Engineering Conferences International
ECI Digital Archives

Wastewater and Biosolids Treatment and Reuse: Bridging Modeling and Experimental Studies

Proceedings

Spring 6-12-2014

Temperature adjustment and calibration of an ASM2D-ADM1 model

A. Fenu
Aquafin

Follow this and additional works at: http://dc.engconfintl.org/wbtr_i

 Part of the Environmental Engineering Commons

Recommended Citation

A. Fenu, "Temperature adjustment and calibration of an ASM2D-ADM1 model" in "Wastewater and Biosolids Treatment and Reuse: Bridging Modeling and Experimental Studies", Dr. Domenico Santoro, Trojan Technologies and Western University Eds, ECI Symposium Series, (2014). http://dc.engconfintl.org/wbtr_i/36

This Conference Proceeding is brought to you for free and open access by the Proceedings at ECI Digital Archives. It has been accepted for inclusion in Wastewater and Biosolids Treatment and Reuse: Bridging Modeling and Experimental Studies by an authorized administrator of ECI Digital Archives. For more information, please contact franco@bepress.com.

Aquafin

TOWARDS AN INTEGRATED MODEL OF SLUDGE & WATER LINE IN A FULL SCALE WWTP

Wambecq T., Maes L., Weemaes M

Outline

Aquafin

Our commitment in green energy production

Integrating an ASM and ADM model

Temperature adjustment

Model results

Conclusions

Improving digestion processes in full scale

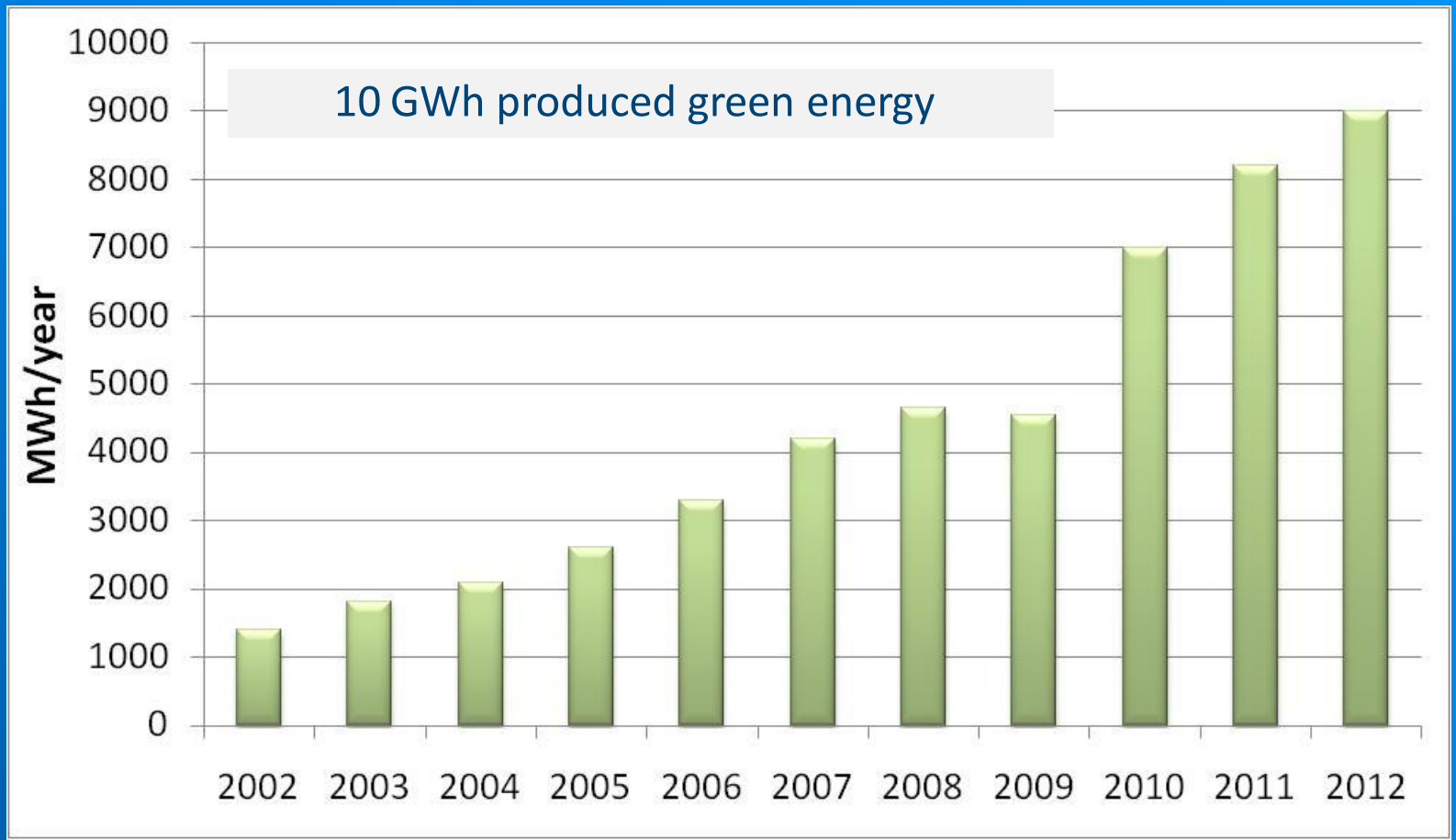
Aquafin

Aquafin Asset
- 44 dewatering
- 4 sludge dryers
- 17 Sludge Digesters

Research topics:
- Thermophilic digestion
- Co-digestion
- Sludge pretreatment methods
- ADM modelling

