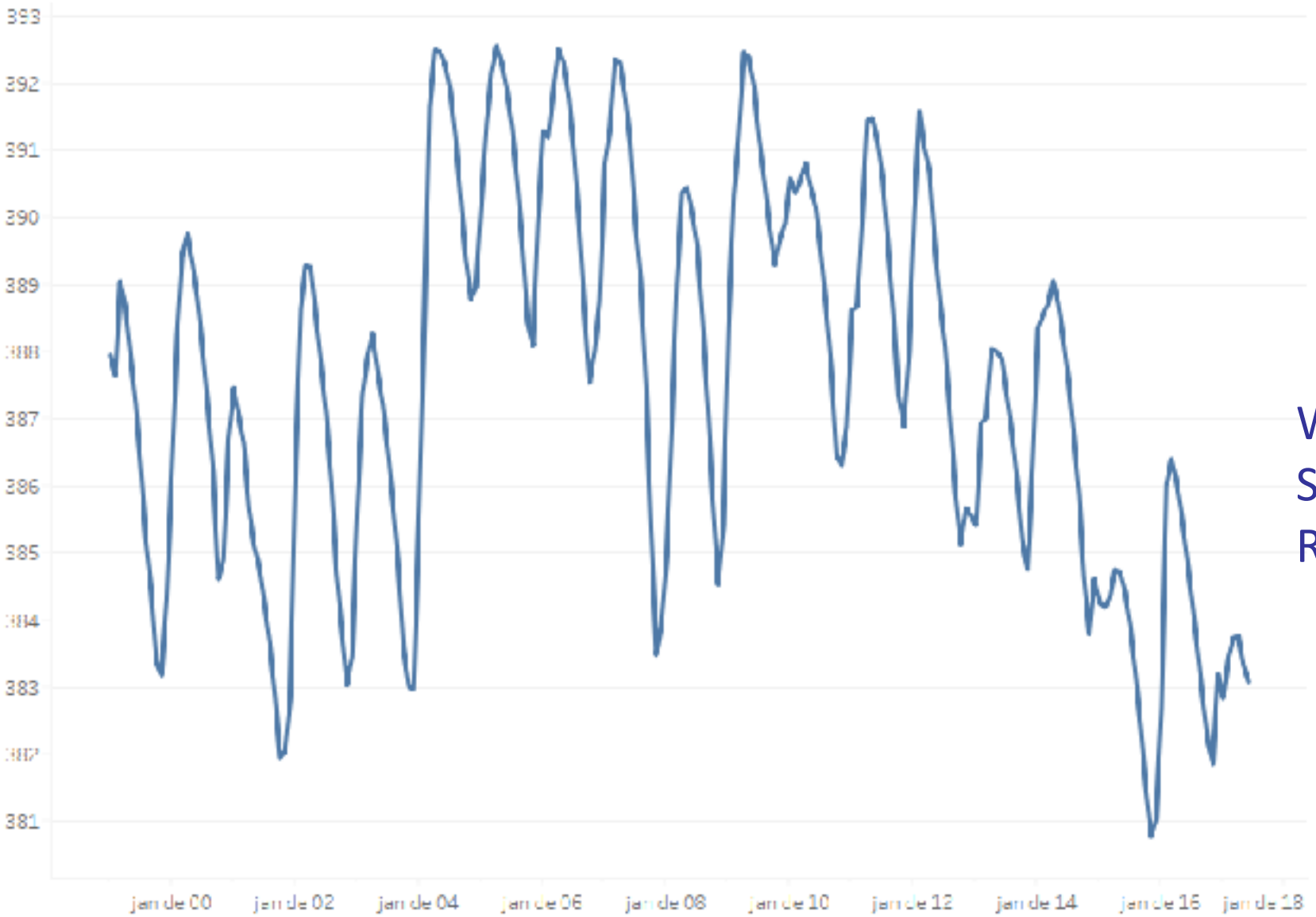
Mid river hydropower

X

Interbasin transfer

X

Low river minimum flow



Water Level of Sobradinho Reservoir

PLANO DE RECURSOS HÍDRICOS
DA BACIA HIDROGRÁFICA
DO RIO SÃO FRANCISCO
2016-2025

SÃO FRANCISCO

CBHSF

San Francisco River Basin Plan

Prepared by the River Basin Committee

Lessons

- The WEF nexus is better understood when the opportunity costs are explicitly stated
- River basin plans reflect a static view of water allocation priorities highly influenced by political groups.
- They are necessary but should be complemented by some commercial mechanism for reallocation of water rights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Setting an Agenda for Change
in the Water-Energy-Food Nexus and SDGs Implementation

