

OPEN CALL FOR PAPERS REGARDING DA ALGORITHM (abstract to be published on the NC website)

ALL NEMO COMMITTEE CALL FOR PAPERS: NEW AND CHALLENGING IDEAS ON THE DAY-AHEAD MARKET COUPLING ALGORITHM July 2020

The NEMOs¹ - Nominated Electricity Market Operator – are the entities mandated by the competent national authorities to run the day-ahead and intraday integrated electricity markets in the EU. The All NEMO Committee facilitates the cooperation among NEMOs for all common European tasks necessary for the efficient and secure design, implementation and operation of single day-ahead and intraday coupling. The key legal framework for the single market in electricity is provided by the EU regulation 2015/1222 establishing a guideline on Capacity Allocation and Congestion Management (CACM).

<http://www.nemo-committee.eu/>

The NEMOs, via the All NEMO Committee, organizes an open call for papers regarding the day-ahead (DA) market coupling algorithm Euphemia. Its aim is to make emerge of new and challenging ideas that would contribute to better address the requirements that the algorithm shall meet in the coming years, especially regarding the scalability requirement.

With this call for papers, the NEMOs wish to **enrich ongoing reflexions** with new and innovative ideas, coming from various contexts and different backgrounds: **academic and research centres or industry.**

1) Context of the call for papers:

In the forthcoming years, the SDAC – Single Day-Ahead Coupling – will have to meet different complex requirements, especially:

- increased usage of complex products and number of trades;
- flow-based extensions;
- implementation of the 15 min MTU;
- extension to and coupling with new areas.

Consequently, the ability of the DA algorithm Euphemia to handle all the above-mentioned requirements has to be strengthened, especially from the point of view of scalability.

¹ Currently the designated NEMOs are the following: European Market Coupling Operator AS (“EMCO AS”), EPEX SPOT SE, OMI– Polo Español S.A., Gestore dei Mercati Energetici S.p.A., OTE a.s., Towarowa Giełda Energii SA, Operatorul Pieței de Energie Electrică și de Gaze Naturale “OPCOM” SA., BSP Energy Exchange LL.C., Croatian Power Exchange Ltd., EirGrid plc, Nasdaq AS (designated only with respect to SDAC), EXAA Abwicklungsstelle für Energieprodukte AG (designated only with respect to SDAC), HUPX Hungarian Power Exchange Company Limited by Shares, Independent Bulgarian Energy Exchange EAD, Operator of Electricity Market S.A., OKTE a.s., SONI Limited,

2) Expected contribution:

The All NEMO Committee expects to receive from each participant in this call for papers (hereinafter “the Contributor”) an abstract in English of max 400 words presenting the key aspects of a conceptual idea.

Each Contributor in this call for papers, by submitting its conceptual idea, grants to the NEMOs a non-exclusive, irrevocable, perpetual, royalty free and unlimited licence to use any intellectual property right pertaining its submitted conceptual idea in the framework of CACM implementation such as the set-up of research & development activities via a procurement process. The NEMOs, via the NEMO Committee, will be entitled to use and publish freely with no limits the contributions provided, whole or parts of it with no prejudice to the intellectual property right of paternity of the Contributors.

The Contributor shall include the following signed statement in document provided:

“By submitting this conceptual idea, I grant to the NEMOs a non-exclusive, irrevocable, perpetual, royalty free and unlimited licence to use any intellectual property right pertaining the submitted conceptual ideas in the framework of CACM implementation such as the set-up of research & development activities via a procurement process. The NEMOs, via the NEMO Committee, will be entitled to use and publish freely with no limits the contributions provided, whole or parts of it”

Should the above statement not be included in submitted document, the Contributor will be excluded from this call.

3) Guidance on topics – please mind this is a non-exhaustive list:

The proposals may focus on the optimization of the current set, as well as present disruptive changes.

- Hardware: usage of GPUs (Graphics processing units), usage of FPGAs (Field-programmable gate array), supercomputer – quantum computing, high performance computation
- Software: propose heuristics, using differently the same algorithm, use a different solver/optimizer.
- Single Day-Ahead Coupling market design: amendments in the requirements in the products, -; requirements on products design could be relaxed or slightly amended but not discarded. Tradable products covering participants need for optimization but handled more efficiently by the algorithm.

The current version of the algorithm requirements has to be taken into account (see below – additional sources). To support the concept presented in the contribution, NEMOs recommend to bind it to the scope defined in the list of documents provided under “Additional sources” section.

4) Criteria for evaluate the proposals:

All NEMO Committee claims complete liberty to set the selection criteria and the weight between them for all the contributions received. A workshop in a form of webinar could be organized to better understand the most interesting ideas and give an opportunity to provide a more detailed description of the idea and allow an exchange. In order to select the best ideas, NEMOs will be considering, among others, the following:

- Expected contribution to scalability;
- Distance with respect of the compliance with rules defined in CACM regulation and current Algorithm methodology.

5) Deadlines:

Submission: 31/10/2020 at 23:59 CEST.

Notification: 31/12/2020

6) Governing law and competent court

This call for ideas is governed by Belgian law. Any claim shall be settled before the competent courts of Brussels, Belgium

Contact:

For any questions, please contact: Lucie Rysava, secretary of the all NEMO Committee

For submitting your contribution, please send it by email to secretariat@nemo-committee.eu

Additional sources:

- CACM - Commission regulation 2015/1222: Title II, Chapter 5 – Single Day-Ahead Coupling
<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32015R1222&from=EN>
- CACM Annual report 2018
<http://www.nemo-committee.eu/assets/files/cacm-annual-report-2018.pdf>
- CACM Annual report 2019
<http://www.nemo-committee.eu/assets/files/cacm-annual-report-2019.pdf>
- Euphemia public description from 10th April 2019
http://www.nemo-committee.eu/assets/files/190410_Euphemia%20Public%20Description%20version%20NEMO%20Committee.pdf
- Algorithm methodology
https://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Pages/Annexes-to-the-DECISION-OF-THE-AGENCY-FOR-THE-COOPERATION-OF-ENERGY-REGULATORS-No-04-2020.aspx