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European Commission, Directorate-General for Climate Action
1049 Bruxelles/Brussel, Belgium

Attn: **Mrs Teresa Ribera**, Executive Vice-President for a Clean, Just and Competitive Transition

European Commission, Directorate-General for Energy
1049 Bruxelles/Brussel, Belgium

Attn: **Mr Dan Jørgensen**, Commissioner for Energy and Housing

Ref: OIEH-053/2025
Zagreb, 10.09.2025

Subject: Annex to the Joint letter from RES Croatia with SolarPower Europe and WindEurope – call to action to safeguard renewable energy development in Croatia

Dear Mrs. Ribera and Mr. Jorgensen,

We would like to take this opportunity to further elaborate on pressing issues in the renewable energy sector which clearly point to the shortcomings of Croatia's strategic vision for the energy transition. Although there are numerous obstacles to the development of renewable energy sources, in this context we will focus on the blockade of new RES power plants with a capacity above 10 MW and the disruptions affecting the Croatian balancing market.

Critical Blockade of RES Development Due to HERA Inaction

The development of new RES power plants with a capacity exceeding 10 MW has been effectively stalled since 2022, owing to the failure of the Croatian Energy Regulatory Agency (hereinafter: HERA) to determine the unit fee for connection to the transmission grid. In 2022, a new *Methodology for Determining the Fee for Connection to the Electrical Network* (Official Gazette, 84/2022) (hereinafter: Methodology) was adopted, introducing a "shallow cost" model for calculating connection charges applicable to producers.¹

Pursuant to Article 22 of the Methodology, HERA was legally obliged to establish the unit fee within 60 days of its entry into force. Notwithstanding this statutory deadline, HERA has, nearly three years later, failed to adopt the required decision, thereby creating a regulatory vacuum that continues to obstruct the development of large-scale renewable energy projects.

In 2024, a total of 45 projects with a combined capacity of 2,648 MW submitted requests to the Croatian Transmission System Operator (hereinafter: HOPS) for the preparation of an EOTRP - a technical analysis which is a basis for the connection agreement. In 2025, additional 15 projects with a combined capacity of 940 MW submitted the same requests.

On August 28th **HOPS issued Decisions on the Acceptability of the EOTRP** (hereinafter: Decisions) to the developers of 45 projects who submitted requests for the preparation of an EOTRP in 2024.

Since HERA has not determined the unit connection fee the EOTRPs do not specify the connection cost and are therefore not suitable for concluding connection agreements. However, HOPS has announced to the project developers that they will offer them connection agreements in the next 30 days. In their Decisions, HOPS states that the technical conditions and cost for connection have been determined, among other things, on the basis of the *"Joint Analysis of STUMs and operational constraints for 45 power plants with connection requests from 2024"*, which was prepared by the Energy Institute Hrvoje Požar.²

¹ https://narodne-novine.nn.hr/clanci/sluzbeni/2022_07_84_1282.html

² STUM represents the cost of investments to the grid required for connection of a new producer.

The Joint Analysis estimates a total cost of €480 million for the necessary grid investments required for the connection of the 2024 projects. Based on this total cost the expected unit STUM cost was calculated at €181/kW.

This analysis is problematic for three main reasons.

First, it includes major investments in the transmission grid which were planned more than a decade before these projects applied for connection, while misrepresenting the rationale for these investments as being solely driven by renewable energy integration, which is inaccurate.

For example, the project to build a new 400 kV substation Lika and connect it to the Konjsko substation in Croatia and the Banja Luka substation in Bosnia and Herzegovina was already included on the list of Projects of Common Interest in 2013.³ In 2022, HOPS even failed to apply for a call under which it was the sole eligible applicant for a grant of €235.6 million from the National Recovery and Resilience Plan.⁴ Given the need to improve the connection between northern and southern Croatia and to strengthen interconnections with Bosnia and Herzegovina, the construction of a new double 400 kV transmission line and new 400 kV substations has also been included in ENTSO-e's TYNDP 2024.⁵

Article 4 of the Methodology stipulates that investments in extra-high voltage lines are considered system-critical and therefore cannot be financed through the connection fee. Nevertheless, the analysis lists 400 kV lines and substations among the investments required for connecting the applied projects, with a total estimated value of approximately €400 million. Article 4 further specifies that grid investments funded by non-repayable grants cannot be additionally financed through the connection fee. In April 2025, HOPS was awarded €99.18 million in non-repayable funds for transmission grid investments.⁶ **The combined value of planned extra-high voltage projects and the allocated grants is roughly equal to the amount HOPS now seeks to raise through the connection fee.**

Second, **the analysis excludes projects that applied for connection in 2025.** Of the 940 MW submitted this year, 691 MW is stand-alone battery storage, while the 2024 projects include only solar and wind power plants. If projects which applied for connection agreements in 2025 were included, the expected grid overload scenarios would differ significantly, leading to different upgrade requirements.

