

# D10.16: 5 Conference Papers and 5 Scientific Articles

+CityxChange | Work Package 10, Task 10.5

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## Document Information

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22-04-2023	v.01	Gabriela Avram	First draft.
17-10-2023	v.02	Helena Fitzgerald, Dirk Ahlers	Content added and aligned, structure updated.
23-10-2023	v.03	Helena Fitzgerald, Dirk Ahlers	Final edit.

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# 1 Introduction

This report contains a summary record of +CityxChange peer reviewed conference papers and scientific journal articles from the project implementation period of November 2018 to October 2023. This scientific dissemination forms part of WP10 Dissemination and Communication and supports the objective of WP10 to disseminate project outcomes across Europe.

These scientific publications are intended to support the validity of the innovation activities and demonstration projects and to promote the development and exploitation of +CityxChange open innovation and cross-cutting results through research. This deliverable is connected to activities carried out in Task 10.5.

A tracker of publications was developed internally and updated periodically during project implementation. It supports overall tracking for an overview in the project, for the periodic review, and to ensure an internal publication process around IP rights and agreement on content. The list included in this report is based on this tracker. In total, 15 peer reviewed journal articles, 11 peer reviewed publications in conference proceedings. Other publications that have not been peer-reviewed are recorded where they were of specific importance. The target was 5 of each main category, which was overachieved.

Additional outreach activities happened through other channels, including the project website and Deliverables. Publications are also linked in the project Knowledge Base.<sup>1</sup>

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<sup>1</sup> <https://cityxchange.eu/article-categories/research-outcomes/>



## 2 Peer Reviewed Scientific Publications

### Article in Journal

Anthony Jnr, B., Abbas Petersen, S., Ahlers, D., & Krogstie, J. (2020). API deployment for big data management towards sustainable energy prosumption in smart cities—a layered architecture perspective. *International Journal of Sustainable Energy*, 39(3), 263-289. <https://doi.org/10.1080/14786451.2019.1684287>

Anthony, B., Petersen, S. A., Ahlers, D., Krogstie, J., & Livik, K. (2019). Big data-oriented energy prosumption service in smart community districts: a multi-case study perspective. *Energy Informatics*, 2, 1-26. <https://doi.org/10.1186/s42162-019-0101-3>

Kremer, M., Kiesel, R., & Paraschiv, F. (2021). An Economic Model for Intraday Electricity Trading. (2021). *Philosophical Transactions of the Royal Society A*, 379(2202): 20190624. 2021. <http://dx.doi.org/10.2139/ssrn.3489214>

Anthony Jnr, B., Abbas Petersen, S., Ahlers, D., & Krogstie, J. (2020). Big data driven multi-tier architecture for electric mobility as a service in smart cities: A design science approach. *International Journal of Energy Sector Management*, 14(5), 1023-1047. <https://doi.org/10.1108/IJESM-08-2019-0001>

Kremer, M., Kiesel, R., & Paraschiv, F. (2020). Intraday electricity pricing of night contracts. *Energies*, 13(17), 4501. MDPI AG. <http://dx.doi.org/10.3390/en13174501>

Sæther, G., Del Granado, P. C., & Zaferanlouei, S. (2021). Peer-to-peer electricity trading in an industrial site: Value of buildings flexibility on peak load reduction. *Energy and Buildings*, 236, 110737. <https://doi.org/10.1016/j.enbuild.2021.110737>

Baer, D., Loewen, B., Cheng, C., Thomsen, J., Wyckmans, A., Temeljotov-Salaj, A., & Ahlers, D. (2021). Approaches to social innovation in positive energy districts (PEDs)—a comparison of Norwegian projects. *Sustainability*, 13(13), 7362. <http://dx.doi.org/10.3390/su13137362>

Anthony Jnr, B., Abbas Petersen, S., Helfert, M., Ahlers, D., & Krogstie, J. (2021). Modeling pervasive platforms and digital services for smart urban transformation using an enterprise architecture framework. *Information Technology & People*, 34(4), pp. 1285-1312. <https://doi.org/10.1108/ITP-07-2020-0511>

Petersen, S. A., Petersen, I., & Ahcin, P. (2020). Smiling earth—raising awareness among citizens for behaviour change to reduce carbon footprint. *Energies*, 13(22), 5932. <https://doi.org/10.3390/en13225932>

Anthony Jnr, B., Abbas Petersen, S., Helfert, M., & Guo, H. (2021). Digital transformation with enterprise architecture for smarter cities: a qualitative research approach. *Digital policy, regulation and governance*, 23(4), pp. 355-376. <https://doi.org/10.1108/DPRG-04-2020-0044>

