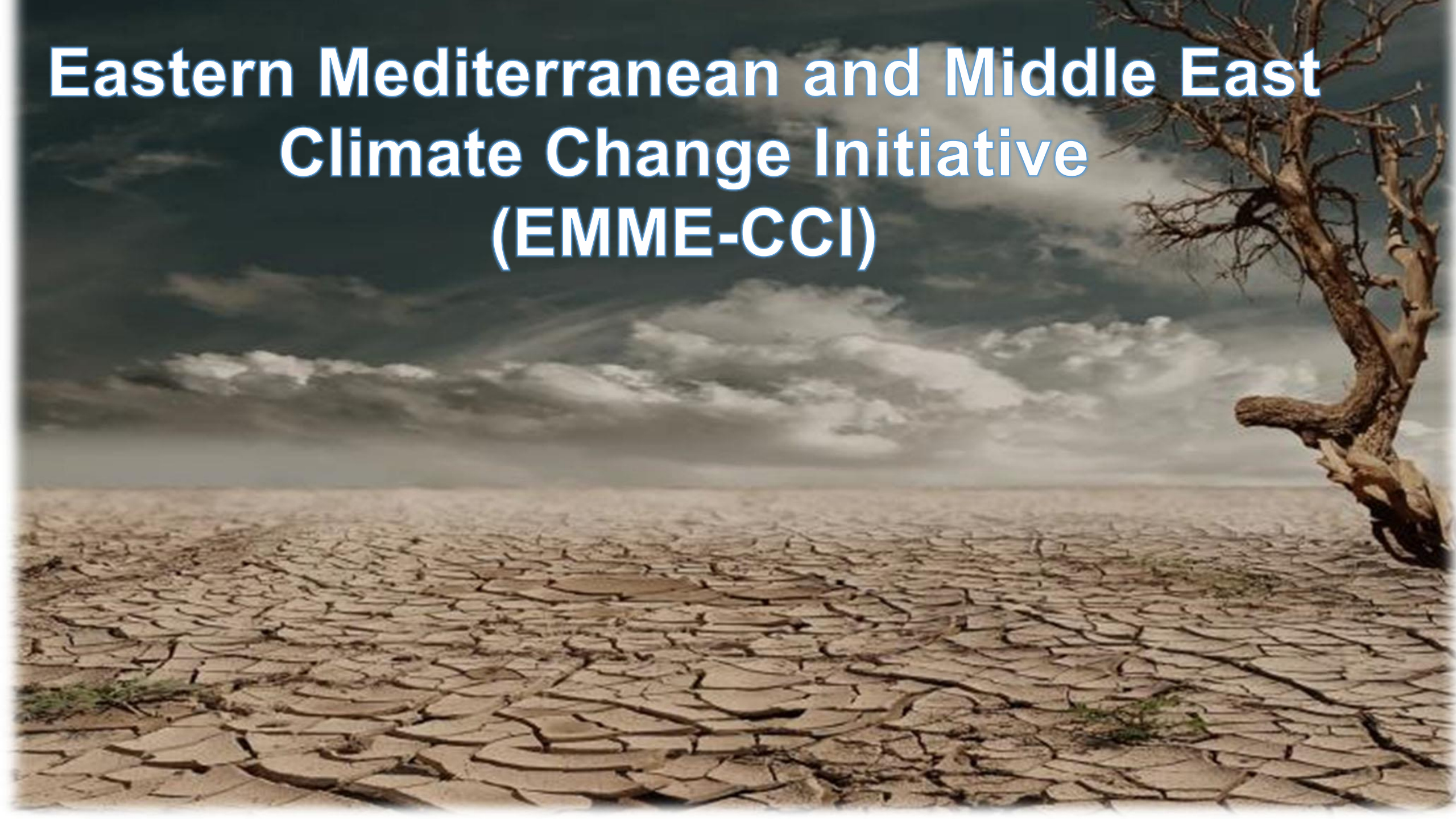


# **Eastern Mediterranean and Middle East Climate Change Initiative (EMME-CCI)**





# Eastern Mediterranean and Middle East Climate Change Initiative (EMME-CCI)

**Costas Kadis**

**Minister of Agriculture, Rural Development and Environment, Cyprus**

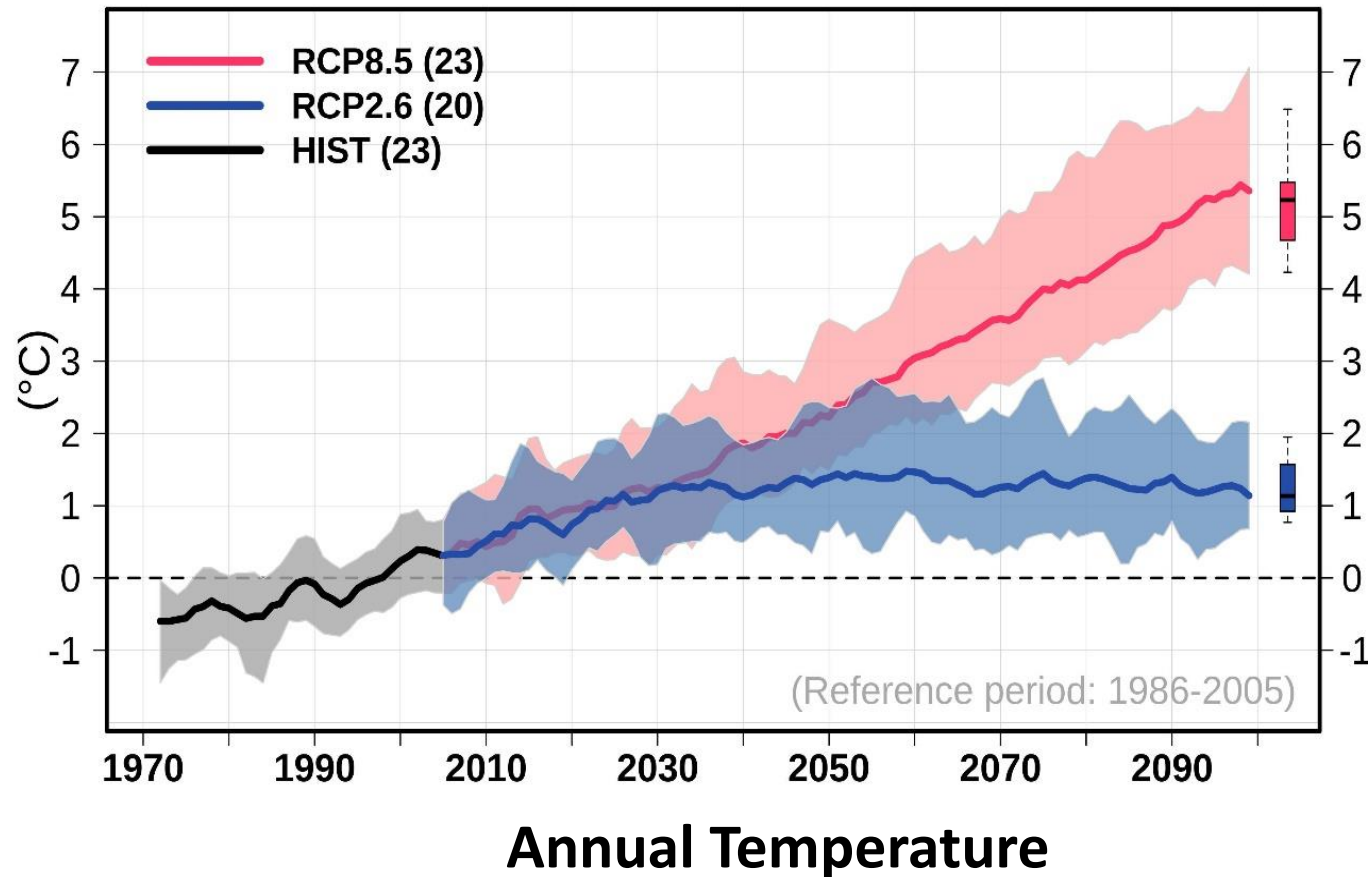
**COP27, Nov. 8, 2022**



# EMME REGION is a Climate Hot SPOT!

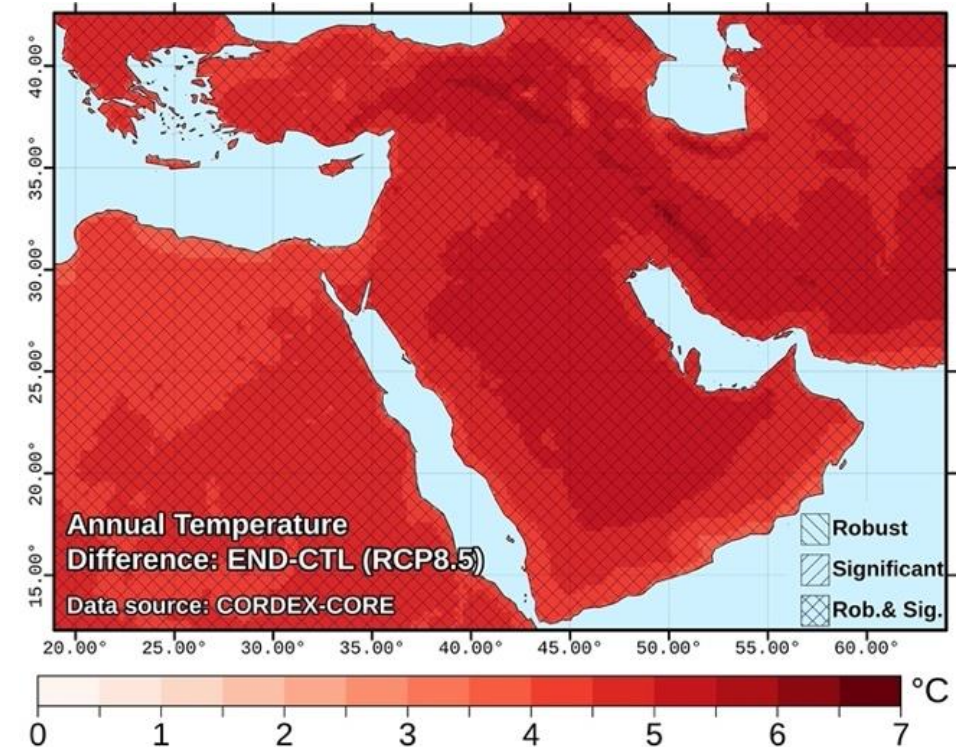
## Climate Projections – temperature

Mean annual temperature anomalies, EMME (land only)



**The latest scientific redictions are dire:**

- The region is heating up twice as fast as the rest of the planet.
- Under a “Business as Usual Scenario” the region may have reached temperatures 5 degrees higher than those at the beginning of the century.

