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Region of Western Greece

moving towards climate resilience

Climate resilience in Region Western Greece. Present state and financing tools.



REGION
OF WESTERN
GREECE

full of contrast!



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TAIEX TSI

"Enhancing disaster risk management and climate change adaptation in Cyprus", Nicosia, 13-15 October 2025

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I'M A **SELECTED**
REGION



Vulnerability, Resources and Adaptive Capacity to CC Impacts

- The Region of Western Greece (RWG) recognizes that Climate Change has already begun and is expected to continue with its effects being observed in the form of **extreme weather phenomena** and **high-risk climate events**, such as **floods** and **droughts**, are expected to increase and intensify in many areas, with adverse effects on the environment and ecosystems, the economy and society, human health, and well-being.
- In order to address CC impact Greece adopted since 2016 the “**National Strategy for Adaptation to Climate Change**” and finally the **National Climatic Law** L.4936/2022 which has been amended in 2024 (climate proofing in EIA).
- Regions in Greece are obliged to carry out and implement **Regional Adaptation Actions Plans (RAAPs)** which include a sectoral vulnerability analysis and a measure program to address CC impact and increase resilience. RWG RAAP approved in November of 2022.
- *The RWG RAAP analysis was carried out for 12 economic sectors for short-term (2011-2030), medium-term (2031-2050) and long-term (2081-2100) time periods, and for three scenarios of global evolution of greenhouse gas concentrations (RCP2.6, RCP4.5, RCP8.5) of the 5th Assessment Report on Climate Change (AR5, IPCC, 2014) of the IPCC1. Climate changes were evaluated in relation to the corresponding values of the period 1986-2005 (reference period).*

<https://owncloud.pde.org.gr/owncloud/index.php/s/ueeZmo14UZIj7Tm>



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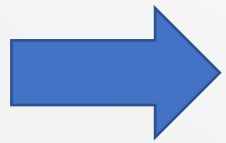
Vulnerability, Resources and Adaptive Capacity to CC Impacts

What does the RAAP study include

Step 1: Downscaling of climate data from EURO CORDEX – Assessment of climate changes

Step 2: Vulnerability analysis (sectoral and geographical): Vulnerability is defined as the tendency or predisposition of a system to be negatively affected by climate change.

Step 3: Impact assessment – Sectoral and geographical priorities



Step 4: Measures and actions for climate change adaptation in the Region of Western Greece (RWG)

Evaluation and prioritization of measures and actions – Indicative implementation cost

Potential implementing bodies and funding sources



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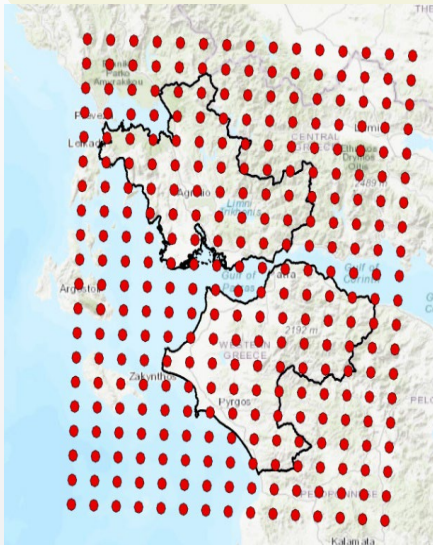


Vulnerability, Resources and Adaptive Capacity to CC Impacts

What does the RAAP study include

Downscaling of climate data – Assessment of climate changes

At a spatial resolution of 12.5km x 12.5 km (optimal level of analysis)



For 3 time periods:

- Short-term horizon: 2011-2030
- Medium-term horizon: 2031-2050
- Long-term horizon: 2081-2100

For 3 scenarios of global evolution of Greenhouse Gas concentrations from the 5th IPCC Report:

Favorable Scenario - RCP2.6: Global warming is kept below 2°C.

Intermediate Scenario - RCP4.5: Emissions in the 4.5 scenario peak around 2070 and subsequently decline.