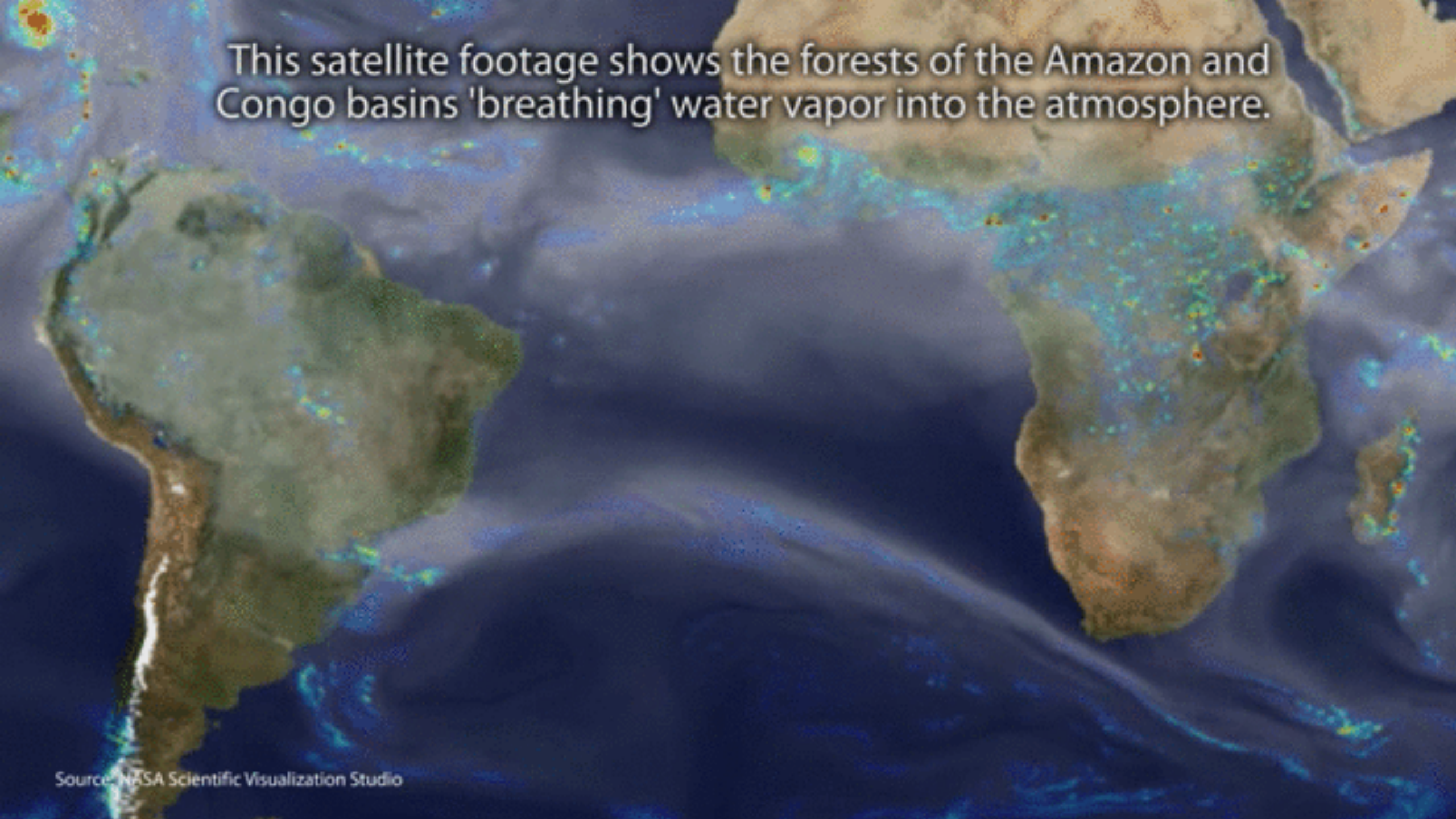
SETTING THE STAGE

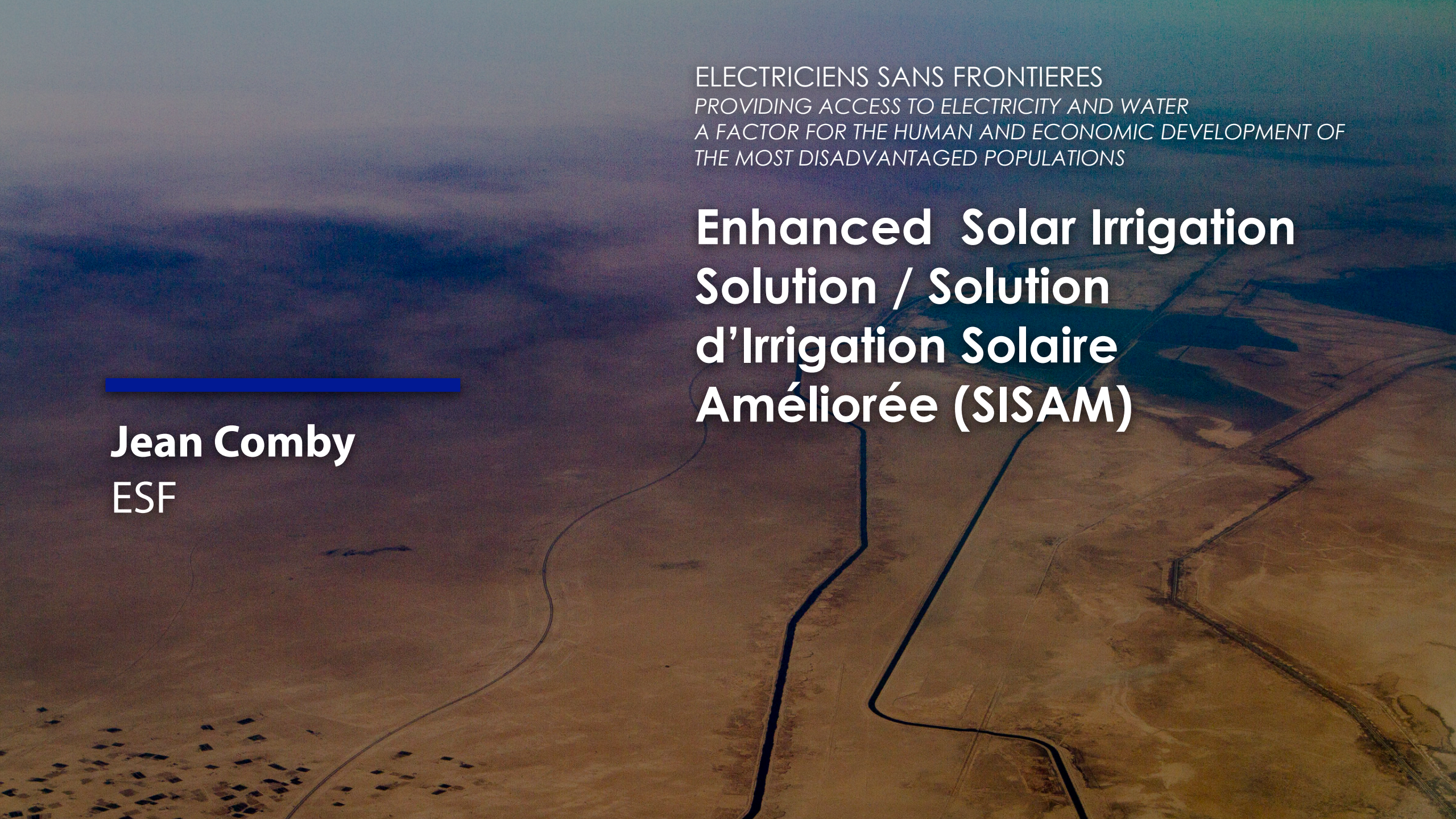
Claudia Sadoff
Director General, International Water Management Institute (IWMI)