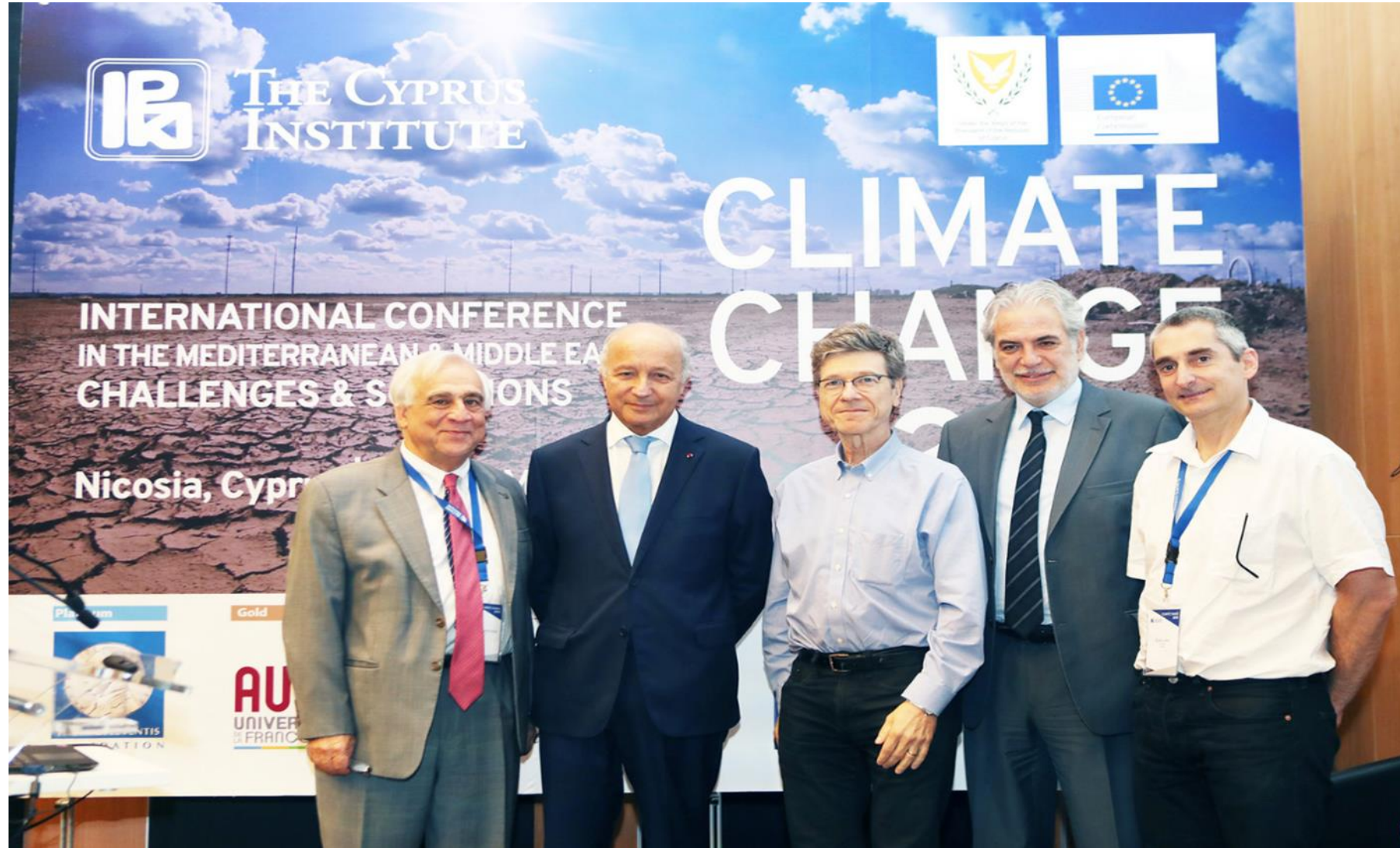


**All EMME countries expressed their willingness to comply with the Paris Agreement.**

**EMME region is lacking:**

- Detailed environmental observations and modeling
- Adequate Mitigation and especially adaptation strategies
- Coordinated policy actions, sharing of good practices and common projects

# International Conference on “Climate Change in the Mediterranean and the Middle East”, Cyprus, May 2018

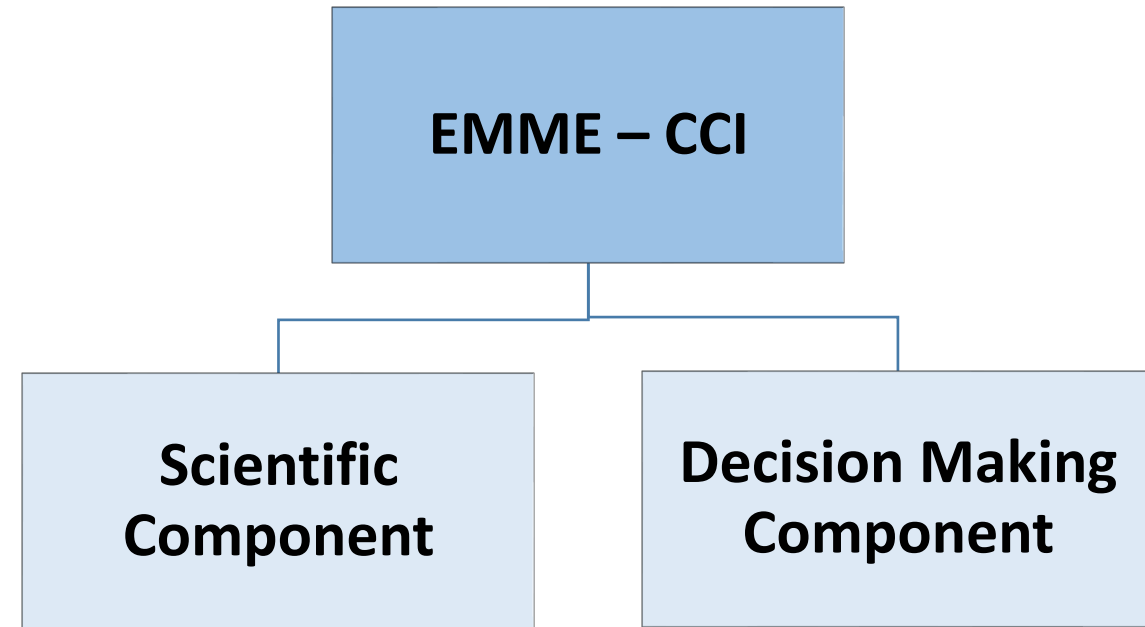


# The Cyprus Government undertook the challenge to develop a Regional Initiative to address the Climate Crisis in the EMME region

## Key Desired outcome:

### Develop an Action Plan

- to address the specific challenges of the countries in the region
- to ameliorate the impacts of climate change through scientifically sound and technologically vetted concerted actions
- to implement mitigation actions, in accordance with the Paris Agreement.





