WWF ANALYSIS

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KEEPING THE BAR HIGH ON GREEN RECOVERY

THE EU's "DO NO SIGNIFICANT HARM" PRINCIPLE IN PRACTICE

The adoption of the "do no significant harm" principle in the Taxonomy Regulation and its transposition to the Recovery and Resilience Facility has rightly been hailed as a major step towards a more sustainable European economy. As the majority of the National Recovery and Resilience Plans have received the green light from the European Commission and are in the phase of implementation, serious concerns arise in relation to the inclusion of environmentally harmful projects and the reduction of the DNSH principle to a "box-ticking" exercise.

In follow-up to the statement issued in November 2021 by the Green10 coalition of Europe's largest environment and health organisations,[1] which raises serious concerns about the application of the "do no significant harm" principle in the projects financed at the national level by the Recovery and Resilience Fund, this document presents specific cases of heavy footprint projects, which are included or are in the process of being approved for inclusion in national recovery and resilience plans.

The application of the DNSH criteria in the projects indicatively described below does not at all guarantee that they will not do significant harm to any of the EU's objectives of a) climate change mitigation, b) climate change adaptation, c) sustainable use and protection of water and marine resources, d) circular economy, e) pollution prevention and control, and f) protection and restoration of biodiversity and ecosystems.

The introduction of the "do no significance harm" principle was warmly welcomed by civil society in all Europe, since it marks a breakthrough in ensuring that money spent through the EU budget will not result in major environmental damage and will not undermine Europe's progress towards climate neutrality. Alarm bells that this important policy may be watered down and result in greenwashing

[1] BirdLife Europe and Central Asia, CEE Bankwatch Network, Climate Action Network Europe, European Environmental Bureau, Friends of the Earth Europe, Greenpeace European Unit, Health and Environment Alliance, Naturefriends International, Transport & Environment, WWF European Policy Office, and Euronatur. (2021, 18 November). EU funds should never harm nature, climate or the environment. Statement by the Green10 on the "do no significant harm' principle. https://green10.org/wp-content/uploads/2021/11/Statement-of-the-Green-10-on-the-do-no-significant-harm-principle.pdf

environmentally perilous projects and investments started ringing in early 2021, when the draft technical rulebook, ie the EU Taxonomy Regulation[2] delegated act on the screening criteria for climate mitigation were being prepared. The publication in December 2021 of the draft delegated act allowing the green labelling of nuclear energy and fossil gas has seriously undermined the credibility of the European Commission as guardian of the environmental principles enshrined in the EU Treaties. We do however welcome the report of the independent expert group advising the Commission on sustainable finance policies, which proves that Europe's safeguards for informed and science-based decision making are invaluable in the process towards sustainability and climate neutrality.

The cases analysed below are evidence that the current state of application of the DNSH criteria in the context of NRRPs fails to aim higher than a simplistic checklist of often unsubstantiated statements that present high environmental footprint projects as 'green', thus hijacking the green agenda of Europe's Recovery and Resilience Facility.

It is our hope that the European Commission will fortify its policies for the effective application of the "do no significant harm" with robust technical criteria and review / control mechanisms, thus ensuring a smart and efficient transition to climate neutrality and a high level of environmental protection.

The cases analysed in relation to the DNSH criteria are the following:

CASES OF FAILED APPLICATION OF THE DNSH CRITERIA

Case 1: Tsiknias irrigation dam, Greece

Description of the project

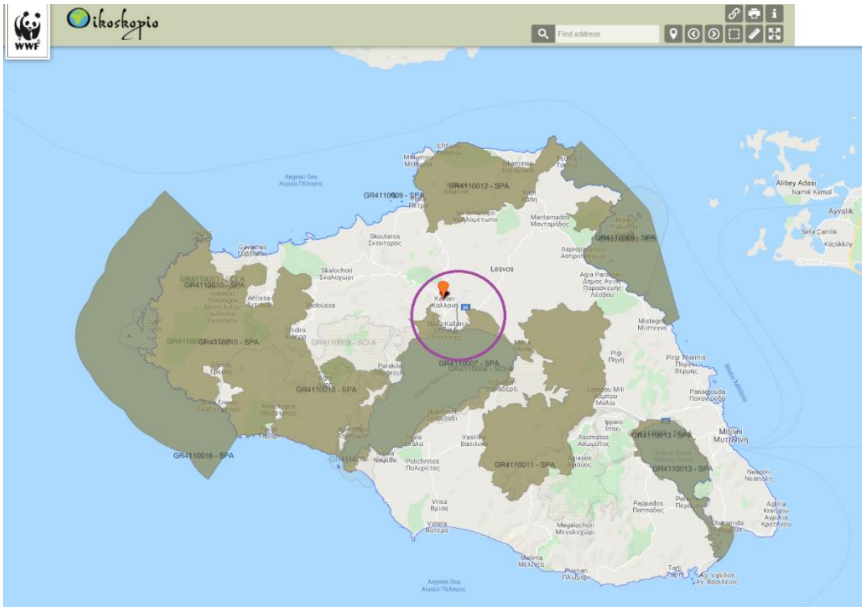
An earthfill, clay core, 38-metre-high dam is planned to be built in a suitable position on Tsiknias river, at a distance of 4 km from the gulf of Kalloni (picture 1). The effective volume of the reservoir created by the dam will be 12.5 million cubic metres, covering an area of 84 km^2.

Although the stated aim of the project is "flood mitigation", the publicly declared purpose of Tsiknias reservoir is to provide drinking water to the largest cities of Lesvos Island (Mytilene, Kalloni, Agia Paraskevi, Polychnitos) while also covering the irrigation needs of Kalloni plain. Complementary works are also included in the plan with the aim of supporting the main dam functions, such as an extensive water transfer network, a water treatment facility, smaller reservoirs and antiflood works to river Tsiknias.[3]

According to its 2019 decision for the approval of environmental terms, the Tsiknias Dam consists of 38 m. high reservoir of 12.5 million m^3 volume, whose aim is to "*transfer the necessary water quantities to the settlements of Agia Paraskevi, Kalloni and the city of Mutilini, which will be supplied with water*

[2] Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment. Articles 8(4), 10(3) and 11(3).
[3] SEA of the North Aegean Regional Adaptation Plan to Climate Change (https://www.pvaigaiou.gov.gr/dyn/userfiles/files/pdf-diavouleysh/SMPE.pdf)

during Phase A. In the future, the Tsiknias Dam will contribute to the covering of needs for irrigation of nearby areas (plains of Kalloni and Agia Paraskevi)."[4] This decision notoriously fails to even mention the impact of the dam on the downstream Natura 2000 wetland ecosystem of Kalloni Gulf.



Lesvos island Natura 2000 sites: GR4110004 "Lesvos: Kolpos Kallonis Kai Chersaia Paraktia Zoni (SCI/SAC)" and GR4110007 "Lesvos: Paraktioi Ygrotopoi Kolpou Kallonis (SPA)"

Location of the planed Tsiknias reservoir

[4] Απόφαση Αναπλ. Υπουργού Περιβάλλοντος και Ενέργειας (ΑΔΑ 62Η44653Π8-ΖΞ5). (2019, 20 June). Έγκριση περιβαλλοντικών όρων για το έργο: «Κατασκευή έργων ύδρευσης Ν. Λέσβου (Α΄ φάση φράγμα Τσικνιά)».

Impact of the Tsiknias reservoir on Natura 2000 sites

Tsiknias River is the main nutrient provider to the ecologically significant ecosystem of Kalloni Gulf. The reduction of nutrients and organic matter inputs from Tsiknias river[5] is expected to cause disturbances in the functioning of the coastal ecosystem. This might lead to a drastic reduction in the populations of native commercial fish species, thus affecting fisheries production, which is a key primary financial activity of the local population.

The construction of the dam is also expected to prevent freshwater from enriching the wetland system. This might change the overall dynamic of the gulf (temperature, currents & salinity). With regard to salinity, an increase of 0.2 to 0.5 psu (grams of salt per kg of salt water) is expected during winter time while locally, near Tsiknias discharge, this increase can be greater than 2 psu for some days. As these would be the next year's initial conditions, in time, there could be a cumulative phenomenon involved.[6]