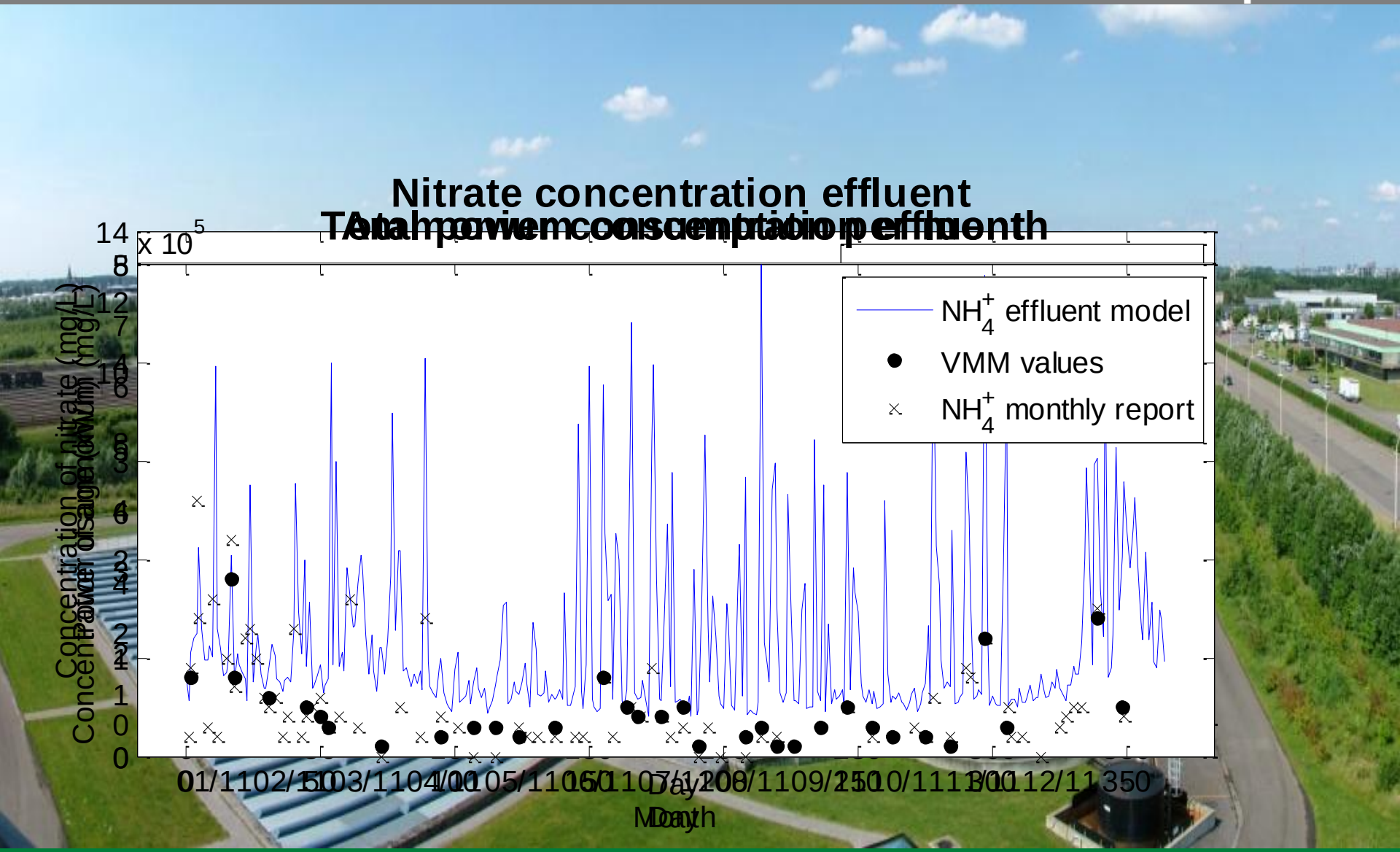
Green Energy production

Aquafin



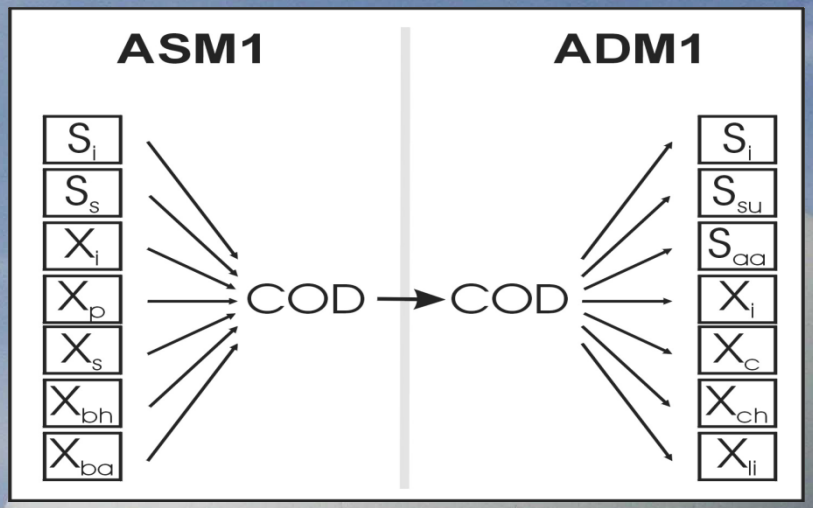
Antwerpen South WWTP

