



**THE CYPRUS
INSTITUTE**

RESEARCH • TECHNOLOGY • INNOVATION

Curriculum Vitae

Constantinos Taliotis

Business Email: c.taliotis@cyi.ac.cy

Business Phone:

The Cyprus Institute
Energy, Environment and Water Research
20 Konstantinou Kavafi St.
2121 Aglantzia, P.O.BOX 27456 Nicosia
Cyprus

Academic and Professional details:

Education:

- 2010** BSc (Hons) in Environmental and Resource Sciences – Trent University, Canada
- 2013** MSc in Sustainable Technology – Royal Institute of Technology (KTH), Stockholm, Sweden
- 2017** PhD in Energy and Environmental Systems - Royal Institute of Technology (KTH), Stockholm, Sweden

Professional Experience:

- July 2018 onward** **Post-doctoral Researcher**
The Cyprus Institute - Energy, Environment and Water Research Center
- 2012-2015** **Research Engineer**
2015-2017 **PhD Candidate**
2017-July 2018 **Post-doctoral Researcher**
Royal Institute of Technology, Stockholm, Sweden
Division of Energy System Analysis
- 2007, 2009, 2011** **Statistics Assistant**
Statistical Service, Ministry of Finance, Cyprus
Survey on the Treatment of Industrial Waste - Waste Management by businesses

Research Experience:

Name of assignment or project: Global Climate, Land-use, Energy and Water strategies (CLEWs) model

Year: 2013

Location: New York, USA

Client: United Nations Department for Economic and Social Affairs

Main project features: Modelling the energy system of the globe as a single region

Positions held: Lead Analyst

Activities performed:

- Developing energy system module of model
- Running simulations and analysing model results

Name of assignment or project: Renewable Energy Roadmap for the Republic of Cyprus

Year: 2014-2015

Location: Stockholm, Sweden

Client: International Renewable Energy Agency

Main project features: Modelling the electricity supply system of Cyprus and analysing the potential for Renewable Energy Technology integration

Positions held: Lead Analyst

Activities performed:

- Developing national electricity supply model
- Coordinating input from national authorities
- Running simulations and analysing model results
- Communicating policy implications to national stakeholders

Name of assignment or project: The Electricity Model Base for Africa (TEMBA)

Year: 2015

Location: Stockholm, Sweden

Client: N/A

Main project features: Modelling the electricity supply system of the African continent and conducting scenario analysis

Positions held: Lead Analyst

Activities performed:

- Updating national data on power plant characterization
- Revising data on electricity interconnectors
- Running simulations and analysing model results

Name of assignment or project: Cost-optimal energy system development scenarios for Cyprus

Year: 2015-2017

Location: Stockholm, Sweden

Client: European Commission

Main project features: Modelling the entire energy system of Cyprus and identifying cost-optimal pathways for the achievement of national and international policy targets.

Positions held: Lead Analyst

Activities performed:

- Developing national energy system model
- Coordinating input from national authorities
- Running simulations and analysing model results
- Communicating policy implications to national stakeholders

Name of assignment or project: Cost-optimal energy system development scenarios for Cyprus

Year: 2018

Location: Trieste, Italy

Client: N/A

Main project features: 2018 Summer School on Modelling Tools for Sustainable Development

Positions held: Trainer

Activities performed:

- Developing training material for OSeMOSYS
- Coordinating schedule and lectures to be conducted by other trainers
- Delivering lectures to international participants
- Assisting trainees with the development of their initial national energy system models

Name of assignment or project: Long-term energy modelling support for the Republic of Cyprus

Year: 2018-2019

Location: Nicosia, Cyprus

Client: Joint Research Centre

Main project features: Updating the OSeMOSYS model of Cyprus and running scenarios to inform the National Energy and Climate Plan.

Positions held: Lead Analyst

Activities performed:

- Developing national energy system model
- Coordinating input from national authorities
- Running simulations and analysing model results
- Communicating policy implications to national stakeholders

Name of assignment or project: Impact assessment of the Cyprus integrated National Energy and Climate Plan

Year: 2019-2020

Location: Nicosia, Cyprus

Client: European Commission

Main project features: Updating the OSeMOSYS model of Cyprus and running scenarios to inform the National Energy and Climate Plan. Linking the OSeMOSYS model with an input-output model to estimate impact of energy policies on broader economy.

Positions held: Lead Analyst

Activities performed:

- Working on the OSeMOSYS model simulations
- Providing input to the input-output model

Name of assignment or project: Cyprus Climate Initiative – Energy Task Force

Year: 2020

Location: Nicosia, Cyprus

Client: N/A

Main project features: Assessing the current status of the energy system and energy policies in the Eastern Mediterranean and Middle East (EMME) region, with the aim to take increased coordinated action for climate mitigation.