- The upcoming reduction in sediment supply (~18.300 m3/year) from the Tsiknias river[7] is expected to disturb the sediment balance in the Gulf of Kalloni. A delta system has developed on the sandy deposits, fed by the sediment. The construction of the dam will reduce the solid discharge with the looming risk of coastal habitats loss and erosion of the coastline to the extent that crops and other economic activities may be threatened. Depending on the prevailing sea currents in the Gulf of Kalloni, erosion may be limited to the point of the estuary but may extend to other parts of the Gulf. The loss of this transition zone means an increased vulnerability to natural disasters.
- The construction of Tsiknias reservoir puts at risk the estuary,[8] its habitats and fauna species.[9] The area hosts more than 100 bird species while otters have also been reported.[10] Several fish species (*Knipowitschia caucasica*, *Aphanius fasciatus*) are entering the estuary from the sea[11] while the freshwater fish *Squalius cii* has been reported upstream.[12] There are also significant populations of frogs (*Pelophylax bedriagae*) and water turtles (*Mauremys rivulata*).
- Climate projects and simulations for the area have predicted an increase in temperature and decrease in precipitation in the future resulted in a decrease of flow in the future, and higher occurrence of extreme flood events not only to the winter months but in some cases to the whole year period.[13] This leads to an uncertainty about the need of the dam and a false sense of security from flood events to a system that has already shrunk and is fragmented by buildings and other constructions, as well as crop expansion. The Tsiknias dam is presented as a flood protection work in the Strategic Environmental Assessment of the North Aegean Regional Adaptation Plan to Climate Change. Other natural water retention measures have not and necessarily need to be considered.

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[5] S. Provatas, O. Tzoraki, O-M. Spartalidou, M. Kostopoulou-Karadanelli, and P. Kyriakidis. Spatiotemporal analysis of river water quality of insular basins: The case of Tsiknias, Lesvos. 11th Panhellenic Symposium on Oceanography & Fisheries, Lesvos, 4 pages, 13-17 May 2015. (https://eclass.aegean.gr/modules/document/file.php/MAR131/Tzoraki%20-%20Teaching%20material/Provatas%20conf%202015%20Water%20Quality.pdf)

[6] Kolovoyiannis, V., Zervakis V., Tzoraki O., Mamoutos I. (2018). Salinity shifts in a Mediterranean semi-enclosed coastal basin from the potential construction of a dam in its watershed. *Proc. 3rd Int. Congress on Applied Ichthyology & Aq. Environment.* Volos, Greece, 8-11 Nov. 2018, p429-433. (https://hydromedit.gr/wp-content/uploads/2020/01/HydromediT2018-Proceedings-Book.pdf)

[7] S. Mihas, K. Nikolaou, A. Koukouvinos, and N. Mamassis, Estimation of sediment yield with MUSLE and monitoring. A case study for Tsiknias dam at Lesvos Island in Greece, IWA Balkan Young Water Professionals, Thessaloniki, 8 pages, 12 May 2015. (https://www.itia.ntua.gr/en/docinfo/1558)

[8] Κατσαδωράκης, Γ., και Κ. Παραγκαμιάν. 2007. Απογραφή των υγροτόπων των νησιών του Αιγαίου: Ταυτότητα, οικολογική κατάσταση και απειλές. Παγκόσμιο Ταμείο για τη Φύση - WWF Ελλάς, Αθήνα. 392 σελ.

[9] WWF Greece. (2013). Ygrotopio islands – Database of the Greek island wetlands. Updated: 12.2021

[10] Μανδυλάς, Χ., και Ν. Καρδακάρη. 2000. Προστασία και ανάδειξη Υγρότοπου Κόλπου Καλλονής Λέσβου. Ειδική Περιβαλλοντική Μελέτη. ΥΠΕΧΩΔΕ, Περιφέρεια Βορείου Αιγαίου, Νομαρχιακή Αυτοδιοίκηση Λέσβου, ΑΔΕΤΑ Καλλονής.

[11] Bianco, P. G., H. Ahnelt, and P. S. Economidis. 1996. The freshwater fishes from eastern, and large Mediterranean islands with comments on their safety status. Acta Univ. Carol. Biol. 40:45–60.

[12] Stoumboudi, M. T., M. Kottelat, and R. Barbieri. 2006. The fishes of the inland waters of Lesvos Island, Greece. Ichthyol. Explor. Freshwaters 17(2):129–146.