Adverse Scenario - RCP8.5: Without additional mitigation efforts.

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Vulnerability, Resources and Adaptive Capacity to CC Impacts

Vulnerability was assessed for 12 key sectors

What does the RAAP study include

Vulnerability Analysis
(sectoral and geographical)

Vulnerability is defined as the tendency or predisposition of a system to be negatively affected by climate change

1. Agriculture
2. a. Forest b. Reforestation
3. Biodiversity – Ecosystems
4. Fisheries – Aquaculture
5. Water Resources
6. a. Coastal Uses b. Rivers
7. Tourism
8. Energy Demand
9. Transport Infrastructure
10. Health
11. Built Environment
12. Cultural Heritage

in Greece



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Vulnerability, Resources and Adaptive Capacity to CC Impacts

Sectoral Vulnerability- RAAP RWG

The sectoral vulnerability of the Region of Western Greece changes depending on the climate change scenario and the time horizon.

- **Favorable Scenario (RCP2.6):** Vulnerability is generally low, with the exception of sectors such as rivers, transport, the built environment/construction, and cultural heritage, which reach moderate vulnerability in the long term.
- **Intermediate Scenario (RCP4.5):** Vulnerability increases starting from the initial period, affecting agriculture, biodiversity, water resources, and tourism.
- **Adverse Scenario (RCP8.5):** Widespread and intense vulnerability is observed, with very high impacts on sectors such as agriculture, ecosystems, water resources, tourism, as well as health and infrastructure..
- Συνολικά, όσο επιδεινώνεται το σενάριο, αυξάνεται και το επίπεδο τρωτότητας των τομέων

Scenario	Sectors with Significant Vulnerability
RCP2.6	Rivers, transport, cultural heritage, built environment/construction (moderate, in the long term)
RCP4.5	Agriculture, biodiversity, water resources, tourism
RCP8.5	Agriculture, ecosystems, water, tourism, health, infrastructure (very high vulnerability)



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Vulnerability, Resources and Adaptive Capacity to CC Impacts

Vulnerability

- **Vulnerability Index:** The RWG has a high Vulnerability Index of **7.02** (reference year: 2020), making it the 4th most vulnerable region in Greece.
 - **Physical Dimension:** 8.41
 - **Social Dimension:** 6.52
 - **Economic Dimension:** 7.22
 - **Political Dimension:** 7.27
 - **Environmental Dimension:** 5.70

In order to “Adapt” For each Economic Sector a number of actions with specific measures are proposed in RAAP with a total cost of ~270.000,00 m€ (est. in 2022)

Climate Risks: According to RAAP, the region is highly susceptible to climate risks such as:

- **Sea Level Rise:** Expected rise of 0.34-0.55 meters, affecting 12 out of 19 municipalities with coastal areas.
- **Forest Fires:** Extensive forest areas are at risk, with significant past incidents like the 2007 forest fires in Ilia and recently at Attica (Athens).
- **Inland Flooding:** Induced by extreme weather events.
- **Temperature Increase:** Expected increase in average temperature ranging from 0.45°C (short-term, optimistic scenario) to 3.92°C (short-term, worst-case scenario).
- **Decreased Rainfall:** Gradual decrease in rainfall and snowfall, with an increase in drought duration (up to 33 days a year in the worst-case scenario for 2081-2100).



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Climate Resilience and Financing Tools

The Region of Western Greece (RWG) has a comprehensive plan to mobilize various resources to support its climate adaptation initiatives and its path to Resilience.

Key elements in funding:

The main Funding coordinator in RWG is the Regional Development Fund (RDF-RWG)

- **Objective:** The **RDF-RWG manages credits** from the Public Investments Programme, financing from public sector bodies, European Commission, international organizations, and other foreign bodies.
- **Focus :** Improvement of urban infrastructure, enhancing the quality of life for citizens, and promoting sustainable rural development.