Positions held: Contributor

Activities performed:

- Literature review
- Contributing to the drafting of the report
- Addressing feedback to the report by the Task Force members

Teaching Experience:

Acted as a lecturer and teaching assistant in the following MSc courses while at the Royal Institute of Technology in Sweden:

- Energy and Environment
- Introduction to Energy Systems Analysis
- Energy System Economics

Was one of the principal lecturers in the 2018 Summer School on Modelling Tools for Sustainable Development, which took place at the International Centre for Theoretical Physics in Trieste, Italy.

Participated in the course “EAS 504 Renewable Energy Sources” at the Cyprus Institute as a lecturer.

Presentations and Outreach:

International Energy Workshop 2016, Cork, Ireland – Presentation on “Estimating the Socio-Economic Costs of Electricity Supply Interruptions”.

5th International Conference on Renewable Energy Sources & Energy Efficiency, May 2016, Nicosia, Cyprus – Presentations on “Cost optimal pathways for the Cypriot energy system” and “Natural gas in Cyprus: the need for consolidated planning”.

International Energy Workshop 2015, Abu Dhabi, United Arab Emirates – Presentation on “An indicative analysis of investment opportunities in the African electricity supply sector - Using TEMBA (The electricity model base for Africa)”.

67th Semi-annual Energy Technology Systems Analysis Program (ETSAP) meeting, June 2015, Abu Dhabi, United Arab Emirates – Presentation on “Renewable Energy Technology integration for the island of Cyprus: A cost-optimization approach”.

The 8th Conference on Sustainable Development of Energy, Water and Environment Systems (SDEWES), September 2013, Dubrovnik, Croatia – Presentation on “Energy Security prospects in Cyprus and Israel: A focus on Natural Gas”.

High-level Conference on Financing for Development and the Means of Implementation of the 2030 Agenda for Sustainable Development, November 2017, Doha, Qatar – Presentation on “Insights offered by energy system models on SDG7 – Africa focus”

Publications:

Peer-reviewed publications

Taliotis, C., Fylaktos, N., Partasides, G., Gardumi, F., Sridharan, V., Karmellos, M., Papanicolas, C.N., 2020. The Effect of Electric Vehicle Deployment on Renewable Electricity Generation in an Isolated Grid System: The Case Study of Cyprus. *Front. Energy Res.* 8. <https://doi.org/10.3389/fenrg.2020.00205>

Taliotis, C., Giannakis, E., Karmellos, M., Fylaktos, N., Zachariadis, T., 2020. Estimating the economy-wide impacts of energy policies in Cyprus. *Energy Strategy Rev.* 29, 100495. <https://doi.org/10.1016/j.esr.2020.100495>

Sridharan, V., Broad, O., Shivakumar, A., Howells, M., Boehlert, B., Groves, D.G., Rogner, H.-H., Taliotis, C., Neumann, J.E., Strzepek, K.M., Lempert, R., Joyce, B., Huber-Lee, A., Cervigni, R., 2019. Resilience of the Eastern African electricity sector to climate driven changes in hydropower generation. *Nat. Commun.* 10, 302. <https://doi.org/10.1038/s41467-018-08275-7>