Lastly, the projected grid overloads in the analysis arise only under an **unlikely scenario of simultaneous maximum production** from hydro, wind and solar, without considering the integration of battery storage systems, new pumped-hydro facilities, hydrogen production for energy storage, or the potential use of existing reservoir-based hydropower plants for energy storage.

Impact of HOPS's unlawful practices

The Decisions stipulate that curtailment will be applied proportionally to all 2024 projects, regardless of the actual grid capacity at each individual plant location. Moreover, HOPS explicitly states that all financial costs of curtailment will be borne entirely by producers, while also declaring that it is not bound by the estimates in the Joint Analysis when imposing operational constraints. In practice, this means that curtailment may be introduced arbitrarily, without any limits on duration or capacity, creating unmanageable risks for investors.

Any connection agreement that simultaneously requires producers to finance major grid reinforcements and accept unlimited curtailment for up to ten years, until such grid upgrades are completed, is commercially and legally untenable. No developer will sign such an agreement. To avoid devastating consequences, HERA must urgently adopt a unit connection fee of €0/kW, and no later than 22 September 2025, so that the EOTRPs can be revised accordingly and connection costs reflect only the actual costs of connecting each plant to the grid.

³ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013R1391>

⁴ <https://fondovieu.gov.hr/pozivi/14>

⁵ <https://tyndp.entsoe.eu/resources/tyndp-2024-draft-portfolio> Project name: CSE1 New.

⁶ <https://mingo.gov.hr/vijesti/potpisani-ugovori-za-jacanje-elektroenergetske-infrastrukture->

In March 2025, the **Minister of Economy announced that the unit connection fee would be set at 0 €/kW** and that developers would be offered flexible contracts to encourage investment in battery storage.⁷ This commitment must now be honoured without delay.

Recognizing the potential of using battery storage as a short-term solution for grid balancing, we have, together with the EBRD, initiated a study entitled „*Identification of Congestion Locations in the Electricity Grid and Battery Energy Storage Needs in the Republic of Croatia*“.⁸

The regulatory deadlock over the unit connection fee is now creating a further critical consequence: the expiry of energy approvals. Energy approvals, issued by the Ministry of Economy, are a prerequisite for obtaining connection agreements as well as subsequent location and construction permits. As a guarantee of the seriousness of their bid, project developers are required to pay a fee for the issuance of an energy approval amounting to €7/kW of the planned capacity if the plant is being developed on state-owned land, or €8.327/kW if the land rights have already been secured by the developer. For the 60 projects with a combined capacity of around 3.5 GW that are now blocked due to HERAs inaction, **developers have already paid more than €25 million** in such fees.

According to the *Electricity Market Act*, the Ministry must revoke an energy approval if the project holder fails to obtain a location permit within three years of its issuance.⁹ Despite repeated appeals to the Ministry of Economy to either suspend these deadlines or align the validity of approvals with the adoption of the unit connection fee, no action has been taken. The first project will lose its energy approval as early as December unless urgent measures are adopted. **By August 2026, as many as 16 approvals covering 711 MW of capacity are set to expire.**

At the same time, Croatia's actual energy needs highlight the urgent necessity of accelerating renewable energy integration. Between 2021 and 2024, **electricity generation at the Plomin 2 thermal power plant alone caused Croatia to pay €286 million in CO₂ emission allowances.**

According to ENTSO-E Transparency Platform data on Cross-Border Physical Flows, in July 2025 net electricity imports to Croatia were 343,683 MWh from Slovenia and 467,502 MWh from Hungary, which suggests that transmission capacity at the system level is not a binding constraint for new projects, even without battery integration. Ultimately, the urgent need for new renewable generation capacity becomes clear when considering that **in June 2025 the country imported 32%** of its total electricity consumption.¹⁰

Insufficient Focus on Electrification

In addition to the lack of prioritization for rapidly expanding renewable generation capacity, Croatia's government policy also lacks a concrete electrification plan. According to the NECP, in 2022 renewable energy accounted for only 2.4% of final energy consumption in transport, with electricity from renewables contributing just 0.2%, indicating that transport electrification is practically negligible. The target for renewable electricity in transport by 2030 is only 5.8%, reflecting limited ambition.

