Research interests

- Energy economics and policy
- Techno-economic analysis of energy technologies
- Community energy
- Crowfunding in energy
- Distributed generation and grid integration
- Energy access and rural electrification
- Sustainable energy system transitions

Publications

Journal papers:

- Wierling, A., Schwanitz, V.J., Zeiss, J.P. **Candelise C.** et al. (2023) "A Europe-wide inventory of citizen-led energy action with data from 29 countries and over 10000 initiatives". Sci Data 10, 9.
- Sowe, J. Varela Barreras, J. Schimpe, M. Wu, B. **Candelise, C.** Nelson, J. Few, S. (2022) "Model-informed battery current derating strategies: Simple methods to extend battery lifetime in islanded mini-grids". Journal of Energy Storage, Vol. 51 Pages 104524
- Sciullo, A.; Gilcrease, G.W.; Perugini, M.; Padovan, D.; Curli, B.; Gregg, J.S.; Arrobbio, O.; Meynaerts, E.; Delvaux, S.; Polo-Alvarez, L.; **Candelise, C**.; van der Waal, E.; van der Windt, H.; Hubert, W.; Ivask, N.; Muiste, M. (2022) "Exploring Institutional and Socio-Economic Settings for the Development of Energy Communities in Europe". Energies 2022, 15, 1597.
- Few S., Barton J., Sandwell P., Morie R., Kulkarnif P., Thomso M., Nelson J., **Candelise C.** (2022) "*Electricity demand in populations gaining access: Impact of rurality and climatic conditions, and implications for microgrid design*" Energy for Sustainable Development, 66, 151-164
- Lupi V., **Candelise C.,** Almuni Calull M., Delvaux S., Valkering P., Hubert W., Sciullo A., Ivask N., van der Waal E., Jimenez Iturriza I., Paci D., Della Valle N., Goukoufikis G., Dunlop T. (2021) "*A Characterization of European Collective Action Initiatives and Their Role as Enablers of Citizens' Participation in the Energy Transition*" Energies 2021, 14(24), 8452
- **Candelise, C.,** Saccone, D. Vallino E. (2021). "*An empirical assessment of the effects of electricity access on food security*". World Development, 141: 105390.
- Few, S., Djapic, P. Strbac, G. Nelson, J. **Candelise, C.** (2020). "*Assessing local costs and impacts of distributed solar PV using high resolution data from across Great Britain*." Renewable Energy 162: 1140-1150.
- **Candelise C,** Ruggieri, G. (2020) "*Status and Evolution of the Community Energy Sector in Italy*" Energies, 13(8), 1888
- Gregg, J.S.; Nyborg, S.; Hansen, M.; Schwanitz, V.J.; Wierling, A.; Zeiss, J.P.; Delvaux, S.; Saenz, V.; Polo-Alvarez, L.; **Candelise, C.;** Gilcrease, W.; Arrobbio, O.; Sciullo, A.; Padovan, D. (2020) "*Collective Action and Social Innovation in the Energy Sector: A Mobilization Model Perspective*". Energies 2020, 13, 651.