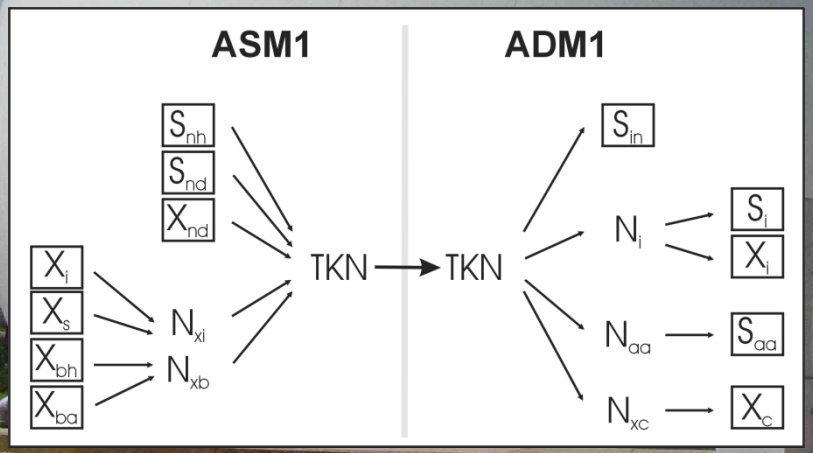
Aquafin



Integration of ASM1 and ADM

Aquafin

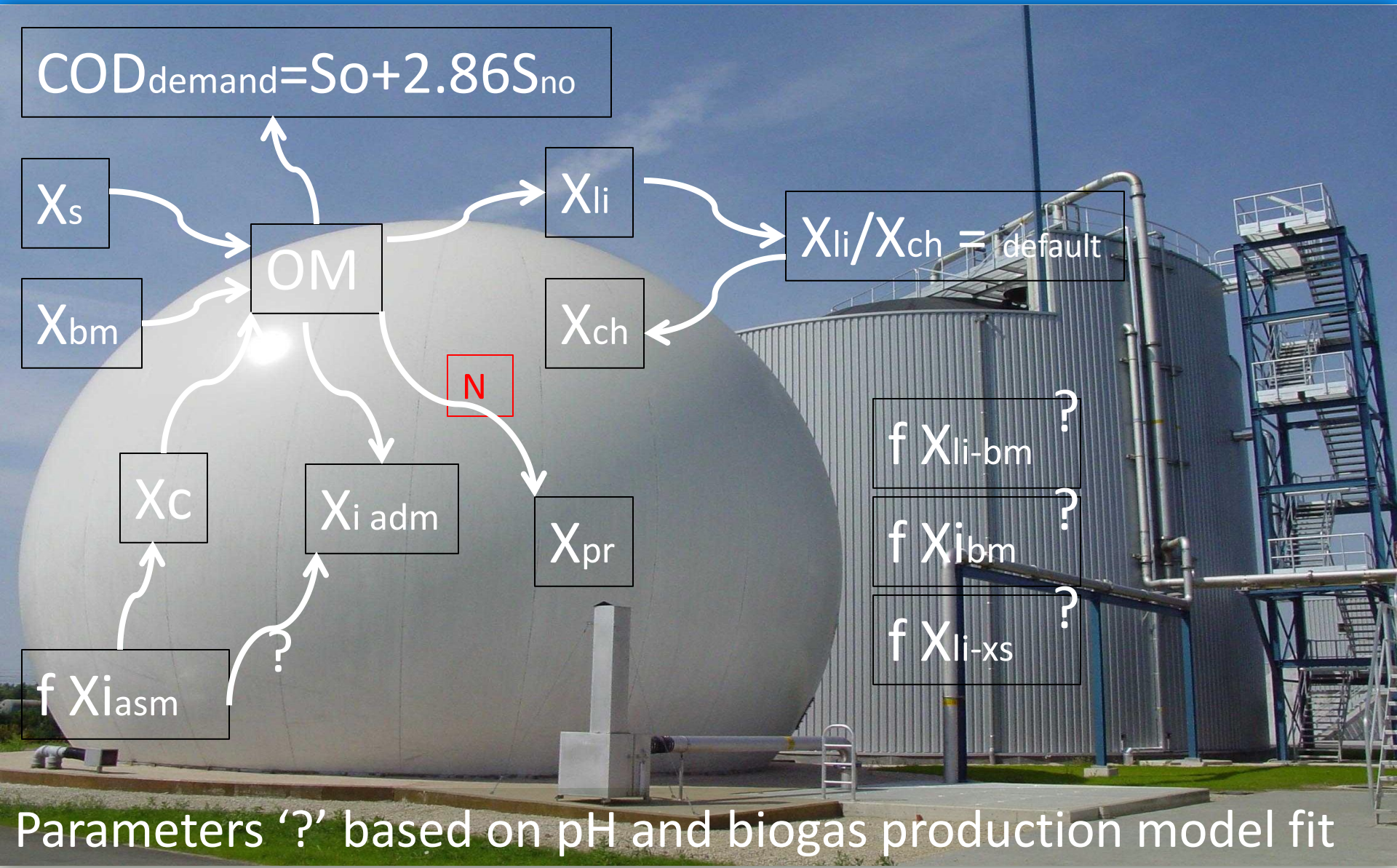




Batstone et al., Copp et al., (2003)

