Standard method and online tool for assessing and improving the energy efficiency of wastewater treatment plants

Wyniki

Informacje na temat projektu

ENERWATER

Identyfikator umowy o grant: 649819

Strona internetowa projektu

DOI
10.3030/649819

Projekt został zamknięty

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5 Lutego 2015

Data rozpoczęcia
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Data zakończenia
31 Października 2018

Finansowanie w ramach
SOCIETAL CHALLENGES - Secure, clean and efficient energy

Koszt całkowity
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Wkład UE
€ 1 731 087,00

Koordynowany przez
UNIVERSIDAD DE SANTIAGO DE COMPOSTELA
Hiszpania

CORDIS oferuje możliwość skorzystania z odnośników do publicznie dostępnych publikacji i rezultatów projektów realizowanych w ramach programów ramowych HORYZONT.

Odnośniki do rezultatów i publikacji związanych z poszczególnymi projektami 7PR, a także odnośniki do niektórych konkretnych kategorii wyników, takich jak zbiory danych i oprogramowanie, są dynamicznie pobierane z systemu OpenAIRE.

Rezultaty

Inne (6)

Energy Monitoring Systems installed.

The pilot plants will be availed with an energy monitoring system (Hardware & software). The system will monitor and record the consumption in the different processes: i.e. pretreatment, primary treatment. secondary treatment, tertiary treatment (if present) and sludge line

Online method v2

Based on D3.4, the final version will be published online in the project website

Benchmark database

With the objective to create reference data it will be published one online database. Typical data that will show is: description of the WWTPs, type of technology, influent/ effluent analysis results, flow, annual base consumption and others.

Standardisation stakeholder workshop

Organization of a joint standardisation stakeholders workshop.

Online method v1

Based on D3.3, the final version will be published online in the project website

Wastewater stakeholder workshop

Events in each of the four countries (Germany, Italy, United Kingdom and Spain) with the entities belonging to the network that accept the invitation

Dokumenty, raporty (16)

Enerwater methodology document V2

Second version of the document. This is the version to present in the stakeholder workshop D5.3.

Enerwater methodology V1 Evaluation Report

The first version of the method developed will be tested and validated in the WWTPs, under the presence in-situ of a group of auditors

Guidelines: best practices & technologies

Document addressing: i) best available technologies. Including manufacturers and local providers; ii) Guide to financial schemes.

Report on standardisation activity

Report on the standardisation route, the technical proposal itself and the advance reached in the consensus building process as well as future expectations after the project lifetime

Enerwater methodology V2 Evaluation Report

The second version of the method developed will be tested and validated in the WWTPs, under the presence in-situ of a group of auditors

Enerwater methodology document V0

Initial version of the methodology. Should identify the key energy parameters and the main standards that have to be considered. Also should present the different possible configurations of the water energy index.

Enerwater methodology document V1

First version of the methodology. First draft of the text.

Selection of WWTPs

Pilot WWTP´s have been preliminary identified (section 2.1.6) and the final selection will be based on agreed criteria such as: technology, size, population served, age, ...

Enerwater Actual Energy Savings Evaluation Report

Calculation of the reduction achieved within the project in the pilot WWTPs

Enerwater methodology V3 Evaluation Report

The final version of the method developed will be tested and validated in the WWTPs, under the presence in-situ of a group of auditors

Training report

Report of the physical meeting organized to carry out training on the methodology developed

Dissemination and exploitation plan

Document including all the dissemination activities foreseen.

Enerwater methodology document V3

Final version of the document. This version contains the modifications agreed on stakeholder workshop D5.3

Standardisation landscape

Revision of the existing standards and the ongoing developments in the fields related with the ENERWATER considerations and expected outputs. Moreover, the standardisation TCs working in related fields will also be identified

Recommendations for a future directive
Technical report will be delivered and published to address the main issues present for the creation of an EU directive

Study of published energy data
Document containing data of at least 500 WWTPs, from where best practices and best cases scenarios will be identified

Witryny, zgłoszenia patentowe, filmy wideo itp. (2)

Project website
The project website will allow two functions: public dissemination and project collaboration among partners in a private area within the same web

Dissemination video
A promotional video will be produced to highlight the importance of energy reduction in waste water treatment

Publikacje

Artykuły recenzowane (3)