Claude Nahon
Director of Sustainability and Environment, EDF Group

Gustavo Fonseca
Director of Programs, GEF

Nakicenovic, Rockstrom, Gaffney & Zimm, 2016


This satellite footage shows the forests of the Amazon and Congo basins 'breathing' water vapor into the atmosphere.
Source: NASA Scientific Visualization Studio



ELECTRICIENS SANS FRONTIERES

PROVIDING ACCESS TO ELECTRICITY AND WATER
A FACTOR FOR THE HUMAN AND ECONOMIC DEVELOPMENT OF
THE MOST DISADVANTAGED POPULATIONS

Enhanced Solar Irrigation Solution / Solution d'Irrigation Solaire Améliorée (SISAM)

Jean Comby
ESF

Electriciens sans frontières
l'énergie du développement

SISAM

(Enhanced Solar Irrigation Solution
Solution d'Irrigation Solaire Améliorée)

CONTRIBUTE TO **POVERTY REDUCTION** AND RURAL **FOOD SECURITY** BY PROMOTING THE EMERGENCE OF **SUSTAINABLE AND ACCESSIBLE IRRIGATION** SCHEMES FOR SMALL-SCALE MARKET GARDENING IN BURKINA FASO, BENIN AND TOGO.

3 local partners working with farmers:

Centre-Est (Burkina Faso)

Savannah region (Togo)

Atacora (Benin)

1 coordinator:

Electriciens sans frontières

2 technical partners:

PRACTICA FOUNDATION

P+SITIVE PLANET INTERNATIONAL

INNOVATIVE TECHNOLOGY

Local Production: Pump Assembly with local components

Performance: New technologies adapted to depth and to small surface areas for irrigation

Usage: Solar powered motors with the possibility of manual use

Useful life: Over 20 years

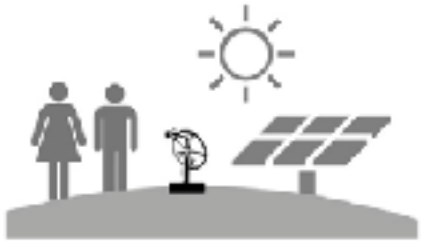
BETTER ACCESS TO FINANCE

Costs: Acquisition and Running costs reduced

Micro-financing: Improved Credit Conditions

Management: Support before and after equipment acquisition

Delays: The reality of agricultural constraints taken into account



SISAM SOLUTION

Improved access to Irrigation Water for small market-garden holdings (<1 ha)

Poverty reduction and reinforced food availability

Benefits mainly women and children

Solution constructed by and for local actors (rural associations, private companies, institutions...)

MAINTENANCE

Training of Distributers and end-users

Maintenance Kit available

Easy availablity of Spare parts

ENVIRONMENT

Evaluation of **Water Resources**

Good Irrigation Practices encouraged

100% Renewable energy (Solar)

Recycling of used parts possible

April 2018 - October 2018	**Phase : Launch**	• **25 market gardens** equipped with solar pumping systems • **Training** given to companies and associations • **Needs analysis** and technical and socio-economic constraints
November 2018 - May 2019	**Phase 2: Consultation**	• **Five themed workshops** per country to co-define the SISAM solution (public and private actors) • Targeted **awareness/communication** actions
June 2019 - January 2020	**Phase 3: Deployment**	• Support for the **emergence of three private operators** • **75 market gardeners** benefit from the SISAM solution
February 2020 - March 2021	**Phase 4: Capitalisation**	• **Support** for sectoral actors and farmers • Preparation for **scaling up the project** (programme planned for 9 years) • Finalization of the **socio-economic** analysis