Integration of ASM2d and ADM

Aquafin

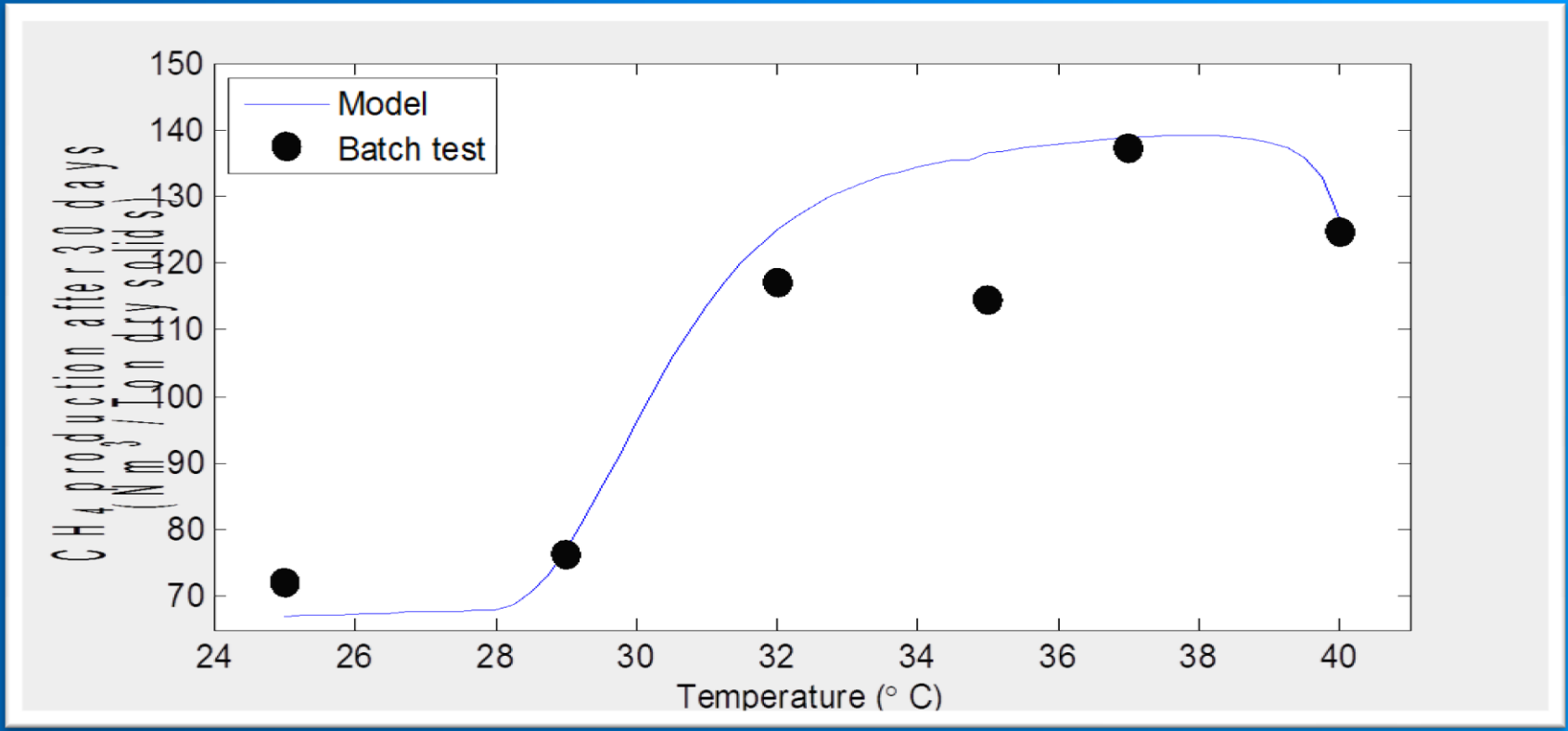


Parameters '?' based on pH and biogas production model fit