# Thematic Foci for the Scientific Task Forces

**1. Physical Basis of the regional climate change**

**2. Energy**

**3. Built Environment**

**4. Health**

**5. Water Resources**

**6. Agriculture and Food Chain**

**7. Marine Environment/Resources**

**8. Education and Outreach**

**9. Migration**

**10. Tourism**

**11. Enabling Technologies**

**12. The Green Economy and Innovation**

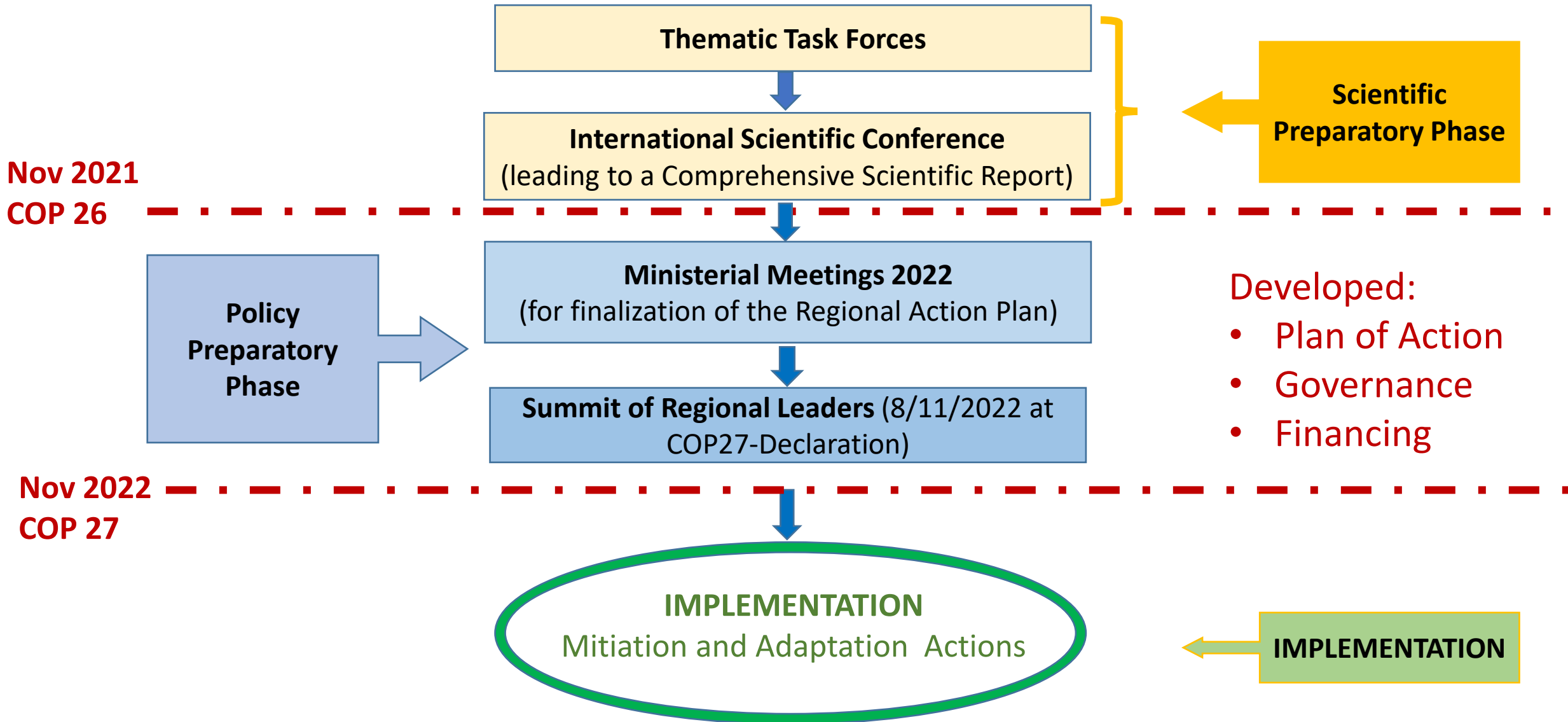
**13. Cultural Heritage**



**240 Scientists from over 20 Countries and International Organizations.**

**Coordinated by the Cyprus Institute**

# EMME-CCI: Work plan





**1<sup>st</sup> Ministerial Meeting, 2/2/2022, Nicosia (hybrid)**

**2<sup>nd</sup> Ministerial Meeting, 7/6/2022, Limassol, Cyprus**



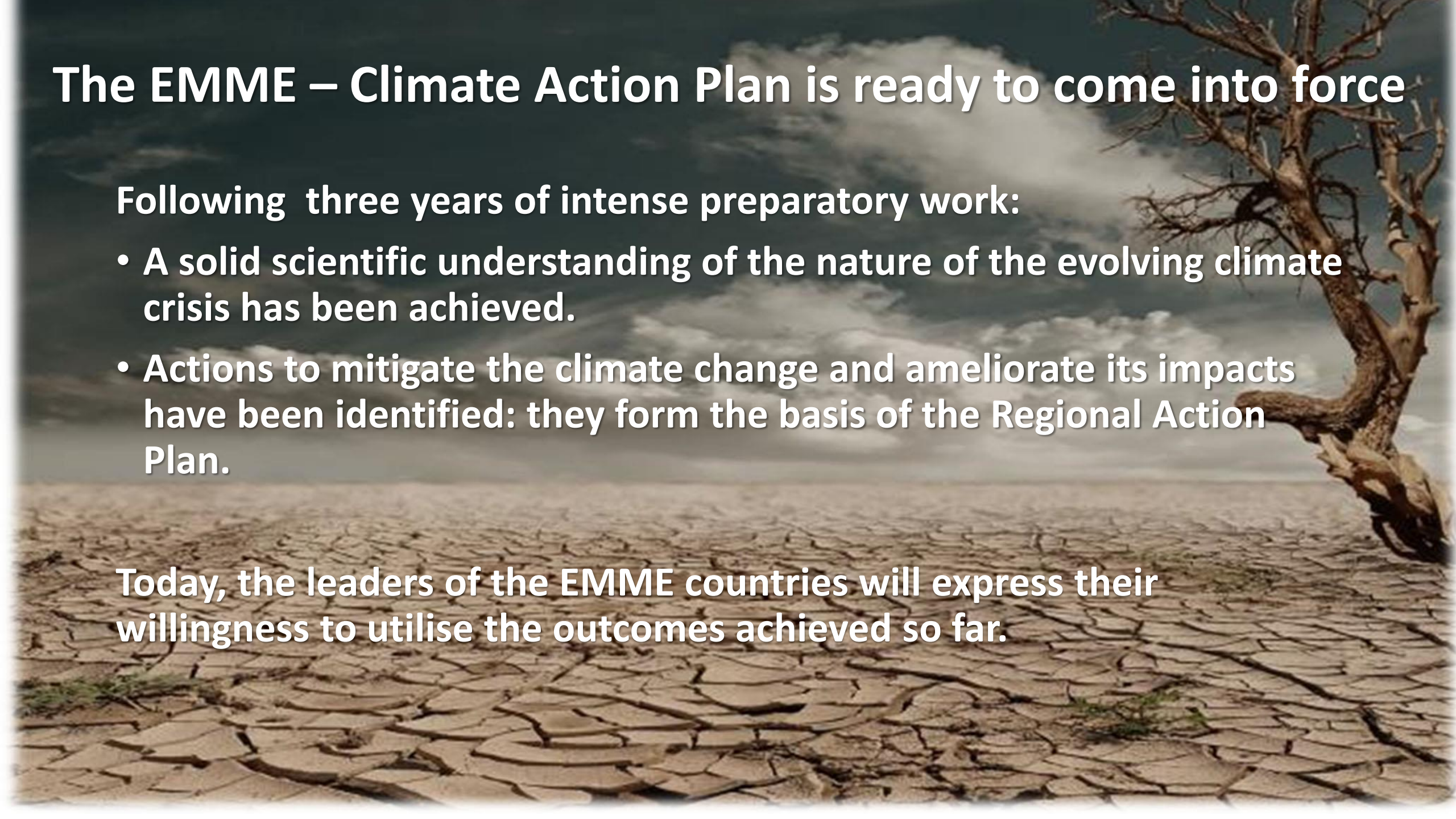


# The EMME – Climate Action Plan is ready to come into force

Following three years of intense preparatory work:

- A solid scientific understanding of the nature of the evolving climate crisis has been achieved.
- Actions to mitigate the climate change and ameliorate its impacts have been identified: they form the basis of the Regional Action Plan.