Operational Programme for Western Greece 2021-2027 (bdgt 628.447.202 €)

<https://www.espa.gr/el/Pages/staticPWesternGreece.aspx>

- **Budget Allocation:** Secured 20.2% of the total programme budget (€126,868,612) for Policy Objective 2: A greener, low-carbon transitioning towards a net-zero carbon economy and resilient Europe.
- **Supported Actions:**
 - o Promoting energy efficiency and reducing greenhouse gas emissions.
 - o Promoting renewable energy, including sustainability criteria.
 - o **Climate change adaptation and disaster risk prevention and resilience.**
 - o Sustainable water management.
 - o Enhancing protection and preservation of nature, biodiversity, and green infrastructure.

Greece 2.0 - National Recovery and Resilience Plan (bdgt €30.5 billion)

<https://greece20.gov.gr/>

- **Components:**
 - o Renovation and sustainable use of resources.
 - o **Climate resilience and environmental protection.**
- **Alignment:** The plan aligns with the RAAP to CC.



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Climate Resilience and Financing Tools

Green Fund - funding institution <https://prasinotameio.gr/>

It constitutes a public-law entity supervised by the Ministry of Environment and Energy. The **core mission of the Green Fund to support the Greek environmental and climate policy** by ensuring that its various financial resources (fines from environmental offences, special taxes and other types of resources) are efficiently allocated to funding programmes that aim to protect, enhance and restore the natural and urban environment.

The annual budget of the Green Fund is approved by the Minister of Environment and Energy.

For **2025** it amounts to about **112,25 M€**, distributed over **5 core programmes**.

Regional adaptation actions may be funded under the ‘**Natural Environment and Climate Resilience**’ programme (overall budget of 30 M €, 5M€ earmarked for being mobilized over climate resilience, including regional monitoring mechanisms for climate change adaptation actions).

In addition, the Green Fund has dedicated programmes on urban actions which contribute to climate change resilience at local level, as well as on ‘Forests’.



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Climate Resilience and Financing Tools

Rural Development Programme (RDP) (Nat. Bdt 13,1 b €)

<https://www.agrotikianaptixi.gr/>

With 9 Specific objectives

SO1: Support viable farm income and resilience across the Union to enhance food security;

SO2: Enhance market orientation and increase competitiveness;

SO3: Improve the farmers' position in the value chain;

SO4: Contribute to climate change mitigation and adaptation, as well as sustainable energy;

SO5: Foster sustainable development and efficient management of natural resources such as water, soil and air;

SO6: Contribution to the protection of biodiversity, enhance ecosystem services and preserve habitats and landscapes;

SO7: Attract young farmers and facilitate business development in rural areas;

SO8: Promote employment, growth, social inclusion and local development in rural areas, including bio-economy and sustainable forestry;

SO9: Improve the response of EU agriculture to societal demands on food and health, including safe, nutritious and sustainable food, as well as animal welfare;

Participation in EU co-funded projects

(interreg Euro-MED, LIFE, Horizon etc)



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Climate Resilience and Financing Tools

Own & National Resources, National Development Programme (NDP) 2021-2025
<https://epa.gov.gr/>

During the 2020-2022 period, the transitional period from the **Public Investments Programme (PIP)** to the **National Development Programme (NDP) 2021-2025** was completed with the activation of the **Regional Development Programme (RDP)** of Western Greece. This was finalized with the transfer of **178 projects** that were being implemented under the PIP and met the relevant conditions.

STRATEGIC DEVELOPMENT AXES



The ReDP of Western Greece, with a budget of **€271 million**, was approved in 2021 Ministerial Decision No. 133633 (Government Gazette 5926/B'/2021).



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Climate Resilience and Financing Tools

Regional Development Action Plan

The new **Development Action Plan 2025–2028** of the RWG is currently under development.

In the meantime, the **Annual Action Plan (AAP) 2024** – Transitional Period is being implemented.

This plan includes proposals and development projects that are either being carried out or are set to begin by the Region's services until the next OP is effective.