Temperature dependency on hydrolisis

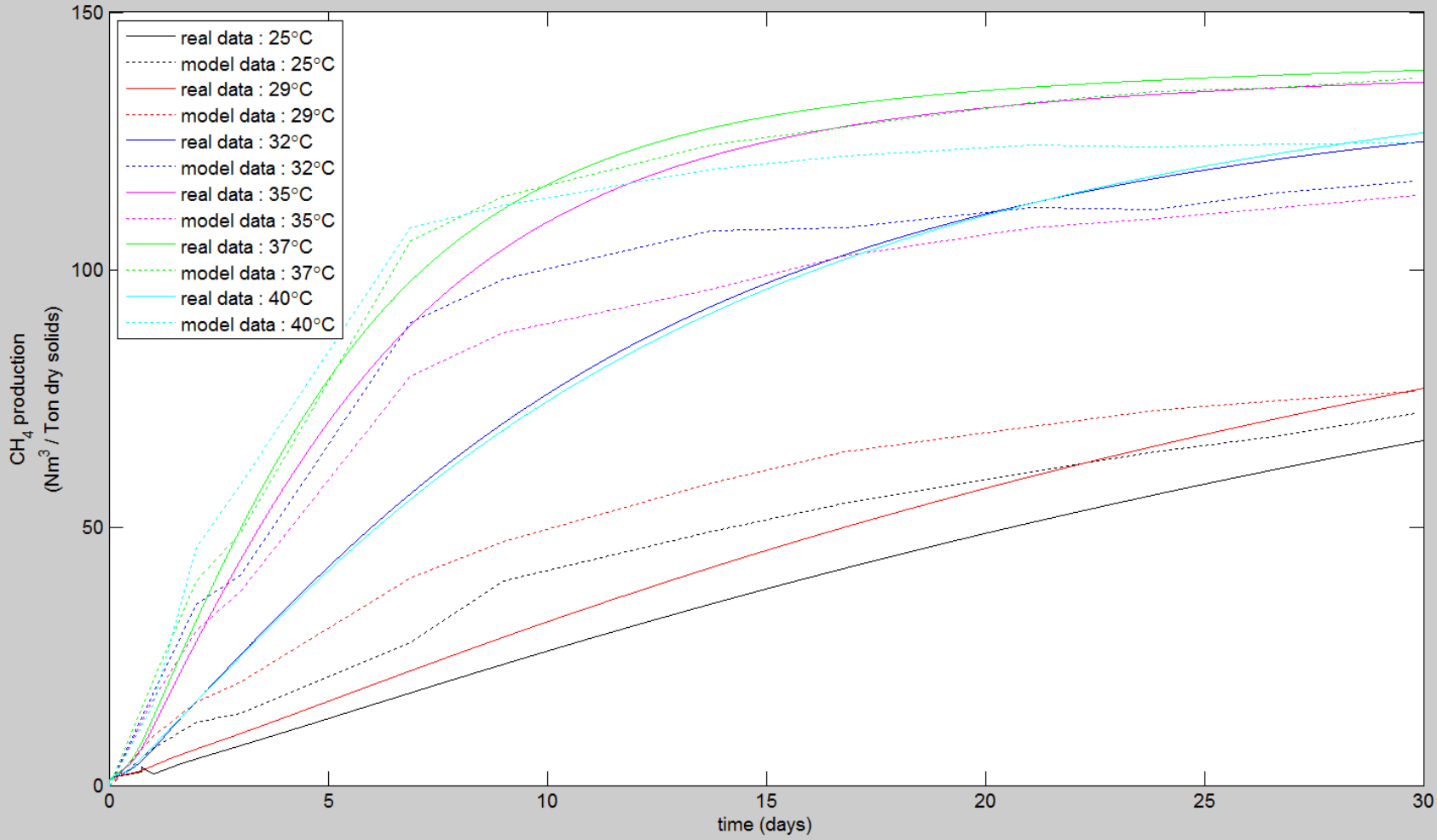
Aquafin

CTM1 (Rosso *et al.*, 1993)