[13] Nabih, S., Tzoraki, O., Zanis, P., Tsikerdekis, T., Akritidis, D., Kontogeorgos, I., & Benaabidate, L. (2021). Alteration of the Ecohydrological Status of the Intermittent Flow Rivers and Ephemeral Streams due to the Climate Change Impact (Case Study: Tsiknias River). *Hydrology*, *8*(1), 43. https://www.proquest.com/openview/a81ef779699ce6fca1dff35cb6714ea9/1?pq-origsite=gscholar&cbl=2055406

Application of the DNSH criteria

According to the very poorly written "Checklist for assessment of the Do-No-Significant-Harm Criteria", which is included in the project fiche for 16882 - Flood mitigation projects / Construction of water supply systems on the island of Lesvos (Phase A of Tsiknia Dam)", the dam will not cause any adverse impact on any of the objectives covered by the Taxonomy Regulation. In one-sentence replies to the questions of the checklist, the Greek NRRP resoundingly ignores a series of very serious impacts on at least four objectives:

i. **Climate change mitigation**: Without any reference to any sort of appropriate assessment, the checklist simplistically states that "*the investment has an insignificant foreseeable impact on this environmental objective, taking into account both the direct and primary indirect effects across the life cycle. This is ensured because the new system/equipment will be energy-efficient and the GHG emissions from such activities are negligible*".

   In reality, the dam is expected to cause significant reduction in the number of nutrients discharged to the Natura 2000 site of Kalloni Gulf. Given that nutrients have a proven significance in the process of algae production (and consequently the primary production in the area), further studies need to be conducted to show the extent of the reduction of algae production and its associated reduced contribution to climate mitigation).

ii. **Climate change adaptation**: In two particularly superficial sentences, the checklist ignores all science which proves that ecosystem-based adaptation to climate change is more effective and provides less costly and more resilient solutions to extreme weather events.

   The most absurd and irrelevant statement is that "[*t]he project is adapted to climate changes and it is not considered vulnerable to them. The project will have a positive contribution in case of climatic changes since can cover water consumption needs in case the dry period is more intensed.*".

   In reality, the dam will result in the transfer of significant quantities of water from one sub-basin (Kalloni) to another (mainly the city of Mutilini, on the eastern part of the island). The anticipated impacts are severe and relate primarily to coastal erosion and salinization of aquifers. In addition the reduction of primary production of the Gulf due to nutrient reduction is also expected to cause a serious impact on a significant local economic sector: fishing.

   Environmentally sustainable alternatives have been proposed to deal with the water needs (repairing of water network as the water losses exceed 50%, construction of smaller reservoirs, etc). In addition, flood risks can be managed through nature-based solutions (NbS), which however have not at all been examined at the 2016 EIA or during the DNSH assessment.

iii. **Sustainable use and protection for water and marine resources**: Dams are not the optimal solution to the need for environmentally sustainable and climate resilient irrigation and water supply systems. The reduction of nutrients and sentiments will most probably affect the primary production of Kalloni Gulf and therefore the economic activities of the area.

iv. **Protection and restoration of biodiversity and ecosystems**: The change in the hydrological balance of the river due to the dam is expected to cause a high impact on species.

Contacts: Thanos Giannakakis and Theodota Nantsou, WWF Greece

Case 2: Gas-fired power in the Maritsa-Iztok coal complex, Bulgaria

Although not yet formally approved by the European Commission, the Bulgarian recovery plan officially submitted on 15th of October 2021, prioritises large fossil gas infrastructure projects (e.g. building fossil gas infrastructure for the future transition to hydrogen) in Maritza-Istok, the major coal region in Bulgaria and new "high efficiency and low-carbon" gas fired power plants that could lead to a long-term lock-in fossil fuel infrastructure).[14]

The inclusion of new 1,000MW fossil gas thermal power plants in the Maritsa-Iztok lignite region is an alarming signal that recovery in Bulgaria will be far from sustainable (environmentally and financially) and will fail to open the country's way to climate neutrality.[15] It is not yet clear how the Bulgarian government has framed the "do no significant harm" (DNSH) assessment for this high climate footprint project. Bulgaria still does not have a clear long-term decarbonisation plan for the energy sector. The lack of ambition in phasing-out coal is one of the concerns and recommendations expressed by the EC, focusing on why Bulgaria wants to switch from coal to fossil gas. The DNSH assessment is also insufficiently described and not detailed

According to a letter sent to the European Commission by an alliance of NGOs,[16] the project is presented as "green", on the basis of claims that it will cover the winter peaks in electricity generation and will later be converted to a hydrogen generating plant without providing more concrete details about its future

In reality, the Maritsa – Iztok at least 1 GW project for the gasification of the ageing lignite plants will lock Bulgaria in:

