Referee # 1	
Specific comments	
1. P1 L1: This is one long title. Would "Coupling urban drainage-wastewater systems and electric smart grids during dry periods" not suffice? Even then I find the title somewhat misleading: Is the WWTP not continuously coupled to the smart grid? If I understand correctly, rather than coupling and uncoupling, only the temporal amount of energy consumption is optimized depending on the hydraulic condition.	We agree that it is a long title, as we aimed for clarity. We are suggesting the follow reduced title: A gain-loss framework based on ensemble flow forecasts to switch the urban drainage-wastewater system management towards energy optimization during dry periods.
2. P2 L8ff: Maybe I misunderstand this sentence, but it seems to suggest that only because rain only occurs 7 % of the time it makes sense to look into energy optimization. Would it make less sense if you had 10 % of rain? Could you clarify/rephrase this?	Indeed, an average occurrence of rain of 7% or 10% does not make much difference in regards of energy optimisation. We calculated the rain occurrence on our catchment to give an order of magnitude. We will rephrase the sentence for more clarity.
3. P2 L8ff: Dry weather flow rarely can be defined by "no rain", usually (sufficient sewer network size and event intensity) wet weather conditions will be predominant for several hours after a rain event has ended (as the proposed method does by using the flow rather than the rain as a trigger for switching between control objectives). I suggest rephrasing this section accordingly.	Yes, we will rephrase the sentence for more clarity.
4. P2 L10ff (same phrase again, sorry): Striving for energy optimization and emission reduction of WWTP is standard practice for many years – both during dry and wet weather. With this background in mind it would be better to slightly rephrase and cite some relevant literature here to avoid this phrase being interpreted as a novel suggestion as such.	Yes, striving for energy optimization and emission reduction of WWTP is standard practice for many years – both during dry and wet weather. Our point was that Urban Drainage Systems (UDS) and the WWTP can be considered as an integrated system (IUDWS), using their interaction to facilitate an optimal operation of the entire system. Using the upstream system (UDS) as a buffer to control the energy consumption when possible. We will add references and rephrase the sentence for more clarity.
5. P3 L15ff: Some details are discussed here that re-occur in section 3. Delete here?	This part of the introduction describes the fraction of ensemble member (f_{EM}) which is also described in section 3.3. As suggested this part will be deleted to avoid reoccurrence.
6. P4 L5: A clear(er) definition of REV (as eg in the abstract) would be critical here as it forms the basis of	We will further describe the REV in this part of the introduction for more clarity.

the paper	
7. P5 L20ff: Are methods (i) and (ii) defined in literature? They seem to be a mix of other methods. It would not be possible to reproduce your method from this section. Please give more specific information on the used methods for enhancing the forecast.	We agree that the description of these methods is succinct, and we will make clearer that they are further elaborated in our just published manuscript (Courdent et al. 2016). Courdent, V., Grum, M. and Mikkelsen, P. S.: Distinguishing high and low flow domains in urban drainage systems 2 days ahead using numerical weather prediction ensembles, J. Hydrol., doi:http://dx.doi.org/10.1016/j.jhydrol.2016.08.015, 2016.
8. P6 section 2 and especially 2.2 discusses methods. I'd suggest to move these parts to section 3	The NWP post-processing methods described in section 2.2 are developed in the previous manuscript (Courdent et al. 2016) and are used to generate input data to the model for this article. It was decided to develop it under the data section to distinguish it from the core methods of this paper; the section will be modified to make this clearer.
9. P6 L20ff: You mention that the DWF module of the model is calibrated, but there are no details on the calibration of the Nash cascades. These details seem essential for accurate predictions, please add them to this section.	As mentioned in the general comments [1] this section will be split in 2 to further describe the hydrological model, and the link to the previous article (Courdent et al. 2016) developing the hydrological model will be made clearer.
10. P5, section 2.3: No details on the WWTP and its energy consumption are given while this forms the focus of the paper [1]. Changed flow regimes at the influent will necessarily cause changes in energy consumption of the WWTP. How are these considered in this study? [2]	[1]As mentioned in the reply to general comments, section 2.3 will be split in 2 and further detailsd will be given on the WWTP in the study case section. [2] Indeed, the control of the energy consumption based on the energy market can result in a decrease of the cost together with an increase of the energy consumption. References will be added to underline this possibility, e.g.: (Aymerich et al., 2015). This aspect needs to be addressed in a paper detailing the energy consumption optimization, which is out of the scope of this article. Aymerich, I., Rieger, L., Sobhani, R., Rosso, D., Corominas, L., 2015. The difference between energy consumption and energy cost: Modelling energy tariff structures for water resource recovery facilities. Water