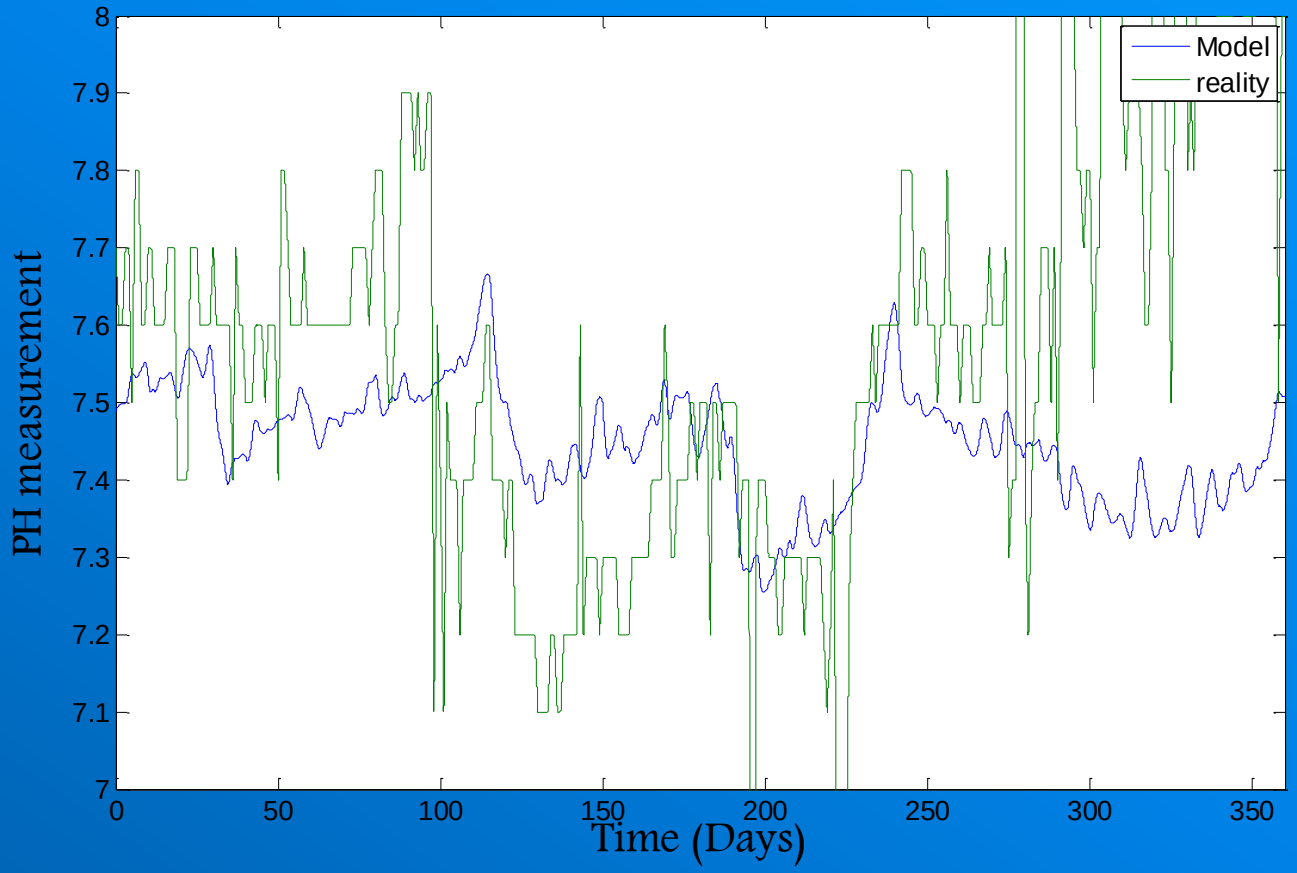
Biogas production as f(t) for different T: with CTM1 a good agreement is found