- Almulla, Y., Ramos, E., Gardumi, F., Taliotis, C., Lipponen, A., Howells, M., 2018. The role of Energy-Water nexus to motivate transboundary cooperation: *Int. J. Sustain. Energy Plan. Manag.* 18, 3–28. <https://doi.org/10.5278/ijsepm.2018.18.2>
- Peña Balderrama, J., Alfstad, T., Taliotis, C., Hesamzadeh, M., Howells, M., 2018. A Sketch of Bolivia's Potential Low-Carbon Power System Configurations. The Case of Applying Carbon Taxation and Lowering Financing Costs. *Energies* 11, 2738. <https://doi.org/10.3390/en11102738>
- Taliotis, C., Shivakumar, A., Sridharan, V., Howells, M., "Regional effects of Grand Inga: A project-focus application of TEMBA (The Electricity Model Base for Africa)," [Forthcoming]. Under Review in *Energy for Sustainable Development*.
- Gardumi, F., Shivakumar, A., Morrison, R., Taliotis, C., Broad, O., Beltramo, A., Sridharan, V., Howells, M., Hörsch, J., Niet, T., Almulla, Y., Ramos, E., Burandt, T., Balderrama, G.P., Pinto de Moura, G.N., Zepeda, E., Alfstad, T., 2018. From the development of an open-source energy modelling tool to its application and the creation of communities of practice: The example of OSeMOSYS. *Energy Strategy Rev.* 20, 209–228. <https://doi.org/10.1016/j.esr.2018.03.005>
- Taliotis, C., Rogner, H., Ressler, S., Howells, M., Gardumi, F., 2017. Natural gas in Cyprus: The need for consolidated planning. *Energy Policy* 107, 197–209. doi:10.1016/j.enpol.2017.04.047
- Taliotis, C., Taibi, E., Howells, M., Rogner, H., Bazilian, M., Welsch, M., 2017. Renewable energy technology integration for the island of Cyprus: A cost-optimization approach. *Energy* 137, 31–41. doi:10.1016/j.energy.2017.07.015
- Taliotis, C., Taibi, E., Howells, M., Rogner, H., Bazilian, M., Welsch, M., 2017. Technoeconomic assumptions adopted for the development of a long-term electricity supply model for Cyprus. *Data Brief* 14, 730–737. doi:10.1016/j.dib.2017.08.019
- Taliotis, C., Shivakumar, A., Ramos, E., Howells, M., Mentis, D., Sridharan, V., Broad, O., Mofor, L., 2016. An indicative analysis of investment opportunities in the African electricity supply sector — Using TEMBA (The Electricity Model Base for Africa). *Energy Sustain. Dev.* 31, 50–66. doi:10.1016/j.esd.2015.12.001
- Taliotis, C., Bazilian, M., Welsch, M., Gielen, D., Howells, M., 2014. Grand Inga to power Africa: Hydropower development scenarios to 2035. *Energy Strategy Rev.* 4, 1–10. doi:10.1016/j.esr.2014.01.001
- Taliotis, C., Howells, M., Bazilian, M., Rogner, H., Welsch, M., 2014. Energy Security prospects in Cyprus and Israel: A focus on Natural Gas. *Int. J. Sustain. Energy Plan. Manag.* 3, 5–20.
- Taliotis, C., Miketa, A., Howells, M., Hermann, S., Welsch, M., Broad, O., Rogner, H., Bazilian, M., Gielen, D., 2014. An indicative assessment of investment opportunities in the African electricity supply sector. *J. Energy South. Afr.* 25, 02–12.
- Mentis, D., Howells, M., Rogner, H., Korkovelos, A., Arderne, C., Eduardo Zepeda, Siyal, S., Taliotis, C., Bazilian, M., Roo, A. de, Tanvez, Y., Alexandre Oudalov, Scholtz, E., 2017. Lighting the World: the first application of an open source, spatial electrification tool (OnSSET) on Sub-Saharan Africa. *Environ. Res. Lett.* 12, 085003. doi:10.1088/1748-9326/aa7b29
- Mentis, D., Karalis, G., Zervos, A., Howells, M., Taliotis, C., Bazilian, M., Rogner, H., 2016. Desalination using renewable energy sources on the arid islands of South Aegean Sea. *Energy* 94, 262–272. doi:10.1016/j.energy.2015.11.003
- Shivakumar, A., Welsch, M., Taliotis, C., Jakšić, D., Baričević, T., Howells, M., Gupta, S., Rogner, H., 2017. Valuing blackouts and lost leisure: Estimating electricity interruption costs for households across the European Union. *Energy Res. Soc. Sci.* 34, 39–48. doi:10.1016/j.erss.2017.05.010

Research monographs and book chapters

Taliotis, C., 2017. Large scale renewable energy deployment - Insights offered by long-term energy models from selected case studies. (Doctoral thesis), available at: <http://kth.diva-portal.org/smash/record.jsf?pid=diva2:1096832>

Aoun, M.-C., Pešut, D., Matosović, M., Bošnjak, R., Deane, P., Glynn, J., Gallachóir, B.Ó., Nagy, S., Badouard, T., Desbrosses, N., Taliotis, C., de Boncourt, M., Keramidas, K., 2017. Chapter 11 - Gas Security of Supply in the European Union, in: *Europe's Energy Transition - Insights for Policy Making*. Academic Press, pp. 67–78.

Shivakumar, A., Taliotis, C., Deane, P., Gottschling, J., Pattupara, R., Kannan, R., Jakšić, D., Stupin, K., Hemert, R.V., Normark, B., Faure-Schuyer, A., 2017. Chapter 21 - Need for Flexibility and Potential Solutions, in: *Europe's Energy Transition - Insights for Policy Making*. Academic Press, pp. 149–172.

Normark, B., Faure-Schuyer, A., Shivakumar, A., Taliotis, C., Deane, P., Gottschling, J., Pattupara, R., Kannan, R., Jakšić, D., Stupin, K., Hemert, R.V., 2017. Chapter 22 - Storage Solutions and Their Value, in: *Europe's Energy Transition - Insights for Policy Making*. Academic Press, pp. 173–187.

Shivakumar, A., Welsch, M., Taliotis, C., Jakšić, D., Baričević, T., Howells, M., 2017. Chapter 24 - Need for Reliability and Measuring Its Cost, in: *Europe's Energy Transition - Insights for Policy Making*. Academic Press, pp. 207–218.