Monitoring and diagnosis of energy consumption in wastewater treatment plants. A state of the art and proposals for improvement
Autorzy: Stefano Longo, Benedetto Mirko d'Antoni, Michael Bongards, Antonio Chaparro, Andreas Cronrath, Francesco Fatone, Juan M. Lema, Miguel Mauricio-Iglesias, Ana Soares, Almudena Hospido
Opublikowane w: Applied Energy, Numer 179, 2016, Strona(/y) 1251-1268, ISSN 0306-2619
Wydawca: Pergamon Press Ltd.
DOI: 10.1016/j.apenergy.2016.07.043

A systematic methodology for the robust quantification of energy efficiency at wastewater treatment plants featuring Data Envelopment Analysis

Autorzy: S. Longo, A. Hospido, J.M. Lema, M. Mauricio-Iglesias
Opublikowane w: Water Research, Numer 141, 2018, Strona(/y) 317-328, ISSN 0043-1354
Wydawca: Elsevier BV
DOI: 10.1016/j.watres.2018.04.067

Is SCENA a good approach for side-stream integrated treatment from an environmental and economic point of view?
Autorzy: Stefano Longo, Nicola Frison, Daniele Renzi, Francesco Fatone, Almudena Hospido
Opublikowane w: Water Research, Numer 125, 2017, Strona(/y) 478-489, ISSN 0043-1354
Wydawca: Elsevier BV
DOI: 10.1016/j.watres.2017.09.006

Materiały z konferencji (15)

An innovative energy audit methodology in wastewater treatment plants. Focusing on Italian scenario
Autorzy: B. M. D'Antoni, L. Stefani, E. Parelli, S. Longo, A. Soares, A. Hospido F. Fatone
Opublikowane w: 8th Eastern European Young Water Professionals Conference, 2016
Wydawca: IWA

How to assess and improve the energy efficiency of municipal wastewater treatment plants
Autorzy: B. M. D'Antoni, L. Stefani, E. Parelli, S. Longo, A. Soares, A. Hospido F. Fatone
Opublikowane w: IFAT Conference, 2016
Wydawca: IFAT (Messe)

Preliminary Energy Audit methodology and key performance indicators (KPIs) in Small Wastewater Treatment Plants
Autorzy: B. M. D'Antoni, S. Longo, E. Akkersdijk, L. Stefani, E. Parelli, F. Fatone
Opublikowane w: IWA 13th Specialized Conference on Small Water and Wastewater Systems, 2016
Wydawca: IWA

Energy Efficiency Of Wastewater Treatment Plants. Overview Of The Literature And Critical Discussion Of Energy Data
Autorzy: S. Longo, B. M. D'Antoni, M. Bongards, A. Chaparro, A. Cronrath, F. Fatone, J. M. Lema, M. Mauricio-Iglesias, A. Soares, A. Hospido
Opublikowane w: 3th IWA Specialized International Conference

“Ecotechnologies for Wastewater Treatment (ecoSTP), 2016
Wydawca: IWA

Improving Energy Efficiency In Wastewater Treatment. Identification Of Key Parameters And Key Performance Indicators (KPIs)
Autorzy: P. Campo, A. Soares
Opublikowane w: 3th IWA Specialized International Conference “Ecotechnologies for Wastewater Treatment (ecoSTP), 2016
Wydawca: IWA

ENERWATER - Standard method and online tool for assessing and improving the energy efficiency of waste water treatment plants
Autorzy: Michael Bongards, Andreas Cronrath, Peter Kern
Opublikowane w: IFAT Conference, 2016
Wydawca: IFAT (Messe)

H2020 Project ENERWATER – Quantification and reduction of energy expenditure in WWTP
Autorzy: Mauricio-Iglesias, Miguel
Opublikowane w: Proceedings of the 5th Low Energy Wastewater Treatment Systems Conference., Numer 1, 2016
Wydawca: NA

Can nitrogen removal be a win-win situation?
Autorzy: Longo, Stefano; Mauricio-Iglesias, Miguel; Lema, Juan Manuel; Hospido, Almudena
Opublikowane w: Proceedings of 10th World Congress of Chemical Engineering, Numer 1, 2017
Wydawca: World Federation of Chemical Engineering

Energy Monitoring And Benchmarking In Wastewater Treatment Plants Using The ENERWATER Approach
Autorzy: Longo, Stefano; Mauricio-Iglesias, Miguel; Soares, Ana; Fatone, Francesco; Campo, Pablo; Hospido, Almudena; Campo
Opublikowane w: Proceeding of 4th IWA Specialized International Conference “Ecotechnologies for Wastewater Treatment (ecoSTP), Numer 1, 2018
Wydawca: IWA - International Water Association