- An obsolete electricity generation model of high carbon and methane emissions, which will inevitably stall the country's progress to climate neutrality.
- A sinking spiral of its energy sector in economic unprofitability, especially due to the high dependence on imported fossil fuels whose price is subject to market volatility and geopolitical games.[17] Without state aid under the long-term contracts and free emission allocations, set to expire for about half of the coal capacity in the Maritsa-Iztok basin, plants must be decommissioned by 2026 or go bankrupt.[18] Support for shifting from one fossil fuel, lignite, to another, fossil gas, will only prolong Bulgaria's dependence on high carbon, expensive and polluting energy sources and even worse Bulgaria will be tightly locked in the import of fossil gas mostly from Russia.
- Rising energy poverty, especially as gas prices are sensitive to unpredictable pressures.
- Long and unnecessary dependence on fossil gas: According the Bulgaria's Energy and Water Regulatory Commission, the existing gas infrastructure covers more than twice the gas consumption in the country in one year. No new gas power plants are needed.[19]

[14] Green Recovery Tracker. (2021). Bulgaria Country Report. https://www.greenrecoverytracker.org/country-reports/bulgaria
[15] WWF Central and Eastern Europe. (2021, 11 November). Coal comfort: Bulgarian Recovery Plan makes green gains, but stalls on coal exit – Ball is in EC's court. https://wwfcee.org/our-offices/bulgaria/coal-comfort-bulgarian-recovery-plan-makes-green-gains-but-stalls-on-coal-exit-ball-is-in-ecs-court
[16] За Земята ("For Earth") – Friends of the Earth Bulgaria, WWF Bulgaria, Greenpeace Bulgaria, E3G and the youth climate movement "Fridays for Future – Bulgaria"
[17] Ember. (2021, 14 October). Soaring fossil gas costs responsible for EU electricity price increase. https://ember-climate.org/commentary/2021/10/14/soaring-fossil-gas-costs-responsible-for-eu-electricity-price-increase/
[18] WWF, Greenpeace, and За Земята. (2021, 15 October). призовават за излизане от въглищната зависимост до 2030 г. https://www.wwf.bg/?uNewsID=4826466
[19] КОМИСИЯ ЗА ЕНЕРГИЙНО И ВОДНО РЕГУЛИРАНЕ. (2020). ДОКЛАД ЗА ДЕЙНОСТТА НА КОМИСИЯТА ЗА ЕНЕРГИЙНО И ВОДНО РЕГУЛИРАНЕ ЗА 2020 ГОДИНА. https://www.dker.bg/uploads/2021/god_doklad_2020.pdf

Bulgaria desperately needs to invest in the proper and environmentally sound development of renewables, energy efficiency, just transition and innovation in all sectors leading to climate neutrality.

Contacts: Apostol Dyankov, WWF Bulgaria

Case 3: Carbon capture & storage facility in Kavala, Greece

Description

In its green pillar (1.3 "Recharge and refuel), the Greek NRRP includes the development of the first CO_2 storage facility (carbon capture and storage - CCS) in Greece. This measure aims to grant 300 million EUR in support of 889 million EUR project developed by Energean S.A. in the depleted field of Prinos, Kavala.

If the objective of the CCS component of this project is to indirectly enable the further penetration of fossil gas in Greece's energy mix, (a) it should not be included in the 37% of expenditures earmarked for the climate transition (Annex VI) and (b) could potentially in contradiction with DNSH provisions of the RRF regulation.

It is hereby crucial to note the following:

1. Gas with CCS is an extremely costly and inefficient solution to reducing greenhouse gas emissions, and on a Levelised Cost of Energy (LCOE) basis compares poorly with renewable energy plus storage alternatives.[20] This cost could eventually be passed onto consumers thus hindering the competitiveness of Greece's energy sector.
2. Gas with CCS leads to considerably higher emissions than clean energy alternatives. According to existing research, gas plus CCS leads to average life cycle emission of 78gCO2e/kWh which compares poorly to solar (6gCO2e/kWh) or wind (4gCO2e/kWh).[21]
3. CCS is not considered a central pillar of the energy transition, but a residual solution for sectors where no alternatives are viable. Such is evidently not the case of hydrogen, where clean energy alternatives exist - as exemplified by Portugal's push for green hydrogen.[22]
4. Specifically with regard to the Prinos facility, it is clear that contrary to the claim *that "there will be no technological applications, neither any type of facilities and equipment engineered towards Enhanced Oil Recovery (EOR) application and increased oil production",* Energean is still investigating *"the use of captured CO2 for enhanced oil recovery*".[23] Enhanced Oil and Gas Recovery (EOR/EGR) contradicts the need to keep most of our fossil fuel reserves in the ground, therefore no means of public financing should be directed towards such activities.

