\*\*\* Evaluation of cleaning techniques for Blue Energy fed with natural feed waters and stacks with profiled membranes \*\*\*

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\*\*\*General Introduction\*\*\*

This dataset contains data collected during experiment for cleaning strategies for reverse electrodialysis (RED). It is being made public both to act as supplementary data for publication and in order for other researchers to use this data in their own work.

This work was performed in Wetsus, European Centre of Excellence for Sustainable Water Technology, between September 2021 and December 2021.

File: 1.Logger\_data\_pressure\_drop\_conductivity\_temp: includes the data measured of pressure drop for each stack per minute during the whole experiment and the data for conductivity and temperature of each of the feed waters.

File: 2.Ivium\_data: includes the summary of the data recorded by the Potentiostat (Ivium). Column A shows the file name, column B the start time of the measurement, column C the time moment that the measurement of that sequence was made, column D the current on the moment of the measurement. Column E measures the voltage response of the stack connected to the Ivium and columns F to J the measured voltage of each of the 5 stacks, in the following order: Stack RIF, Stack AS, Stack RFFS, Stack IF, Stack Control.

File: 3.Suspended\_solids: includes the measured data for the calculation of total suspended solids and its fractions (fixed and volatile) of the effluent collected in the cleaning of the stacks. The naming of the samples is according to the stacks that it comes from and the feed water compartment (FW is fresh water and SW is seawater). Suspended solids are calculated by subtracting the initial weight of the crucible and the filter from the weight after 105 C oven and adjusting the units to have the final result in mg. The sample of 02/12/2021 reffers to the date when air sparging was applied to all the stacks receiving a cleaning procedure.

File: 4.Humicacids: includes the mesurements of humic acids by LC-OCD in the samples collected after/during each cleaning in both feed waters (FW is fresh water and SW is seawater). Column A is the sample reference number, Column B is the name of the sample, Column C the date that the analysis took place, Column D is the name of the test performed in the sample, Column E is value measured and Column F is the unit of measurement.

File: 5.Autopsy\_analysis: includes the data related to the analysis residual fouling made with membrane pieces, in the autopsy. The first set of the data is about humic acids measurements, with the naming of the samples according to the stack from which the membrane piece was taken and the type of membrane (AEM or CEM). The second set is about the suspended solids measurement, with the naming of the samples the same as used for humic acids.

For better understanding of the experimental conditions and methods of analysis we recommend to check the article, which we will update the DOI once is published.