Today, the leaders of the EMME countries will express their willingness to utilise the outcomes achieved so far.







The message  
of the EMME Climate Change Initiative

*Only by acting collectively, decisively and based on sound scientific knowledge can we avoid the worst consequences of climate change in our region.*



# Eastern Mediterranean and Middle East Region Climate Change Initiative (EMME-CCI)

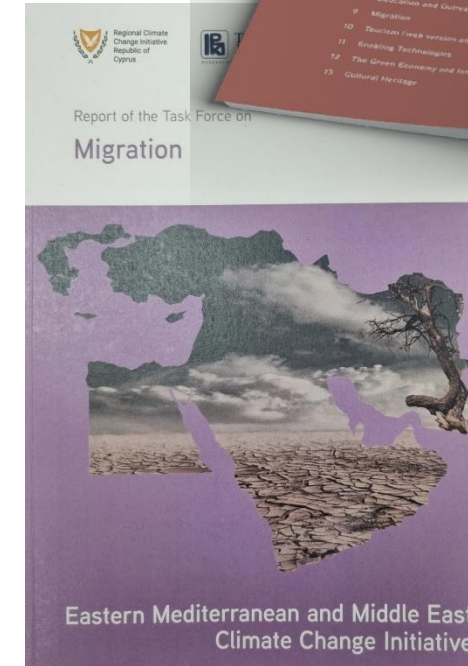
**C. N. Papanicolas**

**Advisor to the President of the Republic of Cyprus and Special Envoy on Climate Change**

**COP27, Nov. 8, 2022**

# Thematic Foci for the Scientific Task Forces

1. *Physical Basis of the regional climate change*
2. *Energy*
3. *Built Environment*
4. *Health*
5. *Water Resources*
6. *Agriculture and Food Chain*
7. *Marine Environment / Resources*
8. *Education and Outreach*
9. *Migration*
10. *Tourism*
11. *Enabling Technologies*
12. *The Green Economy and Innovation*
13. *Cultural Heritage*



**The work of the Task Forces will continue and expand.**

**Provide the Foundations of the Regional Action Plan.**



# Forecasts are alarming drawing regional and international attention

1100

About this Attention Score

ten 5% of all research

High Attention Score

outputs of the sector (99th percentile)

Mentioned by

136 news outlets

2 blogs

72 tweeters

1 Redditor

The Greek Current

PRESENTED BY HALC & KATHIMERINI

10 min

PLAY

Episode Website

High Attention Score

outputs of the sector (99th percentile)

Mentioned by

136 news outlets

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72 tweeters

1 Redditor

The Washington Post

Democracy Dies in Darkness

The Middle East is warming up twice as fast as the rest of the world

By Karina Tsui

September 7, 2022 at 2:53 p.m. EDT

Arab Weekly

East Med, Mideast especially at risk as world heats up

The eastern Mediterranean and the Middle East are more susceptible to warming trends because of their unique natural characteristics, such as large desert expanses and lower water levels.

Wednesday 07/09/2022

AL-AWSAT

East Med Especially at Risk as World Heats Up, Report Warns

New study shows Middle East and Eastern Mediterranean are growing hotter twice as fast as the global average

THE WALL STREET JOURNAL

SCIENCE

Rising Temperatures Turn Middle East Region Into Climate Hot Spot

New study shows Middle East and Eastern Mediterranean are growing hotter twice as fast as the global average

THE NATIONAL HERALD

Med Especially at Risk as World Heats Up, Report Warns

AP

U.S. News World News Politics Sports Entertainment Business Technology Health Science Oddities Lifestyle

East Med especially at risk as world heats up, report warns

September 6, 2022

Hindustan Times

New Delhi 27°C

Home / Environment / East Mediterranean, Middle East warming up twice as fast...

East Mediterranean, Middle East warming up twice as fast as global average: Study

Environment

Published 07/09/2022 at 12:00 PM

(The report says that a overall warming of up to 5 degrees Celsius or more by the end of the century on a business-as-usual scenario, a report prepared by the Cyprus Institute said.

euronews.

Green Next Ταξίδια Πολιτισμός Βίντεο

φαινόμενα αναμένεται να πλήξουν την περιοχή της Αν. Μεσογείου και Μέσης Ανατολής

Alarming results based on the best science currently available

Effects will have world – wide repercussions (e.g. mass migration)



# From Scientific studies to Action

- The EMME-CCI Initiative is about **understanding & mapping** the risks in every sector of the economy and social activity and primarily about **planning & implementing measures** to ameliorate them.
- It is about **concerted actions** of the countries of the region to engage in **transboundary actions/projects** which are necessary to achieve this goal.

The formidable scientific effort of the previous three years allows:

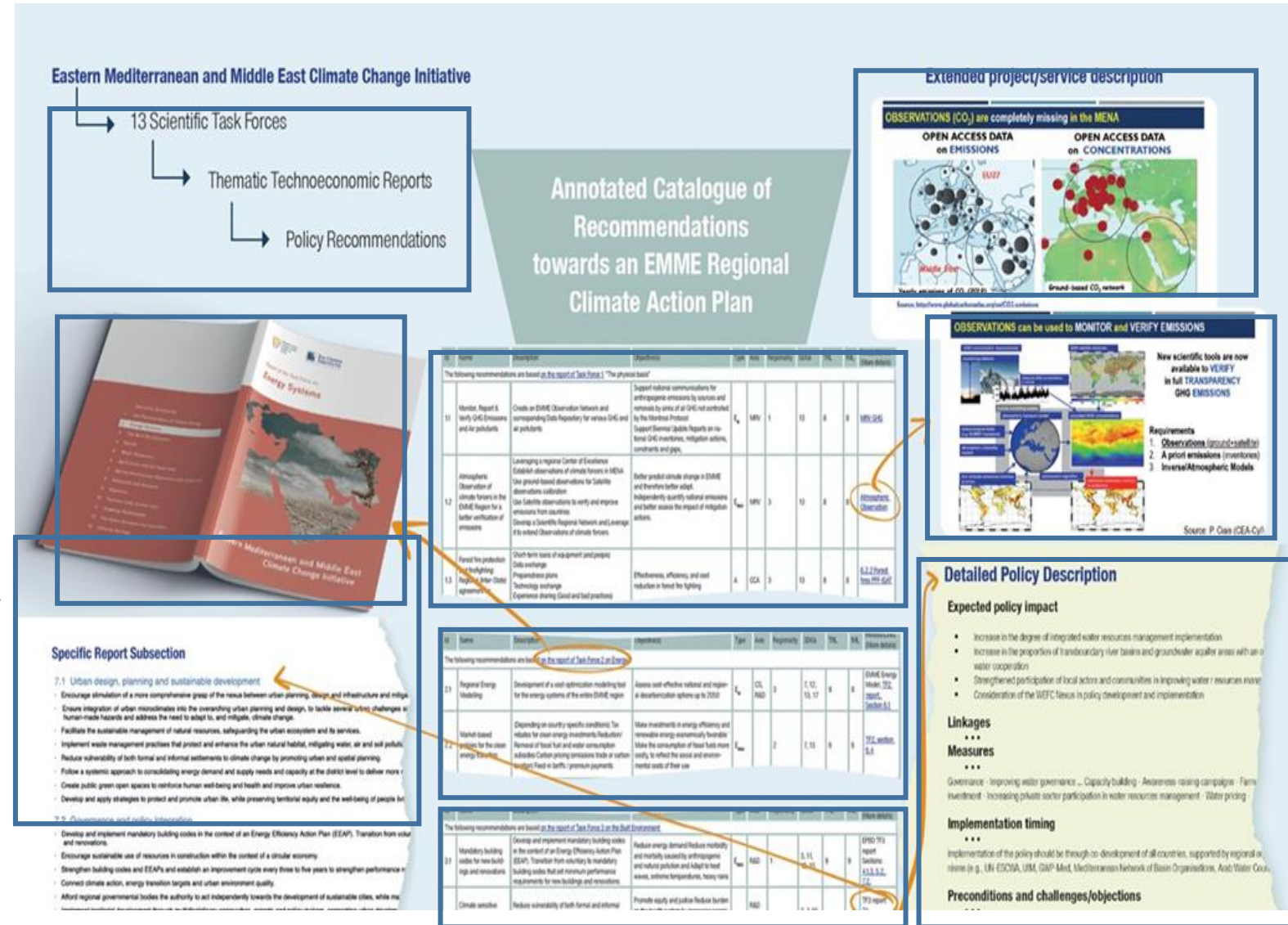
- To assess the situation in each thematic sector
- Identify gaps in understanding, research and policy needs

*Allowed us to propose: technologically mature and affordable solutions for addressing the impacts of climate change in different sectors.*

# The EMEE – Climate Action Plan is ready to move into implementation

Technologically mature and **affordable** solutions for addressing the impacts of climate change in different sectors.