[20] Sgouridis, S., Carbajales-Dale, M., Csala, D. et al. Comparative net energy analysis of renewable electricity and carbon capture and storage. Nat Energy 4, 456–465 (2019). https://doi.org/10.1038/s41560-019-0365-7
[21] Pehl, M., Arvesen, A., Humpenöder, F. et al. Understanding future emissions from low-carbon power systems by integration of lifecycle assessment and integrated energy modelling. Nat Energy 2, 939–945 (2017). https://doi.org/10.1038/s41560-017-0032-9
[22] https://www.reuters.com/article/us-portugal-hydrogen-minister-exclusive-idUSKBN2AP2H4
[23] Energean plc. (2021, 19 April). 2020 Full Year Results https://www.energean.com/media/4884/20210419-preliminary-results-2020.pdf
Energean plc. (2021, 18 April). 2020 Annual Report https://www.energean.com/media/4907/energean-2020-annual-report.pdf

Application of the DNSH criteria

Taking into account that not only no Environmental Impact Assessment has been carried out on the project, but also that Energean is at present carrying out a feasibility study on the facility, the claim that in relation to climate change mitigation "[*t]he investment has an insignificant foreseeable impact on this environmental objective, taking into account both the direct and primary indirect effects across the lifecycle*" is profoundly unsubstantiated and superficial.

Given that the DNSH assessment checklists have no clear legal status, the consequences of failure by the operator to abide by the statements described in the project fiche and project-specific DNSH checklist remain unclear. What will happen in case the environmental approval (an administrative process which has not yet commenced) foresees or ignores important impacts, for example on air pollution, or the CCS facility violates the terms of its operating permit?

In antithesis to the European Commission's assertion that "*the authorities have thoroughly analysed the possible environmental implications, also excluding the possibility that technologies, facilities or equipment engineered towards enhanced oil recovery are used, ensuring that any possible extraction of oil or gas is limited to the indispensable needs of managing pressure and ensuing safety of the storage sites*", it is clear from point 4 above that the operator is openly prioritizing this possibility as part of its portfolio.

Contact: Dimitris Ibrahim, WWF Greece

Case 4: Multi-purpose water project in Crato (Pisão Dam), Portugal

Description

The "Hydraulic multi-purpose enterprise of Crato" is included in Portugal's National Recovery and Resilience Plan (NRRP, under the "Water Management" reform and investment component (C9). The planned dam is located in the water basin of the Tagus River (Seda River), in an area close to the edge of the Guadiana watershed.

The plan states the following as aims of the dam project:

- ensure the provision of water for human consumption and agriculture,
- counter the desertification of the region,
- diversify agriculture,
- contribute to the reconfiguration of energy production in the area.

The project is based on the construction of a dam in the Crato valley to ensure the supply of water for human consumption and for the reconfiguration of local agriculture, while offering a privileged location for the installation of floating photovoltaic panels (to be installed on the water surface with funds not from the Recovery and Resilience Mechanism) and the autonomous production of electricity from the small hydroelectric plant projected.[24]

[24] For an installed capacity of 75 MW, the photovoltaic plant must satisfy more than 60% of the region's current energy needs and reduce carbon dioxide emissions by more than 80,000 tons/year (according to the reservoir to be created – 7,24 km2 – and the maximum area susceptible of being used for the installation of photovoltaic panels, 200 MW can be installed).

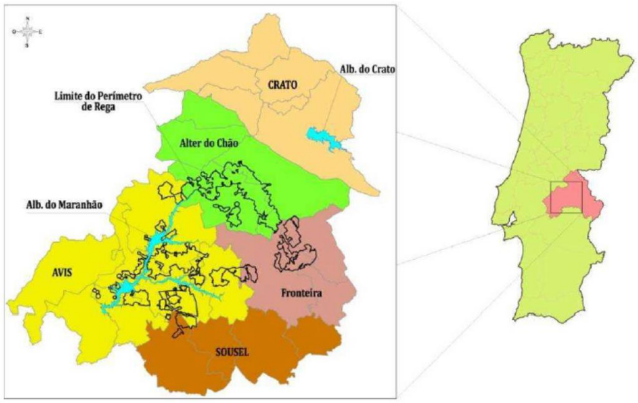

Figura 1 – Localização.