- Securing food **availability**
- Increase of cultivated **area**
- **Counter season** crop
- Crop **diversification**

- Majority of **women beneficiaries**
- Women systematic **involvement**
- Gender specific **indicators**

- **Better use** of underutilized existing water resources
- Promoting and dissemination of **efficient technologies**

- 100% **renewable** energy (photovoltaic)
- Financially **affordable** solution
- **Alternative** technology to existing fossil-based solutions

- Sustainable **poverty reduction**
- Crop improvement for **small gardens**
- Majority of **young beneficiaries**

- **0 direct CO2** emissions solution
- **Local production of equipment** (“short cycle”)
- Long life **equipment** and efficient **maintenance** solution

1. A **priority issue** related to the access to **renewable energy** for off-grid populations

2. An **innovative** solution (technology, affordability, management/maintenance, environment)

3. A participatory approach (stakeholder consultation) enabling **local ownership** and **capacity building**

4. Taking into account **cross-cutting themes** (gender, adaptation, cultural aspects, climate change, etc.)

5. Six **competent** and **complementary partners**

6. A project **supported by AFD and ADEME up to** € 355,000


J.A.R.C.
DAPAONG
Electriciens sans frontières
ADEME
Agence de l'Environnement et de la Maîtrise de l'Energie
SISAM
ASSOCIATION DAKUPA DU BOULGOU
UN DEFI
AFD
ABS ONG
ACTIONS BENIN & SOLIDARITE
PRACTICA
FOUNDATION
P+SITIVE PLANET
INTERNATIONAL





Amina

CEO, Voices Not in the Room (VNR)

Setting the Agenda for Change in the Water-Energy-Food Nexus and SDGs Implementation

MODERATOR

Rabi H. Mohtar, *Texas A&M University, American University of Beirut*

PANEL

- Claudia Sadoff, *Director General, International Water Management Institute (IWMI)*
- Claude Nahon, *Director of Sustainability and Environment of EDF Group*
- Gustavo Fonseca , *Director of Programs, GEF*
- Jean Comby, *Board Member, Electriciens Sans Frontières (ESF)*
- Amina, *CEO, VNR Ltd.*

20 minutes

Setting an Agenda for Change
in the Water-Energy-Food Nexus and SDGs Implementation

Part 2: Debate the Motions

MODERATORS

- Dominique Darmendrail (Agence Recherche France)
- Katharine Cross (IWA)

PRE-VOTE: THE MOTION

- ***Perspective 1:*** *"Current and future resource allocation challenges are water allocation challenges at their core, and should be addressed from within the water sector"*

- ***Perspective 2:*** *"Linear and siloed resource allocation strategies challenge progress toward achieving the Sustainable Development Goals"*

2 minutes

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MODERATORS

- Dominique Darmendrail (Agence Recherche France)
- Katharine Cross (IWA)

MOTION PRESENTERS

- Patrick Lavarde (IWRA)
- Thadeu Abicalil (WorldBank)
- Sarah Davidson (WWF)

Audience

Setting an Agenda for Change
in the Water-Energy-Food Nexus and SDGs Implementation

FINAL PITCH

Patrick Lavarde (IWRA)
Thadeu Abicalil (WorldBank)
Sarah Davidson (WWF)

(1 minute)