It is noted that the strategy of the previous period (2020–2023) was organized into **six key development axes (with 3-4 measures per axis)**

1. Balanced development of infrastructure and accessibility
2. Social and resilient Western Greece with an emphasis on the citizen Innovation,
3. **sustainability, competitiveness, and adaptation to climate change**
4. Promotion of tourism and culture
5. Digital transformation and new regional governance
6. Enhancement of regional consciousness

Annual Action Plan (AAP) 2024

FUNDING SOURCE	Nr PROJECTS	% PROJECTS	BUDGET (€)	% OF TOTAL BUDGET
OWN RESOURCES	182	30%	61.878.735,14 €	4%
NATIONAL RESOURCES (Regional Development Program- ReDP)	255	42%	794.773.496,12 €	53%
Regional Operational Program for Western Greece (ROP) 2021-2027	87	14%	250.896.718,58 €	17%
Rural Development Program (RuDP)	17	3%	141.515.011,97 €	9%
OTHER EU FUNDING	46	8%	175.186.614,46 €	12%
OTHER FUNDING	4	1%	1.145.000,00 €	0%
PROPOSALS	16	3%	81.456.900,00 €	5%
TOTAL	607	100%	1.506.852.476,27 €	100%



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Climate Resilience and Financing Tools

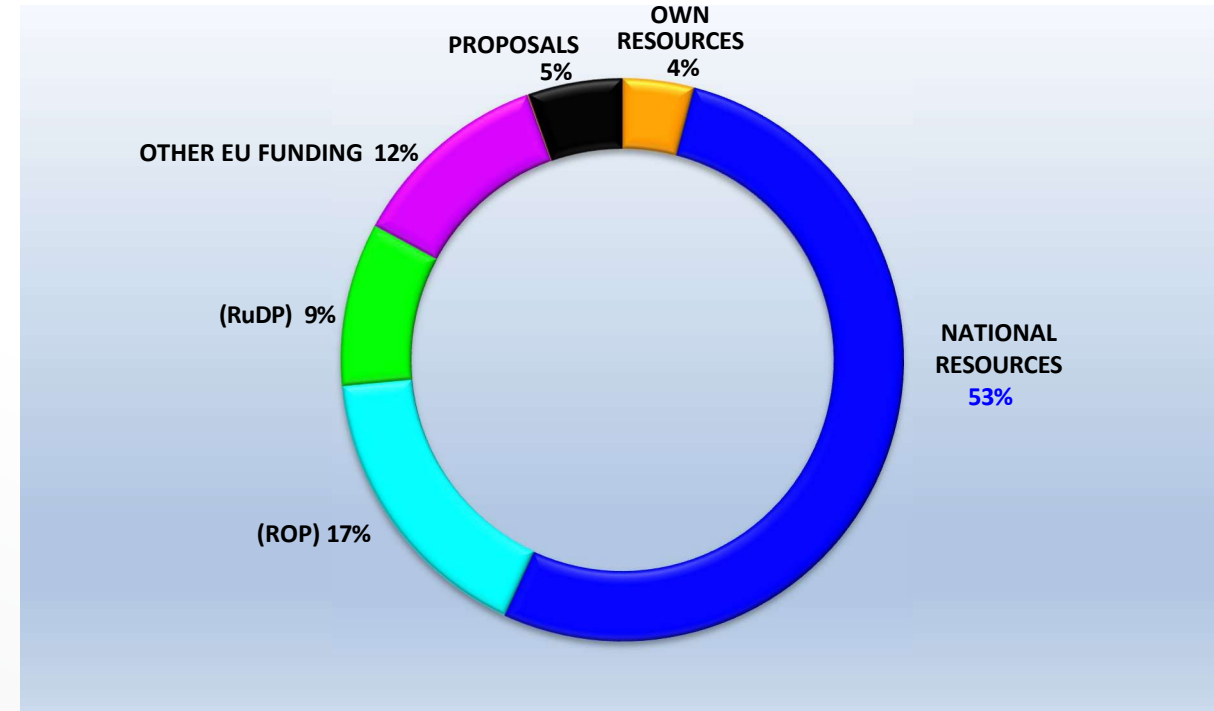
Annual Action Plan (AAP) 2024 – Transitional Period