- Wierling, A., Schwanitz, V.J., Zeiß, J.P., Bout, C., **Candelise, C.,** Gilcrease, W., Sterling Gregg, J. (2018) "*Statistical Evidence on the Role of Energy Cooperatives for the Energy Transition in European Countries*" Sustainability, 10(9), 3339
- **Candelise C.,** Westacott P. (2017) "*Can integration of PV within UK electricity network be improved? A GIS based assessment of storage*", Energy Policy, 109, 694-703
- Sandwell P., Chan NLA., Foster S., Nagpal D., Emmott CJM., **Candelise C.,** Buckle SJ., Ekins-Daukes N., Gambhir A., Nelson J., (2016) "*Off-grid solar photovoltaic systems for rural electrification and emissions mitigation in India*", Solar Energy Materials and Solar Cells, 156, 147-156
- Westacott P., **Candelise C.,** (2016) "*Assessing the impacts of photovoltaic penetration across an entire low-voltage distribution network containing 1.5 million customers*", IET Renewable Power Generation, 10 (4), 460 – 466
- Westacott P., **Candelise C.,** (2016) "*A Novel Geographical Information Systems Framework to Characterize Photovoltaic Deployment in the UK: Initial Evidence*", Energies , 9(1), 26
- Rowley P., Leicester P., Palmer D., Westacott P., **Candelise C.,** Betts T., Gottschalg R., (2015) "*Multi-domain analysis of photovoltaic impacts via integrated spatial and probabilistic modelling*", IET Renewable Power Generation, 9 (5), 424 – 431
- Hoggett R., Bolton R., **Candelise C.,** Kern F., Mitchell C., (2014) "*Supply chains and energy security in a low carbon transition"*, Applied Energy, 123, 292-295
- Pantaleo A., **Candelise C.,** Shah N., Bauen A., (2014) "*Esco business models for biomass heating and chp: profitability of Esco operations in Italy and key factors assessment"*, Renewable & Sustainable Energy Reviews, 30, 237-253
- **Candelise C.,** Winskel M., Gross R., (2013) *"The dynamics of solar PV costs and prices as a challenge for technology forecasting"*, Renewable & Sustainable Energy Reviews, 26, 96-107
- Marigo N., **Candelise C.,** (2013) "*What is behind the recent dramatic reductions in photovoltaic prices? The role of China*", Economia e Politica Industriale - Journal of Industrial and Business Economics, 40 (3), 5-41
- Houari Y., Speirs J., **Candelise C.,** Gross R. (2013) "*A system dynamics model of tellurium availability for CdTe PV"*, Progress in Photovoltaics: Research and Applications, 22(1), 129-146
- Winskel M., Markusson N., Jeffrey H., **Candelise C**., Dutton J., Howarth P., Jablonski S., Kalyvas C., Ward D. (2013) "*Learning pathways for energy supply technologies: Bridging between innovation studies and learning rates",* Technological Forecasting and Social Change, 81, 96-114
- **Candelise C.,** Winskel M., Gross R. (2012) "*Implications for CdTe and CIGS technologies production costs of indium and tellurium scarcity*", Progress in Photovoltaics: Research and Applications, 20, 816–831.
- **Candelise C.,** Speirs J., Gross R., (2011) "*Materials availability for thin film (TF) PV technologies development: a real concern?",* Renewable and Sustainable Energy Review Journal. 15 (9), 4972–4981

- **Candelise C.,** Gross R., Leach M. (2010) "*Conditions for photovoltaics deployment in the UK: the role of policy and technical developments*", Journal of Power and Energy, 224 (2) 153-166

Book Chapters:

- **Candelise C.,** Ruggieri G. (2021) "*The Community Energy sector in Italy: historical perspective and recent evolution*" in "*Renewable Energy Communities and the Low Carbon Energy Transition in Europe*" Editors: Coenen F. H. J. M., Hoppe, T. Publisher: Palgrave Macmillan. ISBN 978-3-030-84439-4, ISBN 978-3-030-84440-0 (eBook), https://doi.org/10.1007/978-3-030-84440-0
- Wierling, A., Zeiß, J.P., Hubert, W. **Candelise, C.,** Sterling Gregg, J. Schwanitz, V.J. (2020) "*Who participates in and drives collective action initiatives for a low carbon energy transition?*" in "*Paradigms, Models, Scenarios and Practices for Strong Sustainability*" Editors: Diemer, A. Morales, M.E., Nedelciu, C.E. Oostdijk, M. Schellens, M. Publisher: Editions Oeconomia. Pages: 239-256
- **Candelise C.** (2016) "*The application of crowdfunding to the energy sector",* in W. Vassallo (ed) Crowdfunding for Sustainable Entrepreneurship and Innovation, Publisher: Business Science Reference, 266-287
- **Candelise C**. (2015) "*Solar Energy, an untapped potential*" in P. Ekins, M. Bradshaw, J. Watson (eds), *Global Energy: issues, potentials and policy implications*, Oxford University Press, Sept 2015. Print ISBN-13: 9780198719526. DOI:10.1093/acprof:oso/9780198719526.001.0001
- Irvine S., **Candelise C**. (2014) "*Introduction and Techno-economic background"*, in S. Irvine (ed), Materials Challenges: Inorganic Photovoltaic Solar Energy, Royal Society of Chemistry, London, Pages 1-26

Reports:

- **Candelise, C.** (2023) "*Caratterizzazione delle comunità energetiche: storia, evoluzione e modelli di implementazione*" in "*La transizione verso nuovi modelli di produzione e consumo di energia da fonti rinnovabili*", Editor: Marisa Meli. Publisher: Pacini Giuridica.