An exploratory data analysis of energy consumption of WWTP. Influencing factors and possible methods for benchmarking
Autorzy: Mauricio-Iglesias, Miguel; Longo, Stefano; Lema, Juan Manuel; Hospido, Almudena
Opublikowane w: Proceeding of 3th IWA Specialized International Conference “Ecotechnologies for Wastewater Treatment (ecoSTP), Numer 1, 2016
Wydawca: IWA - International Water Association

ENERWATER project to standardize the energy audit and efficiency in municipal wastewater treatment plants
Autorzy: Hospido, Almudena
Opublikowane w: Proceeding of Fostering partnerships for the implementation of best available technologies for water treatment & management in the Mediterranean, Numer 1, 2016
Wydawca: NA

Measuring energy demand and efficiency at WWTPs: an econometric approach
Autorzy: S. Longo, M. Mauricio-Iglesias, Lema, J.M., A. Hospido
Opublikowane w: Proceedings of Frontiers in Wastewater Treatment and Modelling (FICWTM 2017), 2017
Wydawca: Frontiers

Benchmarking energy use in wastewater treatment plants
Autorzy: S. Longo, M. Mauricio-Iglesias, A. Hospido
Opublikowane w: Proceedings of Performance Indicators Conference (Pi 2017), 2017
Wydawca: IWA - International Water Association

Comparative energy efficiency of Swiss wastewater treatment plants based on economic foundations
Autorzy: S. Longo, M- Chitnis, M. Mauricio-Iglesias, A. Hospido
Opublikowane w: Proceeding of 41st IAEE International Conference (IAEE2018), 2018
Wydawca: IAEE - International Association of Energy Economics

Application of the ENERWATER methodology for the analysis of energy efficiency: a case study
Autorzy: S. Longo, M. Mauricio-Iglesias, A. Hospido
Opublikowane w: Proceedings of Vodni Dnevi Simposium 2017, 2017
Wydawca: Vodni Dnevi

Inne (1)

ENERWATER: Método estándar y herramienta online para evaluar y mejorar la eficiencia energética de las estaciones de tratamiento de aguas residuales
Autorzy: Miguel Mauricio-Iglesias, Stefano Longo, Juan M. Lema, Almudena Hospido
Opublikowane w: FuturENVIRO, 2015, ISSN 2340-2628
Wydawca: Saguenay, S.L.

Pozostałe produkty badawcze

Pozostałe produkty badawcze dostępne przez OpenAire (11)

An exploratory data analysis of energy consumption of WWTP. Influencing factors and possible methods for benchmarking

Autorzy: Mauricio Iglesias, Miguel; Longo, Stefano; Lema Rodicio, Juan Manuel; Hospido Quintana, Almudena

Can nitrogen removal be a win-win situation?

Autorzy: Longo, Stefano; Mauricio Iglesias, Miguel; Lema Rodicio, Juan Manuel; Hospido Quintana, Almudena

Application of the ENERWATER methodology for the analysis of energy efficiency: a case study

Autorzy: Longo, Stefano; Mauricio Iglesias, Miguel; Lema Rodicio, Juan Manuel; Hospido Quintana, Almudena

H2020 Project ENERWATER – Quantification and reduction of energy expenditure in WWTP

Autorzy: Mauricio Iglesias, Miguel

What is the current energy situation in a WWTP? H2020 project ENERWATER

Autorzy: Longo, Stefano

ENERWATER project to standardize the energy audit and efficiency in municipal wastewater treatment plants

Autorzy: Hospido Quintana, Almudena

Energy efficiency of wastewater treatment plants. Overview of the literature and critical discussion of energy data

Autorzy: Longo, Stefano; D'Antoni, Benedetto Mirko; Bongards, Michael; Cronrath, Andreas; Fatone, Francesco; Lema Rodicio, Juan Manuel; Mauricio Iglesias, Miguel; Soares, Ana; Hospido Quintana, Almudena

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Autorzy: Longo, Stefano; Mauricio Iglesias, Miguel; Soares, Ana; Fatone, Francesco; Campo, Pablo; Hospido Quintana, Almudena

Comparative energy efficiency of Swiss wastewater treatment plants based on economic foundations

Autorzy: Longo, Stefano; Mauricio Iglesias, Miguel; Hospido Quintana, Almudena; Chitnis, Mona

Benchmarking energy use in wastewater treatment plants

Autorzy: Longo, Stefano; Mauricio Iglesias, Miguel; Hospido Quintana, Almudena

Wyświetlanie pozycji 1-10 z 11

Wyświetl wszystkie 11 wyników

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