*The recommendations are the basis of the Regional Action Plan*



# Indicative Priority Areas for the EMME region Action Plan

*Detailed modeling of impacts.*

*Observation data acquisition and sharing.*

*Clean energy at affordable competitive prices.*

*Threat to costal systems due to sea level rise.*

*City emission reductions.*

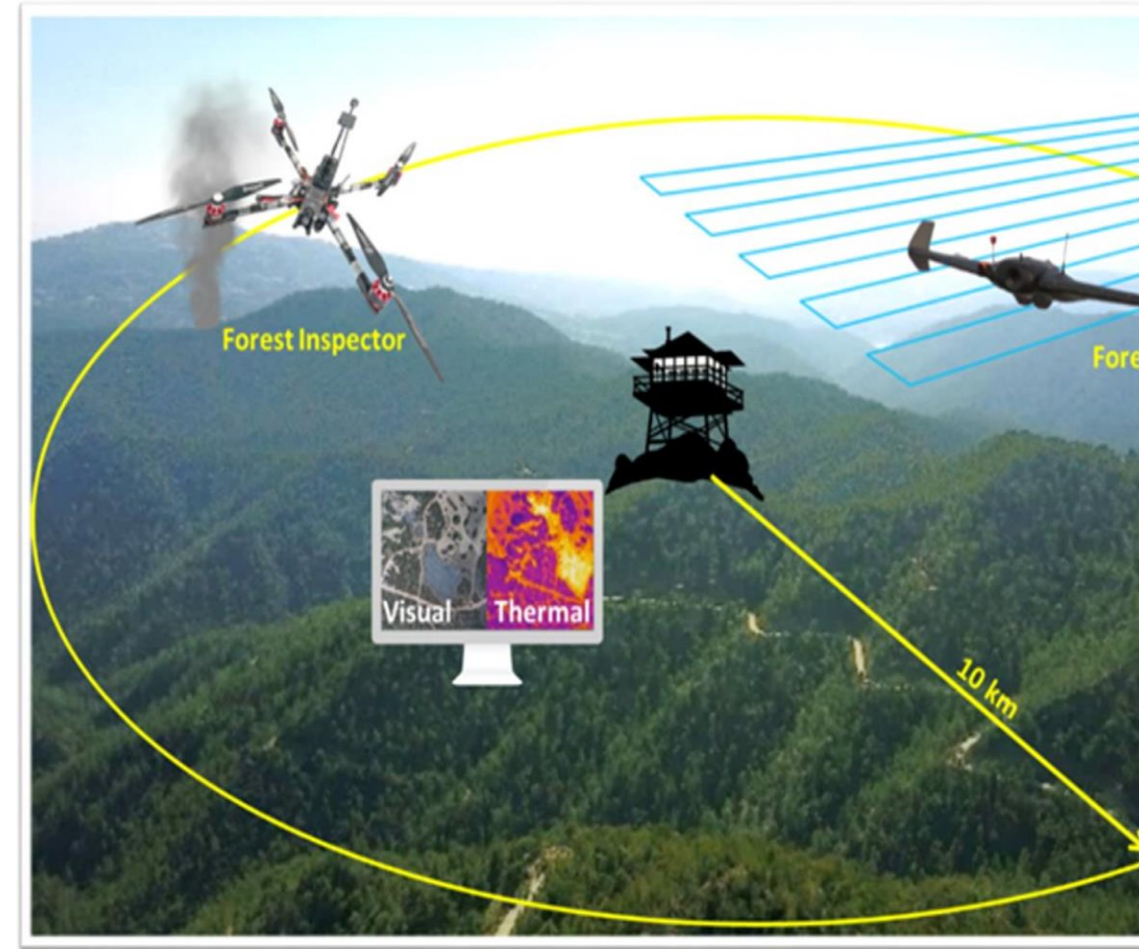
*Forest fires prevention & protection.*

*Job creation strategy for Green development.*

*Solar heat industrial processing.*

*Renewable Energy driven Desalination.*

*Minimization of Climate Change induced diseases.*





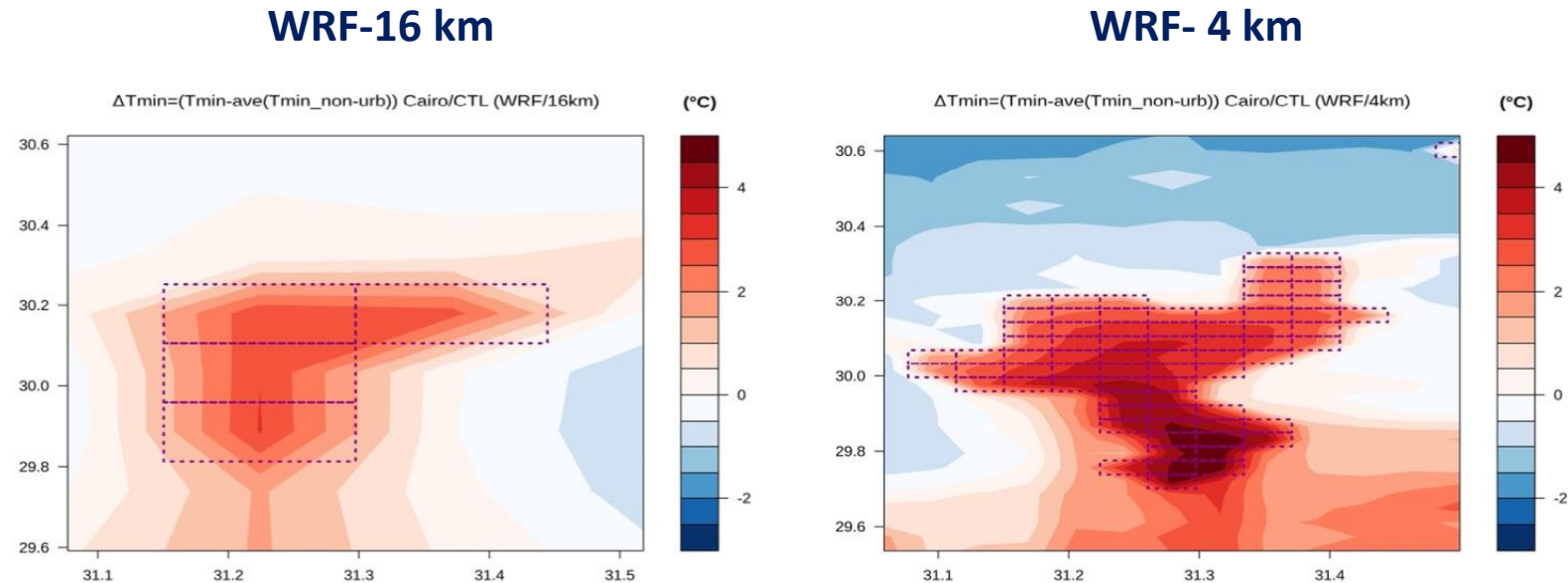
# Example of proposed transboundary action:

## Most detailed modeling & Monitoring of impacts is essential

- A. To have the **most detailed and precise modeling**. Otherwise planning will be imprecise, possibly wasteful and ineffective. It needs to be done on a regional basis.
- B. **Measurements, Calibration and Verification** of causes (Green House Gas Emissions) are necessary for precise modelling and for gauging the effectiveness of policies and measures.

# Need for high-resolution climate modeling: Urban Heat Island ( Case Study: Cairo)

- Current state-of-the-art models do not resolve the urban environment.
- As a result, temperature projections are underestimated.