Axis 3 – Innovation, Sustainability, Competitiveness and Climate Change Adaptation: the foundations of Western Greece – is aligned, according to the 2024 Transitional Annual Action Plan (AAP), with the

Strategic Objective 2 (SO2): Resilience in Governance and Society, with emphasis on administrative preparedness, **environmental** and production sustainability, public health and care, as well as adaptation to climate change.

Measure 3.4 – Planning and Rational Resource Management for a Sustainable Western Greece, under Axis 3, has a total budget of **€75,742,408.38** and includes the following Actions:

- a) **Programs / Actions for Energy Efficiency** (€20,705,870.07)
- b) **Water Resource Management – Water Supply** (€10,815,758.00)
- c) **Pollution Source Mitigation** (€100,000.00)
- d) **Actions for Climate Change Adaptation and Response** (€41,465,759.88)



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Climate Resilience and Financing Tools



By leveraging these resources and aligning with national and European funding programs, RWG aims to enhance its capacity to implement effective climate adaptation measures and build resilience against climate impacts.

BUT

The lack of a dedicated Bdgt to climate adaptation measures of the RAAP affects planning and implementation and thus adaptive capacity

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Climate Resilience Dpt

The **Climate Resilience Department** of the Region of Western Greece (Former Water Economy Dpt) was established within the Internal Service Organization in June 2025, integrating the monitoring and implementation of the Regional Adaptation Action Plan alongside with the responsibilities for water economy since this sector is and will be targeted by CC impact.

The CR Dpt continues implementing actions of the WE Dpt and thus:

- **Participates for RWG in the LIFE-IP AdaptinGR project (2019-2026) as one of the partners implementing pilot studies** concerning adaptation and Incorporation of climate projections in studies concerning river delineation, coastal erosion and forest fire prevention action plans. <https://adaptivegreecehub.gr/>
<https://www.adaptivegreece.gr/el-gr/>

adaptivgreece®



- **Participates in the Pathways to Resilience HEU Project as part of the 1st cohort of Regions**, concerning regional resilience pathways 2024-2026. <https://www.pathways2resilience.eu/>
- **Implements** Water monitoring projects Funded by **(ROP) 2021-2027** and **ReDP 2021-2025**



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Key drawbacks and other issues

1. **Lack of solid legislative framework concerning technical specifications for studies - works related to CC:** Only a few months since climate proofing has been incorporated in Environmental Impact Assessment procedure – application.
2. **Lack of capacity building actions in regions** concerning mitigation-adaptation-resilience-funding for regional stakeholders (actors, Technical chambers, beneficiaries, administrations)
3. **Lack of dedicated allocated bdtg from national funding tools for regional implementation covering the cost of the RAAP measures**
4. **Lack of prioritization mechanism** for studies and works proposed by RAAP (actions importance not always coincide with financing opportunities or stakeholders' needs) ==> **Lack of coordination**
5. **Will projection models prove “accurate” ??** (e.g in a delineation study, flood line obtained through RCPs projection models, extremely affects **size and cost of proposed NBS works**, which result in significant hydro morphological alterations of the river and thus not fulfilling the environmental achievement criterion set by EU 2000/60 directive ar. 4.7). Legal Framework to address this...?

LACK of new innovative Financing tools that could be incorporated in Regional planning e.g. Green bonds (National? Regional?), crowd sourcing, EIB loans etc.



