

# Nikolaos Sifakis

## Chemical And Environmental Engineer, PhD

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Highly motivated recent graduate with PhD degree in Chemical & Environmental Engineering. PhD thesis on the "Formation of the typology for the evaluation of the sustainability of nearly zero energy ports". Dedicated to conducting highest quality research work through creative problem solving and innovative solutions. Specialized on Hybrid Renewable Energy Systems, Smart Energy Management Systems, Energy Storage Technologies, Data Analytics, and AI/Machine Learning forecasting models.

## Education

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**2018-03 - 2021-09**    **Ph.D.: Chemical And Environmental Engineer**

*Technical University of Crete - Chania*

- Funded by an Onassis Foundation Scholarship

**2012-09 - 2017-05**    **Master of Science: Environmental Engineering**

*Technical University of Crete - Chania*

- Awarded a GPA of 8.94/10.

**2007-09 - 2012-06**    **High School Diploma**

*High School of Melesses - Heraklion, Crete*

- Awarded 18.7/20 GPA

## Work History

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**2018-09 - 2021-07**    **Graduate Research Associate**

*Technical University of Crete - Renewable and Sustainable Energy Systems Laboratory, Chania, Greece*

- Actively participated, and contributed to the RESCoop+ and CIVITAS H2020 programs being the main data analyst and one among the authors of the deliverables.

**2020-01 - 2020-08**    **Environmental Engineer**

*Region of Crete, Crete, Greece*

- Performed and assessed a survey - feasibility study for the Implementation of the Net-Metering and the Virtual Net-Metering Functionality in 9 Local Land Improvement Organizations (TOEB) of Crete. - Phase B

**2019-01 - 2019-05**    **Environmental Engineer**

*Region of Crete, Crete, Greece*

- Performed and assessed a survey - feasibility study for the Implementation of the Net-Metering and the Virtual Net-Metering Functionality in 20 Local Land Improvement Organizations (TOEB) of Crete. - Phase A

**2017-09 - 2018-09**    **Sales Manager - Company Supplies' Administrator**

*EMELKO S.A., Alagni, Crete, Greece*

During my employment at the company, I was responsible of the whole company's supplies and mainly contributed to the Sales and Supplies Department. My main tasks were:

- Sales Manager
- Supplier Administrator
- Configuration, from-scratch, of the PYLON Epsilon software to meet the company's requirements
- Accounting tasks

***Languages***

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- Greek (Native)  Excellent
- English  Excellent
- French  Average

***Interests***

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- Software Programming (Front-end & Back-end)
- Computer enthusiast
- Sports
- Music

***Certifications***

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- 2013-09**    • Highest grade of Env. Eng. class of 2012-2013
- 2014-09**    • Highest grade of Env. Eng. class of 2013-2014
- 2015-09**    • Highest grade of Env. Eng. class of 2014-2015
- 2016-09**    • Highest grade of Env. Eng. class of 2015-2016
- 2017-09**    • Highest grade of Env. Eng. class of 2016-2017

**2017-11**

- Award of Academic Excellence (LimmatStiftung)

**2017-09**

- Highest GPA in my Graduation Class

**2018-09**

- Onassis Foundation Scholarship for PhD Studies - 3yr contract

## ***Skills***

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- Research implementation

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Very Good

- Problem-Solving

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Very Good

- Responsible

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Excellent

- Teamwork & Collaboration

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Excellent

- Decision Making

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Very Good

- Programming (Front-end & Back-end)

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Very Good

- Data Analytics

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Good

- Hybrid Renewable Energy Systems

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Excellent

Energy modeling

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Very Good

Environmental assessment

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Very Good

Energy usage strategy

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Excellent

Self-Motivated

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Excellent

## ***Software***

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- 3-D Modelling (SketchUP, Autodesk REVIT)





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Good

- AutoCAD

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Good

- ArcGIS

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Average

- Programming Languages (MATLAB, Python, R)  Very Good
- Energy Plus  Very Good
- HelioScope, RETScreen Expert, Homer PRO  Excellent
- Relux, Dialux EVO, ReluxCAD  Very Good
- SPSS, Minitab, Stata, Anaconda(+libs), R