Furthermore, the recently published Ministry of Economy document *Strategic Priorities*, in the section on energy infrastructure mentions only upgrading gas infrastructure.¹¹

HOPS's TYDP 2025-2034 similarly does not anticipate significant electrification, as evidenced by the forecasted maximum load on the transmission network: 3,270 MW in 2027, rising only slightly to 3,387 MW by 2034, which implies that **additional network load from electrification is not being planned for.**

⁷ <https://www.vecernji.hr/vijesti/ante-susnjar>

⁸ <https://oie.hr/en/launch-of-the-study-on-the-use-of-battery-storage-in-croatias-electricity-grid/>

⁹ *Electricity Market Act (Official Gazette, 111/21, 83/23, 17/25)*, Article 17, Paragraph 27.

¹⁰ *Electricity Sector Overview, Q2 2025, RES Croatia*

¹¹ „*Strateški prioriteti*“, Ministarstvo gospodarstva Republike Hrvatske, 27.08.2025

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Taking the railway infrastructure as an example, Croatia has significant untapped potential for electrification.^{12 13} Shifting a portion of passenger transport to rail could yield substantial CO₂ emission reductions, highlighting an opportunity to leverage electrification for climate and energy transition goals.

Imbalance Settlement Dysfunction and Abuse of Dominant Market Position

The Croatian balancing market is currently non-functional. HEP Proizvodnja, a subsidiary of the state-owned utility HEP d.d., is the dominant provider of balancing services, and during many hours of balancing activation, it is the sole provider of balancing services. HOPS is legally obliged to ensure market-based procurement of these services, yet it is itself a wholly owned subsidiary of HEP d.d. This structural conflict of interest has led to a clear distortion of the balancing market and the suppression of competition.

Despite the demonstrated technical ability of solar and wind power plants to provide balancing services, HOPS does not allow these plants to participate in balancing markets. As a result, HOPS frequently activates extremely expensive balancing resources, often at maximum regulated prices (EUR 1,000/MWh for upward balancing and -EUR 500/MWh for downward balancing), even during hours of high renewable generation and positive market prices.

The situation is further aggravated by the fact that HOPS charges market participants for imbalances based on the prices paid to balancing service providers procured via market mechanisms. However, in practice, HOPS obtains only a fraction of balancing energy from these service providers - over 90% is sourced from neighbouring transmission system operators through the IGCC mechanism, at significantly lower costs. HOPS thus pays a blended price (combining high-cost market-based procurement and low-cost IGCC allocation) but charges market participants for the entire volume of balancing energy using prices derived exclusively from the more expensive market-based sources.

This pricing approach constitutes a clear violation of the EU principle that balancing services must be cost-neutral for market participants, meaning they must reflect only the actual costs incurred by the transmission system operator.

The exclusion of independent RES producers from access to balancing markets, combined with the opaque allocation of balancing costs, raises serious concerns of regulatory failure and potential abuse of dominant market position, in breach of EU competition law and internal energy market rules. Urgent regulatory intervention is required to ensure that Croatia's balancing market functions in a transparent, competitive, and legally compliant manner, as required under Regulation (EU) 2017/2195.

We hope this letter highlights the lack of understanding regarding the potential of renewable energy in Croatia. We urge you to appeal to the Government of the Republic of Croatia to take active measures to accelerate the integration of renewable energy sources and to align national policy with the European energy transition framework.

Sincerely,

Maja Pokrovac, M.Sc
Director



¹² <https://op.europa.eu/en/publication-detail/-/publication/d8a8fbfe-32b4-11ef-a61b-01aa75ed71a1>

¹³ https://greenpeace.at/uploads/2023/09/factsheet_key-findings-and-country-data_transport-infrastructure-report_september-2023.pdf