Figure: Location of the dam

According to the Council implementing decision on the approval of the Portuguese NRRP, the overall investment plan includes the following components:[25]

The development is located in the river basin of the Tagus in a zone close to the boundary of the Guadiana river basin. In addition to the Seda River, this investment also affects two tributary rivers from which water shall be drained and pumped to the reservoir behind the dam. The investment shall include the following steps:

1. Dam: Set up a full storage reservoir at elevation 248 m (48m high), with a flooded area of 7.24 km2 , a storage capacity of 116.1 hm3 and an annual average volume of 57,83 hm3 /year, allowing 50.3 hm3 /year for public drinking water supplies, which is essential to ensure redundancy in the supply, i.e. enough water to serve the populations (approximately 55 000 persons) of Alter do Chão, Avis, Crato, Fronteira, Gavião, Nisa, Ponte de Sor and Sousel.
2. Mini-hydro: For the energy use of the flows to be released to irrigation in the valley downstream, benefiting from the drop provided by the dam height. It shall have an installed capacity of 1,0 MW.
3. Enhanced inflow system: It will mobilise the water resources of two water lines connecting downstream of the section of the Pisão dam, pumping water into the reservoir, enhancing the efficiency and resilience of the overall water system. The system shall consist of a downstream bypass pipe, lift station and elevation line.
4. System for strengthening the supply of the Póvoa and Meadas dam from the Pisão dam: connection from the reservoir to be set up to the water treatment plant in Póvoa and Meadas to ensure the urban consumption needs of the municipalities of Alter do Chão, Avis, Crato, Fronteira, Gavião, Nisa, Ponte de Sor and Sousel.
5. Irrigation infrastructure to support existing agricultural areas: this shall include lifting stations for irrigation, ducts, balancing reservoirs and distribution networks, irrigation networks and improvement of agricultural access, and is expected to create 5 078 ha of new irrigation blocks (Alter do Chão, Avis, Crato, Fronteira and Sousel). The irrigation perimeter 10149/21 ADD 1 FDC/sr 101 ECOMP 1A EN shall be divided into batches with an area not exceeding 100 ha.
6. Solar photovoltaic power plant (solar plates, inverters, floating, low and medium voltage wiring): installation of photovoltaic panels in the water mirror of the reservoir. Financing for the solar project will be secured outside of the NRRP.

[25] Council of the European Union. (2021, July 5). ANNEX to the Council Implementing Decision on the approval of the assessment of the recovery and resilience plan for Portugal. 10149/21.

Measure ID	Measure name	Budget (m EUR)
RE-C09-i02	Hydraulic multi-purpose enterprise of Crato - Dam construction work	43
RE-C09-i02	Hydraulic multi-purpose enterprise of Crato- Construction of mini hydro	2
RE-C09-i02	Hydraulic multi-purpose enterprise of Crato – Dam inflow enhancement system	14
RE-C09-i02	Hydraulic multi-purpose enterprise of Crato – Irrigation block infrastructure and monitoring	47
RE-C09-i02	Hydraulic multi-purpose enterprise of Crato- Strengthening supply of Povoa and Meadas dam	5
RE-C09-i02	Hydraulic multi-purpose enterprise of Crato – Environmental expropriation and compensation	8

Environmental impacts

The Council Implementing Decision bases the approval of financing for this environmentally perilous project on the basis of an unacceptably superficial mention that "*It is expected that this measure does not do significant harm to environmental objectives within the meaning of Article 17 of Regulation (EU) 2020/852, taking into account the description of the measure and the mitigating steps set out in the recovery and resilience plan in accordance with the DNSH Technical Guidance (2021/C58/01) and the milestones and targets to be fulfilled by Portugal. Full and substantive compliance with the applicable legal provisions shall be demonstrated.*".[26] In practice, the measure has not gone through any meaningful DNSH scrutiny, while in practice the Portuguese Government refers all do-no-significant-harm assessment to the stage of the EIA which will follow. The implementing decision also includes guidance for the EIA:

1) The projected flows in the affected water body under the baseline (no investment) as well as post-investment scenario, taking full account of adverse climate change impacts based on the best available scientific predictions, including a plausible worst-case scenario;
2) A justification of the purpose of the investment as compared to alternatives with potentially lower environmental impacts, both in terms of their goals (extent of irrigated land vs sustainable rural regeneration) and their means (reducing water demand and nature-based solutions). Reference to "nature-based solutions" (NBS) in interesting, as it clearly implies that the dam construction project is not nature friendly and is indeed expected to do harm to the ecosystem.