## *Journal Publications*

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- Sifakis N, Tsoutsos T. Nearly Zero Energy Ports: A necessity or a green upgrade? IOP Conf Ser Earth Environ Sci 2020; 410:012037. <https://doi.org/10.1088/1755-1315/410/1/012037>.
- Sifakis N, Tsoutsos T. Planning zero-emissions ports through the nearly zero energy port concept. J Clean Prod 2021;286:125448. <https://doi.org/10.1016/j.jclepro.2020.125448>.
- Sifakis N, Konidakis S, Tsoutsos T. Hybrid renewable energy system optimum design and smart dispatch for nearly Zero Energy Ports. J Clean Prod 2021;310:127397. <https://doi.org/10.1016/j.jclepro.2021.127397>.
- Argyriou, I., Sifakis, N. & Tsoutsos, T. Ranking measures to improve the sustainability of Mediterranean ports based on multicriteria decision analysis: a case study of Souda port, Chania, Crete. Environ Dev Sustain (2021). <https://doi.org/10.1007/s10668-021-01711-7>
- Sifakis N, Kalaitzakis K, Tsoutsos T. Integrating a novel smart control system for outdoor lighting infrastructures in ports. Energy Convers Manag 2021;246:114684. <https://doi.org/10.1016/j.enconman.2021.114684>.
- Sifakis N, Tsoutsos T. A nearly Zero Energy Port optimized by a Hybrid Renewable [Submitted]
- Argyriou, I., Sifakis, N., & Tsoutsos, T. (2022). Ranking measures to improve the sustainability of Mediterranean ports based on multicriteria decision analysis: a case study of Souda port, Chania, Crete. Environment, Development and Sustainability, 24(5), 6449–6466. <https://doi.org/10.1007/s10668-021-01711-7>
- Vichos, E., Sifakis, N., & Tsoutsos, T. (2022). Challenges of integrating hydrogen energy storage systems into nearly zero-energy ports. Energy, 241, 122878. <https://doi.org/10.1016/j.energy.2021.122878>

- Sifakis, N., Vichos, E., Smaragdakis, A. Zoulias, E., & Tsoutsos, T. Introducing the cold-ironing technique and a hydrogen-based hybrid renewable energy system into ports. *International Journal of Energy Research*. doi: 10.1002/er.8059
- Sifakis N, Savvakis N, Daras T, Tsoutsos T. Analysis of the Energy Consumption Behavior of European RES Cooperative Members. *Energies* 2019; 12:970. <https://doi.org/10.3390/en12060970.1>
- Kampelis N, Sifakis N, Kolokotsa D, Gobakis K, Kalaitzakis K, Isidori D, et al. HVAC Optimization Genetic Algorithm for Industrial Near-Zero-Energy Building Demand Response. *Energies* 2019; 12:2177. <https://doi.org/10.3390/en12112177>.
- Sifakis N, Daras T, Tsoutsos T. How Much Energy Efficient are Renewable Energy Sources Cooperatives' Initiatives? *Energies* 2020; 13:1136. <https://doi.org/10.3390/en13051136>.
- Sifakis N, Aryblia M, Daras T, Tournaki S, Tsoutsos T. The impact of COVID-19 pandemic in Mediterranean urban air pollution and mobility. *Energy Sources, Part A Recover Util Environ Eff* 2021;00:1–16. <https://doi.org/10.1080/15567036.2021.1895373>.
- Sifakis N, Kouletakis K, Tsoutsos T. Forecasting a port's energy demand for 2030 on the base of nearly Zero Energy Ports concept, 2021[ Will be submitted]

## ***Scientific Conferences***

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- Sifakis N, Theocharis T. 1st PhD candidates conference TUC, Dec. 18 Sifakis N, Tsoutsos T. Decarbonisation of ports and tourist cities, towards sustainable development, Blue Growth, Heraklion Crete, January 2019
- Sifakis N, Mavroudis O, Tsoutsos T. Evaluating the prospect of nearly Zero Energy Ports, DPMCO, Athens, May 2019
- Argyriou I, Sifakis N, Tsoutsos T. What measures are needed to improve the sustainability of the Mediterranean ports from the stakeholder's viewpoint: A case study of Souda port, Chania, Crete, EiNT, Sep 2019
- Sifakis N, Tsoutsos T. Nearly Zero Energy Ports: A necessity or a green upgrade? SBE19, Thessaloniki, Oct. 2019 Sifakis N, Theocharis T. 2nd PhD candidates conference TUC, Dec. 19
- Vichos E, Sifakis N, Tsoutsos, T. Challenges Of Nearly Zero Energy Ports: An Essential Or An Ambition?, 9th Global Conference on Global Warming (GCGW-2021), August 1-4, 2021, Virtual conference

- Sifakis N, Savvakis N, Daras T, Tsoutsos T. Sustainable Urban Energy Systems Conference, November 2018, Delft (Netherlands) : Renewable Energy Cooperatives as prosumers, results from the REScoop plus project
- Sifakis N, Savvakis N, Daras T, Tsoutsos T. The European experience from the operation of the Energy Communities. The Experience of the program RESCOOP PLUS, Social Entrepreneurship Forum 2018, Athens, 23-25 November 2018
- Aryblia M, Sifakis N, Tournaki S, Tsoutsos T. Mitigating climate change through the monitoring of the urban environment in a touristic Mediterranean city, 9th IWACP, May 2020
- Theocharis Tsoutsos, Maria Aryblia, Nikos Sifakis, Stavroula Tournaki Monitoring and Assessment of The Urban Environment in A Touristic Mediterranean City, ECOMM, 2020