POST-VOTING ON THE MOTION

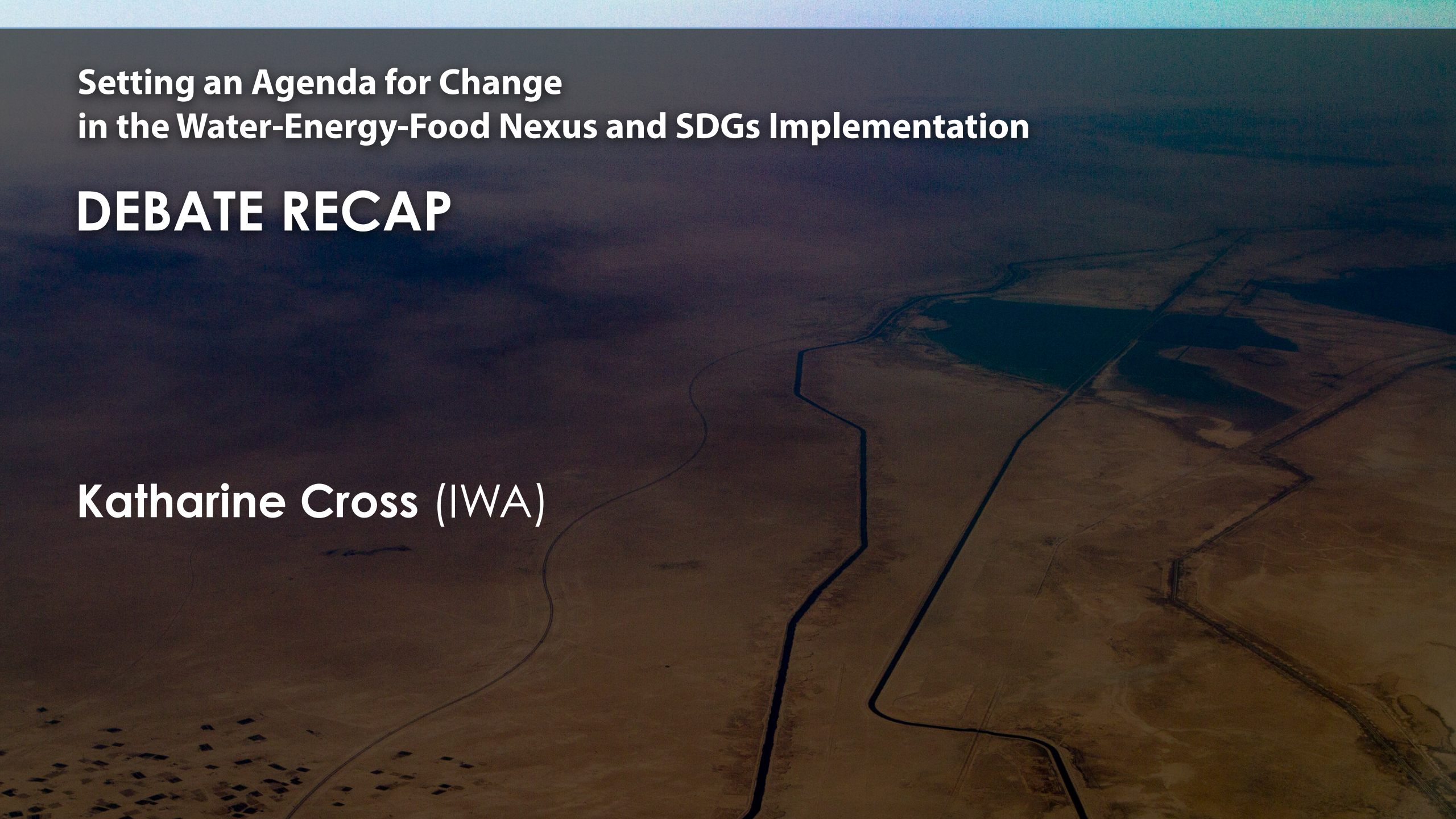
Perspective 1: *"Current and future resource allocation challenges are water allocation challenges at their core, and should be addressed from within the water sector"*

Presented by: Patrick Lavarde (IWRA)

Perspective 2: *"Linear and siloed resource allocation strategies challenge progress toward achieving the Sustainable Development Goals"*

Presented by: Thadeu Abicalil (WorldBank)/ Sarah Davidson (WWF)

8 minutes



Setting an Agenda for Change
in the Water-Energy-Food Nexus and SDGs Implementation

DEBATE RECAP

Katharine Cross (IWA)

Setting an Agenda for Change in the Water-Energy-Food Nexus and SDGs Implementation

WAY FORWARD

wefnexusgroup.org/wwf8/

Rabi H. Mohtar
Texas A&M University
American University of Beirut


Happy World Water Day 💦
Photo: J. Carl Ganter/Circle of Blue
wefnexusgroup.org/wwf8/