The competent authority must grant a permit for the project, specifying all technically feasible and ecologically relevant measures applied to mitigate the impacts and ensure the achievement of good ecological status/potential in the affected water bodies and ensure that the effectiveness of such measures is monitored, in accordance with the requirements of the Water Framework Directive (2000/60/EC). Compliance with Directive 2000/60/EC implies demonstration, based on an assessment of all potential impacts on the status of water bodies in the same river basin and on protected species and habitats directly dependent on water, taking into account in particular the pressures related to water abstraction, that the project:

i) does not have a significant or irreversible impact on the affected water bodies, nor does it prevent the water body to which it refers or other bodies of water in the same watershed from reaching a good status or ecological potential by the fourth quarter of 2025, and
ii) does not have a significant negative impact on protected species and habitats directly dependent on water.

[26] Ibid., p. 101.

Application of the DNSH criteria

Leaving aside the fact that the Crato project has not gone through any real DNSH assessment, compliance with the EIA legal framework described above cannot reasonably result in a science-based justification of the project. The significant impacts expected, which should serve as basis for the rejection of the plan due to the significant harm they will result in, are the following:

- Reduced flow of nutrients, sediment and water runoff downstream of the dam, cumulatively affecting riverine ecosystems up to the Maranhão reservoir;
- Adverse climate projections (and records from the last two decades) that clearly point to a reduction in precipitation in the region, and even more in surface runoff, which will greatly reduce the water availability expected and pointed out in the previous project description;
- The new irrigation systems will contribute to the degradation of water quality through the diffuse contamination of water bodies (and thus to the failure to comply with the Water Framework Directive 2000/60/EU), due to the expected increase in the use of fertilizers and phytochemicals in the region;
- The reduction of existing forest cover will contribute to a lower carbon retention, and therefore, will not be part of the climate change mitigation effort;
- The construction of infrastructures for water supply in the region will create new uses of water but also new dependencies and greater exposure to the risk of drought and scarcity; will not contribute to a better adaptation to climate change, taking into account the demonstration of the most recent literature and scientific knowledge that solutions based on Nature and on the functioning of ecosystems are cheaper, effective and resilient, so it is urgent to study alternatives that guarantee urban supply and the sustainability of existing irrigation systems.

In general, it is important to follow the analysis of all these elements in detail and with rigor, in order to guarantee that the application and verification of the DNSH principle is not limited to a “tick-the-box” of PRR projects.

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WWF asks

As most of the National Recovery and Resilience Plans in Europe have been approved by the European Commission and are in the phase of implementation, while it has already been decided that the DNSH criteria will also apply to the next phase of the Cohesion Fund, substantial improvements in monitoring and reporting by member states need to be put in place in order for this important policy measure to be implemented effectively.

Based on the cases analysed in this document, we call on the European Commission to safeguard the proper implementation of the DNSH principle, through the following steps, building on proposals which have already been described in the Green10 statements on good governance of the NRRPs[27] and on the DNSH principle[28]:

· In NRRPs pending approval, reject plans / projects of potentially high impact on climate and biodiversity, such as the ones described in the above cases, which have not been subjected to at least a proper and publicly available environmental impact assessment.

[27] https://green10.org/wp-content/uploads/2021/10/G10-Statement-on-NRRP-FINAL.pdf
[28] https://green10.org/wp-content/uploads/2021/11/Statement-of-the-Green-10-on-the-do-no-significant-harm-principle.pdf

- Establish NRRP monitoring committees at the MS level, which will ensure the participation and meaningful engagement of a broad range of social and economic stakeholders and civil society organisations the smooth implementation of the relevant projects, ensure satisfactory performance and compliance with EU and national laws.
- Set-out strict criteria in the Taxonomy Regulation delegated acts, which will strengthen the implementation of the existing environmental acquis and Aarhus Convention, while also ensuring that the RRF opens faster pathways towards climate neutrality.

References:

Green 10. (2021, September 12). Good governance of the EU's national recovery and resilience plans. https://green10.org/wp-content/uploads/2021/10/G10-Statement-on-NRRP-FINAL.pdf

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