- Koukoufikis, G., Schockaert, H., Paci, D., Filippidou, F., Caramizaru, A., Della Valle, N., **Candelise, C**., Murauskaite-Bull, I., Uihlein, A. (2023) "*The Role of Energy Communities in Alleviating Energy Poverty*" Science for Policy report by the Joint Research Centre (JRC). December 2023 DOI: 10.2760/389514

- Busto, C., **Candelise, C.** et al. (2023) "*Towards sustainable and massive deployment of photovoltaics: the nexus of socio-economic and technological challenges*" White Paper of ETIP PV (European Technology and Innovation Platform for Photovoltaics) Social PV Working Group. November 2023

- Abi Able, A., Anger, K., Barnes, J., Betz, R., Blasch, J., Boije af Gennäs Erre, E., **Candelise, C.** et al. (2022): "*Putting people at the heart of energy transitions. Social innovation in energy: four projects shine a light on the path forward*". Policy brief,

April 2022. Brussels/Antwerp: COMETS, NEWCOMERS, SocialRES, SONNET H2020 projects.

- **Candelise, C.,** Sandwell, P. Ed. (2022) "*The role of mini-grids for electricity access and climate change mitigation in India*", JUICE White Paper. February 2022.DOI: 10.25561/94889
- **Candelise C.** "Crowdfunding as a novel financial tool for district heating projects", report committed by Euro Heat and Power Association as part of EU H2020 project TEMPO (Temperature Optimisation for Low Temperature District Heating across Europe). December 2018
- **Candelise C**., Ruggieri G., 2017, "Community energy in Italy: heterogeneous institutional characteristics and citizens engagement", Publisher: IEFE Working Paper N.93
- **Candelise C**., "*Crowdfunding in the energy sector: a smart financing and empowering tool for citizens and communities?"*, 9th International Conference Improving Energy Efficiency in Commercial Buildings and Smart Communities (IEECB&SC'16), Frankfurt, 16th-18th March 2016
- **Candelise C**., August 2015, "*Crowdfunding and the energy sector"*, CEDRO Exchange report, Issue 18
- Speirs J., Gross R., Contestabile M., **Candelise C.,** Gross B., September 2014, "*Materials availability for low-carbon technologies: an assessment of evidence*", report by UKERC Technology and Policy Assessment function, UKERC/RR/TPA/2014/001 (http://www.ukerc.ac.uk/publications/materials-availability-for-low-carbon-technologies.html)
- **Candelise C.,** Black M., Gross R., March 2013, "*Study into the Socio-economic Effects of National Grid Major Infrastructure Projects – Literature Review*". Report commissioned by National Grid.
- Gross R., Stern J., Charles C., Nicholls J., **Candelise C.,** Heptonstall P., Greenacre P., October 2012, "*On picking winners: the need for targeted support for renewable energy*", ICEPT Working Paper, Imperial College London
- Jones F., **Candelise C.,** Gross R., December 2011, "*ICEPT submission to the DECC Consultation over revision of the Feed in Tariff for small scale Photovoltaics*"
- Gross R., **Candelise C**., November 2011, "*ICEPT response to Joint Environmental Audit Committee and Energy and Climate Change Committee Call for Evidence on PV Feed-in Tariff*"
- Speirs J., Gross R., **Candelise C.,** Gross B., April 2011, "*Materials Availability: Potential constraints to the future low-carbon economy",* UKERC Working Paper
- Candelise C., 2009, "Solar PV" in "Accelerated Development of Low Carbon Energy Supply Technologies", ed. by Winskel M., Markusson N., Jeffrey H., UKERC 2050 Project Report