	Res. 81, 113–123. doi:10.1016/j.watres.2015.04.033
11. P6 L31ff: Move to introduction?	This part of the section 2.4 on energy market section will be moved to the introduction.
12. P7 L5ff: Leave out? Does not add anything to the understanding of the reader.	The introduction to the methodology section will be removed.
13. P11 L5ff: are these not results that should be moved to the next section?	The last part of section 3.3 describes the figure 6 to illustrate the method. This part will be rephrased the underline the explanations on the method rather than the results.
14. Figure 8 is not interpreted in the text. Omit?	Figure 8 is mentioned in P12 L9 and will be further interpreted in this paragraph.
15. P12 L13: How big are the uncertainties in the energy price forecasts? Could you comment on their (potential) influence on your method?	Sorry, the term "forecasted" was inappropriate and will be changed. The energy price for the incoming day is set through the energy market (Nord pool for Denmark) based on bids and offers and is therefore fixed without uncertainty. "Buyers and suppliers submit bids and offers for each hour of the next day and each hourly MCP (market clearing price) is set such that it balances supply and demand." (Weron 2006) The smart grid section will be reshaped, part of it will be moved to the introduction (see reply to comment 11) and additional information on the electricity market will be added (there are different electricity markets with different lead times, e.g. the day-ahead market have 24 hours lead time whereas the intraday market has 1 hour lead time. Bids and offers made on the first market can be adapted on the second). Weron, R.: Modeling and forecasting electricity loads and prices: A statistical approach, First Edit., John Wiley & Sons Ltd., 2006.
16. P12 L15ff: In this scenario, it is possible to save 26 €MWh during 2 days. I suggest to add information that answers at least a number of the following questions in order for the reader to be able to understand the meaning of this result: Is this a representative result? What is the average/peak energy consumption of the WWTP? What is the maximum amount of energy that	This comment is similar to general comments [2]. Further information on the WWTP energy consumption (e.g. energy consumption per m^3) will be added to allow the reader to have a better understanding of the meaning of this result.

could be switched? How much could be saved during the 2 years of data you used? How does that impact the total energy consumption of the WWTP ('switching' could result in an increase as well as a decrease)? What is the influence on the WWTP effluent performance and emission of greenhouse gasses?	As mentioned in the reply to comment 10 and 18, energy optimization based on the energy price can result in an increase of the total energy consumption. References will be added to underline this possibility. The energy consumption optimisation scheme (not developed in this article) has to include the WWTP performance within its decision criteria. E.g. (R. Halvgaard et al.) used the nitrogen concentration as a measure of effluent quality. The impact on emission of greenhouse gasses was not directly assessed. However, daily peaks in waste water usually coincide with peak demand on the power grid, thus coinciding with the highest energy price periods. Hence, reducing these wastewater inflow peaks when energy cost are high will also benefit the energy system by reducing grid load and GHG emissions (due to the need for more carbon- intensive energy sources during peak power demand periods).
17. P12 L15ff: What is the cost of the suggested system (at the least the NWP data will have to be purchased + some man-hours for keeping the real-time system up and running) as compared to its benefits? It seems these considerations should be included in order to judge the actual gains produced by the system.	We have some experiences from an implementation of this concept at the WWTP of Kolding, Denmark (125.000 PE), and we will add our main findings to answer this question.
18. P12 L24 "optimization based on economic objectives will also yield environmental benefits": This seems a much too broad statement that should be explained or based on a citation. In the context of this paper, it seems that it would be perfectly possible to create a scenario where 'switching' energy consumption would lead to an overall increase of energy consumption (e.g. by running the blowers on a frequency at which they are less efficient than when not 'switching'), but a decrease in cost.	The intended message of this sentence is that the correlation between energy price and proportion of wind energy leads to the consumption of energy with a lower CO2 footprint. But indeed as you rightfully pointed out the optimisation can result in an increase of the overall energy consumption. The sentence will be motived to clarify this point.
19. P12 L26: "most EMs predict the high flow event but often too early" Is this a problem of the precipitation prediction or the hydrological model? This would be difficult for the reader to judge (without information on the calibration of the hydrological model). Maybe you could add a line in figure 9: the output of the hydrological model given the observed rain. This would also (more or less) address the above comment for P6 L20ff.	Thank you for the suggestion, the output from the hydrological model given the observed rain will be added to the figure 9.

Reply to the specific comments of reviewer 1.

Technical corrections	Thank you for the technical corrections, which will be accommodated in the revised version of the manuscript.