Anthony Jnr, B. (2022). Exploring data driven initiatives for smart city development: empirical evidence from techno-stakeholders' perspective. *Urban Research & Practice*, 15(4), pp. 529-560. <https://doi.org/10.1080/17535069.2020.1869816>

Mee, A., Lyes, M., & Crowe, P. (2021). Energy urbanity and active citizen participation. *Energies*, 14(20), 6515. <https://doi.org/10.3390/en14206515>

van Wees, M., Revilla, B. P., Fitzgerald, H., Ahlers, D., Romero, N., Alpagut, B., Kort, J., Tjaha, C., Kaiser, G., Blessing, V., Patricio, L., & Smit, S. (2022). Energy Citizenship in Positive Energy Districts—Towards a Transdisciplinary Approach to Impact Assessment. *Buildings*, 12(2), 186. <https://doi.org/10.3390/buildings12020186>

Vandevyvere, H., Ahlers, D., & Wyckmans, A. (2022). The Sense and Non-Sense of PEDs—Feeding Back Practical Experiences of Positive Energy District Demonstrators into the European PED Framework Definition Development Process. *Energies*, 15(12), 4491. <https://doi.org/10.3390/en15124491>

Anthony Jnr, B. (2020). Smart city data architecture for energy prosumption in municipalities: concepts, requirements, and future directions. *International Journal of Green Energy*, 17(13), 827-845. <https://doi.org/10.1080/15435075.2020.1791878>

## Publications in Conference Proceedings

Ahlers, D., Wienhofen, L. W., Petersen, S. A., & Anvaari, M. (2019). A smart city ecosystem enabling open innovation. In *Innovations for Community Services: 19th International Conference, IACS 2019, Wolfsburg, Germany, June 24-26, 2019, Proceedings 19* (pp. 109-122). Springer International Publishing. [https://doi.org/10.1007/978-3-030-22482-0\\_9](https://doi.org/10.1007/978-3-030-22482-0_9)

Petersen, S. A., Pourzolfaghar, Z., Alloush, I., Ahlers, D., Krogstie, J., & Helfert, M. (2019). Value-added services, virtual enterprises and data spaces inspired enterprise architecture for smart cities. In *Collaborative Networks and Digital Transformation: 20th IFIP WG 5.5 Working Conference on Virtual Enterprises, PRO-VE 2019, Turin, Italy, September 23-25, 2019, Proceedings 20* (pp. 393-402). Springer International Publishing. [https://doi.org/10.1007/978-3-030-28464-0\\_34](https://doi.org/10.1007/978-3-030-28464-0_34)

Ahlers, D., Driscoll, P., Wibe, H., & Wyckmans, A. (2019, October). Co-creation of positive energy blocks. In *IOP conference series: earth and environmental science* (Vol. 352, No. 1, p. 012060). IOP Publishing. <https://doi.org/10.1088/1755-1315/352/1/012060>

Backe, S., Kara, G., Crespo del Granado, P., & Tomasgard, A. (2019). Local flexibility markets in smart cities: interactions between positive energy blocks. *16th IAEE European Conference*, Ljubljana, 25-28 August. <https://ntnuopen.ntnu.no/ntnu-xmlui/handle/11250/2618615>

Ahlers, D. (2020, October). Challenges of Sustainable Urban Mobility Integration. In 22nd International Conference on Human-Computer Interaction with Mobile Devices and Services (pp. 1-3). <https://doi.org/10.1145/3406324.3426767>

Gall, T., & Haxhija, S. (2020, November). Storytelling of and for Planning-Urban Planning through Participatory Narrative-Building. In *Proceedings of the 56th ISOCARP World Planning Congress*. <https://hal.archives-ouvertes.fr/hal-03168709/>

Temeljotov Salaj, A., & Loewen, B. (2020). The next generation of smart citizens: Experiences and inspiration from the +CityxChange project. In 7th international academic conference on places and technologies. University of Belgrade, Faculty of Architecture Belgrade. [https://doi.org/10.18485/arh\\_pt.2020.7.ch1](https://doi.org/10.18485/arh_pt.2020.7.ch1)

Anthony, B., & Petersen, S. A. (2020). A practice based exploration on electric mobility as a service in smart cities. In *Information Systems: 16th European, Mediterranean, and Middle Eastern Conference, EMCIS 2019, Dubai, United Arab Emirates, December 9–10, 2019, Proceedings 16* (pp. 3-17). Springer International Publishing. [https://doi.org/10.1007/978-3-030-44322-1\\_1](https://doi.org/10.1007/978-3-030-44322-1_1)

Gall, T., Carbonari, G., Wyckmans, A., & Ahlers, D. (2020). Co-Creating Local Energy Transitions Through Smart Cities: Piloting a Prosumer-Oriented Approach. *Review of World Planning Practice Volume 16: Post-Oil Urbanism* (ISOCARP Review 16). <https://hal.archives-ouvertes.fr/hal-03168646/document>