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Climate Resilience Dpt

And furthermore, aims to:

- ✓ monitor the implementation of the Regional Adaptation Action Plan Measures (Studies, Works, Green Tagging, Financing Tools)
- ✓ coordinate the midterm evaluation of the RAAP
- ✓ Improve CC awareness among Regional Bodies-Organizations-Entities through capacity building actions
- ✓ Governance mobilization in various levels
- ✓ Establish a pool of CC stakeholders for specific economic sector groups that interrelate
- ✓ Implement EU projects concerning adaptation
- ✓ Participate in actions establishing technical specifications for studies and works in relation to CC
- ✓ Establish a “**Regional Climate Change Observatory**” with core functions:
 - **Data Collection:** Gathering and analyzing reliable information and data on climate variability (temperature, precipitation, extreme events) in the past, present, and future.
 - **Impact Monitoring:** Forecasting and recording the risks and impacts of climate change on vulnerable sectors (such as agriculture, water resources, forest ecosystems, biodiversity, infrastructure, and health).
 - **Decision-Making Support:** Providing this data to the Public Administration, businesses, and organizations for the planning, evaluation, and updating of adaptation policies (e.g., flood control projects, forest management).
 - **Information and Awareness:** Developing a National Information Hub and promoting actions to inform and sensitize the public about the effects of climate change and the necessary measures.



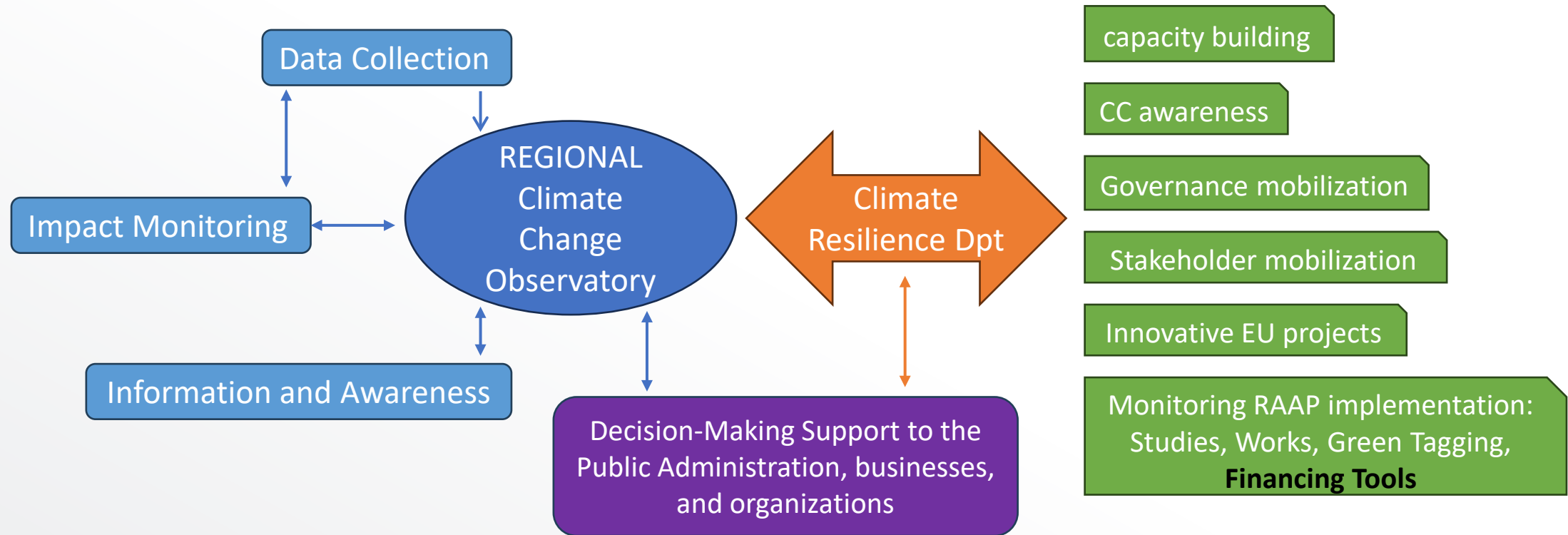
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Climate Resilience in RWG



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Thank you!

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