Aquafin



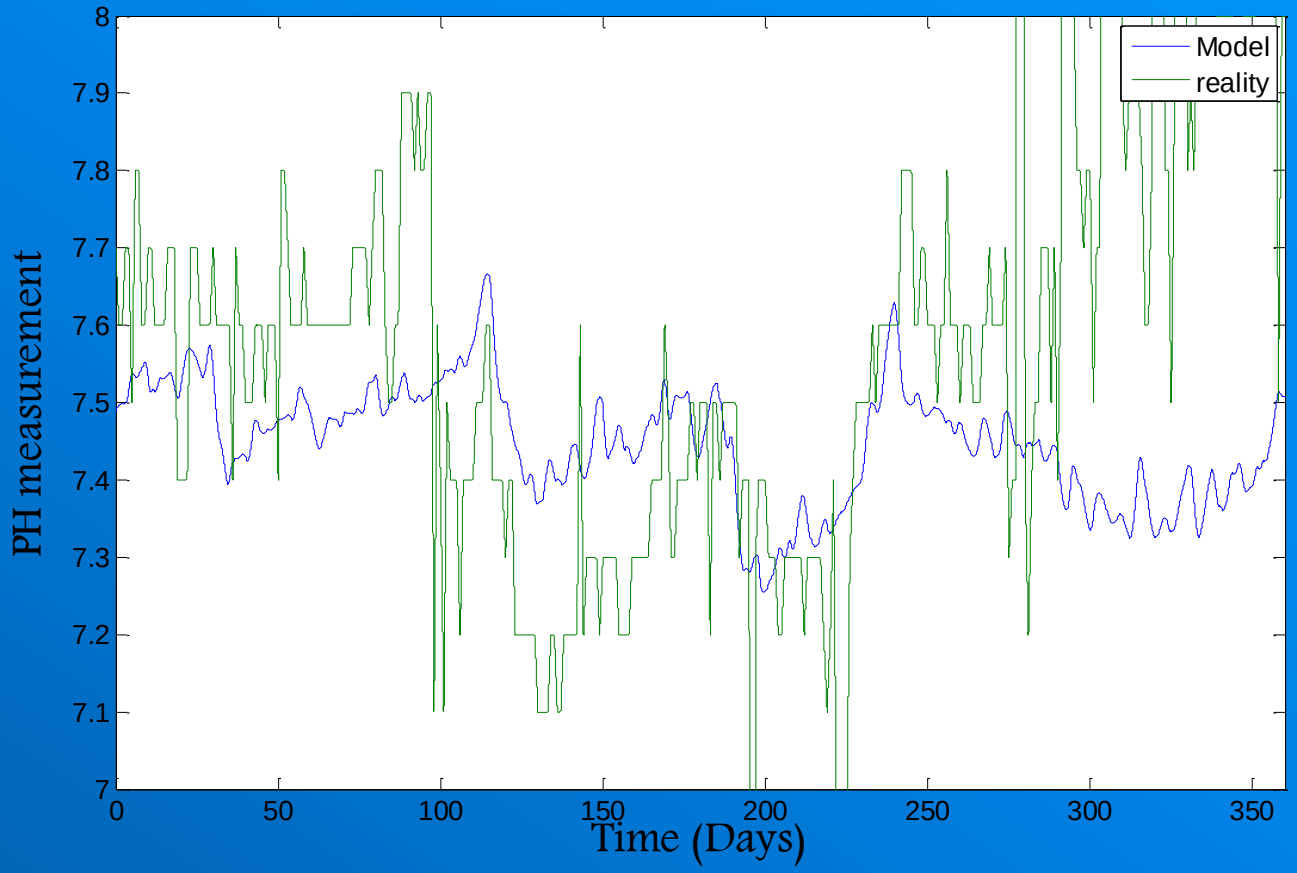
pH fit

Aquafin



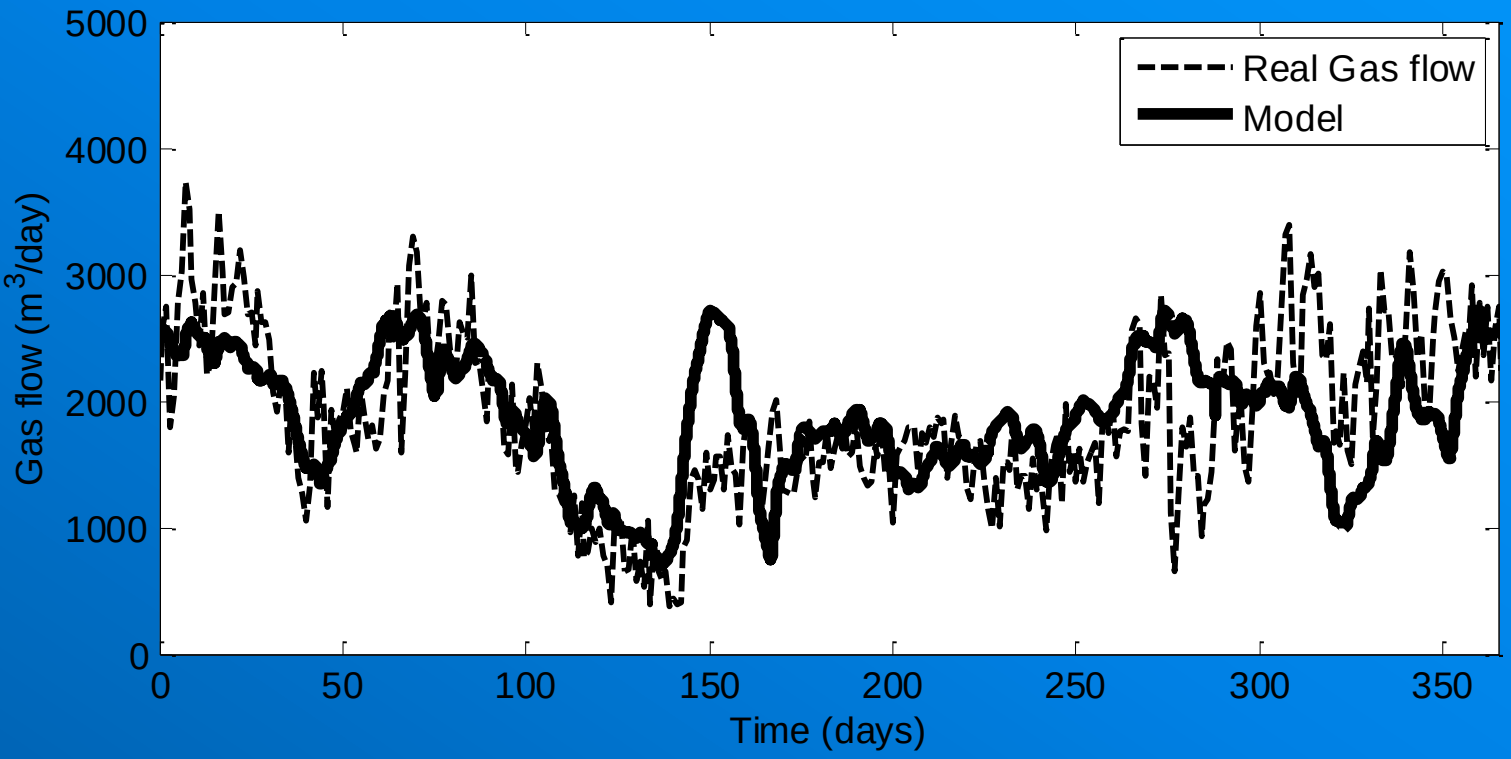
pH fit

Aquafin



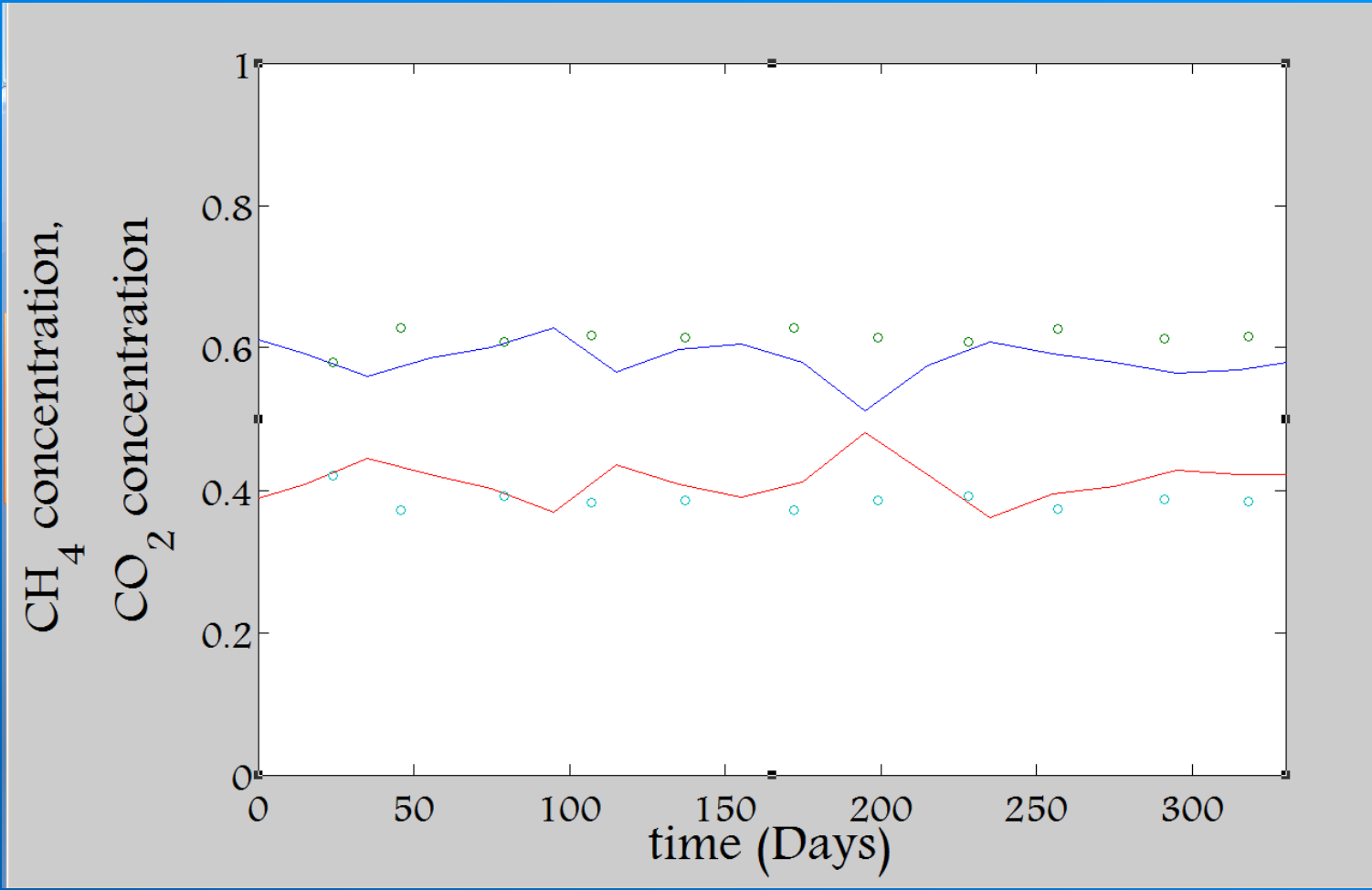
Gas Flow Fit

Aquafin



Methane Fit

Aquafin



Conclusions

Aquafin

We created an ASM2d-ADM interface

Limited number of fitted parameters

Full scale modelling on a 1 year data

tom.wambecq@aquafin.be

R&D, Aquafin nv

Dijkstraat 8, 2630, Aartselaar, Belgium