Anthony, B., Petersen, S. A., & Helfert, M. (2020). Digital transformation of virtual enterprises for providing collaborative services in smart cities. In *Boosting Collaborative Networks 4.0: 21st IFIP WG 5.5 Working Conference on Virtual Enterprises, PRO-VE 2020, Valencia, Spain, November 23–25, 2020, Proceedings 21* (pp. 249-260). Springer International Publishing. [https://doi.org/10.1007/978-3-030-62412-5\\_21](https://doi.org/10.1007/978-3-030-62412-5_21)

Alvsvåg, R., Bokolo Jr, A., & Petersen, S. A. (2022, June). The Role of a Data Marketplace for Innovation and Value-Added Services in Smart and Sustainable Cities. In *Innovations for Community Services: 22nd International Conference, I4CS 2022, Delft, The Netherlands, June 13–15, 2022, Proceedings* (pp. 215-230). Cham: Springer International Publishing. [https://doi.org/10.1007/978-3-031-06668-9\\_16](https://doi.org/10.1007/978-3-031-06668-9_16)

### 3 Other Publications

Fitzgerald, H., Walsh, G., Avram, G., Kinsella, S., García, J. B. (2019). Balancing Urban Innovation with a Responsible Approach to the Internet of Things: The Case of Limerick. *The State of Responsible IoT Report 2019*. <http://dx.doi.org/10.31880/10344/10122>

Fitzgerald, H. (2020): +Limerick: Innovation and infrastructure in the positive energy city. *Architecture Ireland*. September/October 2020 - Issue 313. <http://doi.org/10.31880/10344/9517>

Wyckmans, A. (2020) Bold urban visions: towards people-centred smart sustainable cities. Urban@it Agenda for Sustainable Urban Development. *Working papers*. Rivista online di Urban@it - 2/2020 ISSN. 2465-2059. [https://www.urbanit.it/wp-content/uploads/2020/10/BP\\_Wickmans.pdf](https://www.urbanit.it/wp-content/uploads/2020/10/BP_Wickmans.pdf)

van Wees, M., Revilla, B. P., Fitzgerald, H., Ahlers, D., Romero, N., Alpagut, B., Kort, J., Tjaha, C., Kaiser, G., Blessing, V., Patricio, L., & Smit, S. (2021). Energy citizenship in new energy concepts. *Environmental Sciences Proceedings*, 11(1), 27. <https://doi.org/10.3390/environsciproc2021011027>

Ahlers, D., Riedesel, K., Dommerholt, T., Amin, S., Wyckmans, A., de Andrade, E.J., Berthelsen, BO., Livik, K., Reeves, K., Prokýšek, M., Drambarean, T., Meeliste, S., Petkova, E., Spasova, B., Bäcker, A., Fitzgerald, H., Smit, S., Skoglund, TR., Brennan, G., Guldbrandsøy, EN., Rørvik, ELH., Rostad, M., & Kvaal, K. (2023). In Ahlers, D., Riedesel, K., Dommerholt, T., Amin, S. (Eds.) *How to PED – The +CityxChange Cookbook: Experiences and Guidelines on Positive Energy Districts*. ISBN: 978-82-303-6162-7. (2023) <https://doi.org/10.5281/zenodo.8372848>, <https://cityxchange.eu/knowledge-base/how-to-ped-cookbook/><sup>2</sup>

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<sup>2</sup> See also: D10.17: Final Report (How to PED – The +CityxChange Cookbook: Experiences and guidelines on Positive Energy Districts), forthcoming, <https://cityxchange.eu/article-categories/deliverables/>



## 4 Conclusion

The number of scientific publications generated through +CityxChange research exceeds the project's minimal target of 5 peer reviewed journal articles and 5 peer reviewed publications in conference proceedings. Topics addressed to date include electricity trading and pricing; local flexibility markets; big data and prosumption; digital transformation and enterprise architecture; urban mobility and electric mobility as a service; social innovation in Positive Energy Districts; citizen participation and co-creation; energy citizenship; open innovation, smart citizens; and PED framework definition development. Further publications are under development.

The publications include two that are co-authored with researchers from other EU funded projects including Smart Cities and Communities PED projects (ATELIER, MAKING-CITY, mySMARTLife, POCITYF) (van Wees et al., 2021; van Wees et al., 2022).

In addition to the publications noted, numerous presentations were made by the +CityxChange collaborating partners to local, regional, national and international stakeholders to promote +CityxChange results and issues in research and in discourse surrounding smart cities, clean energy, Positive Energy Blocks and Districts, and the transition to climate-neutrality.