**Example of the Urban Heat Island representation of Cairo in different climate model resolutions.**



# Need for high-resolution climate data: Impact of extreme floods



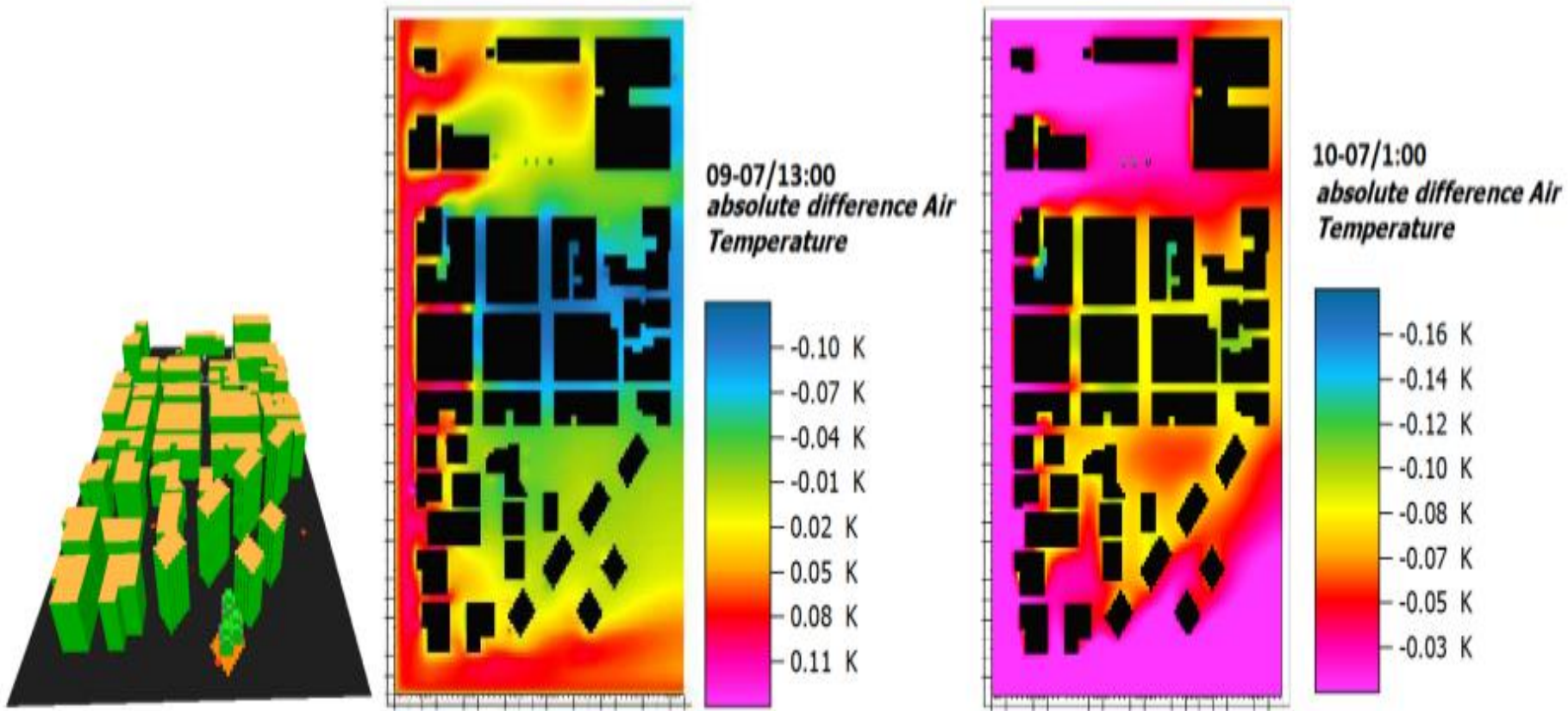
Dam  
50% full



Flooded area in  
Limassol for a 1-  
in-100-year  
rainfall event  
under climate  
change



# Detailed Planning for Urban development: A neighborhood in Beirut

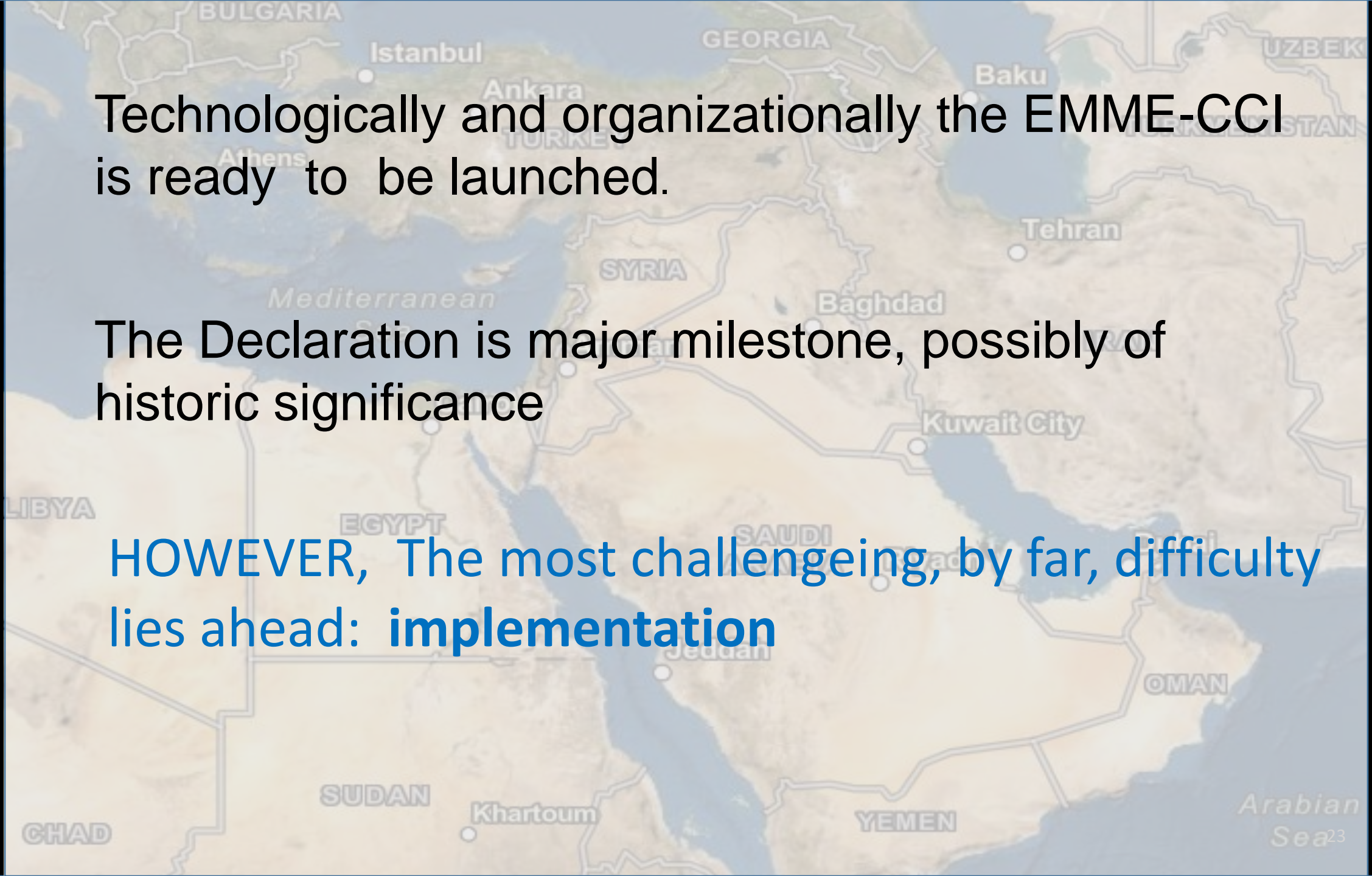


Source:Fahed, Cartalis et al,, 2020

# EXAMPLE OF TRANSBOUNDARY MITIGATION ACTION: Energy & Water Interconnections in the EMME Region

- Reduction of GHG Emissions (Mitigation)
- Allows higher and cheaper penetration of renewables
- Energy Security
- Cheaper Energy

Can be Electricity, Natural Gas, Water & Other resources.

A map of the Middle East and surrounding regions, including parts of Europe, North Africa, and Central Asia. The map shows countries like Turkey, Syria, Iraq, Iran, Saudi Arabia, and others. Major cities like Istanbul, Ankara, Baghdad, Tehran, and Kuwait City are marked. The Mediterranean Sea and Arabian Sea are also labeled. The text is overlaid on the map.

Technologically and organizationally the EMME-CCI is ready to be launched.

The Declaration is major milestone, possibly of historic significance

HOWEVER, The most challenging, by far, difficulty lies ahead: **implementation**



**THANK YOU!**



**C. N. PAPANICOLAS**