Reviews

Di Cao; Hu, Weihao; Zhao, Junbo; Zhang, Guozhou; Zhang, Bin; Liu, Zhou et al. (2020): Reinforcement Learning and Its Applications in Modern Power and Energy Systems: A Review. In: *J. Mod. Power Syst. Clean Energy* 8 (6), S. 1029–1042. DOI: 10.35833/MPCE.2020.000552.

Jordehi, A. Rezaee (2019): Optimisation of demand response in electric power systems, a review. In: *Renewable and Sustainable Energy Reviews* 103, S. 308–319. DOI: 10.1016/j.rser.2018.12.054.

Menos-Aikateriniadis, Christoforos; Lamprinos, Ilias; Georgilakis, Pavlos S. (2022): Particle Swarm Optimization in Residential Demand-Side Management: A Review on Scheduling and Control Algorithms for Demand Response Provision. In: *Energies* 15 (6), S. 2211. DOI: 10.3390/en15062211.

Peirelinck, Thijs; Kazmi, Hussain; Mbuwir, Brida V.; Hermans, Chris; Spiessens, Fred; Suykens, Johan; Deconinck, Geert (2022): Transfer learning in demand response: A review of algorithms for data-efficient modelling and control. In: *Energy and AI* 7, S. 100126. DOI: 10.1016/j.egyai.2021.100126.

Perera, A.T.D.; Kamalaruban, Parameswaran (2021): Applications of reinforcement learning in energy systems. In: *Renewable and Sustainable Energy Reviews* 137, S. 110618. DOI: 10.1016/j.rser.2020.110618.

Vázquez-Canteli, José R.; Nagy, Zoltán (2019): Reinforcement learning for demand response: A review of algorithms and modeling techniques. In: *Applied Energy* 235, S. 1072–1089. DOI: 10.1016/j.apenergy.2018.11.002.

Wang, Zhe; Hong, Tianzhen (2020): Reinforcement learning for building controls: The opportunities and challenges. In: *Applied Energy* 269, S. 115036. DOI: 10.1016/j.apenergy.2020.115036.

Zhang, Zidong; Zhang, Dongxia; Qiu, Robert C. (2019): Deep reinforcement learning for power system: An overview. In: *CSEE JPES*. DOI: 10.17775/CSEEJPES.2019.00920.

Incentives

Aladdin, Sally; El-Tantawy, Samah; Fouda, Mostafa M.; Tag Eldien, Adly S. (2020): MARLA-SG: Multi-Agent Reinforcement Learning Algorithm for Efficient Demand Response in Smart Grid. In: *IEEE Access* 8, S. 210626–210639. DOI: 10.1109/ACCESS.2020.3038863.

Deltetto, Davide; Coraci, Davide; Pinto, Giuseppe; Piscitelli, Marco Savino; Capozzoli, Alfonso (2021): Exploring the Potentialities of Deep Reinforcement Learning for Incentive-Based Demand Response in a Cluster of Small Commercial Buildings. In: *Energies* 14 (10), S. 2933. DOI: 10.3390/en14102933.

Li, Yingying; Hu, Qinran; Li, Na (2018): Learning and Selecting the Right Customers for Reliability: A Multi-Armed Bandit Approach. In: 2018 IEEE Conference on Decision and Control (CDC). 17-19 Dec. 2018. Unter Mitarbeit von Andrew R. Teel. 2018 IEEE Conference on Decision and Control (CDC). Miami Beach, FL, 12/17/2018 - 12/19/2018. [Piscataway, NJ]: IEEE, S. 4869–4874.

Lu, Renzhi; Hong, Seung Ho (2019): Incentive-based demand response for smart grid with reinforcement learning and deep neural network. In: *Applied Energy* 236, S. 937–949. DOI: 10.1016/j.apenergy.2018.12.061.

Mai, Vincent; Maisonneuve, Philippe; Zhang, Tianyu; Nekoei, Hadi; Paull, Liam; Lesage-Landry, Antoine (2023): Multi-Agent Reinforcement Learning for Fast-Timescale Demand Response of Residential Loads. Hg. v. Cornell University. Online verfügbar unter <https://arxiv.org/pdf/2301.02593>.

O'Brien, Geaorid; El Gamal, Abbas; Rajagopal, Ram (2015): Shapley Value Estimation for Compensation of Participants in Demand Response Programs. In: *IEEE Trans. Smart Grid* 6 (6), S. 2837–2844. DOI: 10.1109/TSG.2015.2402194.

Pinto, Giuseppe; Deltetto, Davide; Capozzoli, Alfonso (2021): Data-driven district energy management with surrogate models and deep reinforcement learning. In: *Applied Energy* 304, S. 117642. DOI: 10.1016/j.apenergy.2021.117642.

Wang, Biao; Li, Yan; Ming, Weiyu; Wang, Shaorong (2020): Deep Reinforcement Learning Method for Demand Response Management of Interruptible Load. In: *IEEE Trans. Smart Grid* 11 (4), S. 3146–3155. DOI: 10.1109/TSG.2020.2967430.

Wen, Lulu; Zhou, Kaile; Li, Jun; Wang, Shanyong (2020): Modified deep learning and reinforcement learning for an incentive-based demand response model. In: *Energy* 205, S. 118019. DOI: 10.1016/j.energy.2020.118019.

Zhang, Xiongfeng; Lu, Renzhi; Jiang, Junhui; Hong, Seung Ho; Song, Won Seok (2021): Testbed implementation of reinforcement learning-based demand response energy management system. In: *Applied Energy* 297, S. 117131. DOI: 10.1016/j.apenergy.2021.117131.

Zhou, Kaile; Wen, Lulu (2022): Incentive-Based Demand Response with Deep Learning and Reinforcement Learning. In: Smart Energy Management: Springer, Singapore, S. 155–182. Online verfügbar unter <https://link.springer.com/chapter/10.1007/978-981-16-9360-1_7>.

Pricing

ICC Workshops. 2018 IEEE International Conference on Communications Workshops : proceedings : Kansas City, MO, USA, 20-24 May 2018 (2018). 2018 IEEE International Conference on Communications Workshops (ICC Workshops). Kansas City, MO, 5/20/2018 - 5/24/2018. Piscataway, New Jersey: Institute of Electrical and Electronics Engineers.

Proceedings of the 1st International Workshop on Reinforcement Learning for Energy Management in Buildings & Cities (2020). BuildSys '20: The 7th ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation. Virtual Event Japan, 17 11 2020 17 11 2020. New York,NY,United States: Association for Computing Machinery (ACM Digital Library).

2020 52nd North American Power Symposium (NAPS) (2021). 2020 52nd North American Power Symposium (NAPS). Tempe, AZ, USA, 4/11/2021 - 4/13/2021: IEEE.

2022 IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT-Europe) (2022). 2022 IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT-Europe). Novi Sad, Serbia, 10/10/2022 - 10/12/2022: IEEE.

Almannouny, Gaddafi; Bu, Shengrong; Yang, Jin (2022): Dynamic Pricing Integrated Demand Response for Multiple Energy Carriers with Deep Reinforcement Learning. In: 2022 IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT-Europe). 2022 IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT-Europe). Novi Sad, Serbia, 10/10/2022 - 10/12/2022: IEEE, S. 1–6.

Bagherpour, Reza; Mozayani, Nasser; Badnava, Babak (2021): Improving demand‐response scheme in smart grids using reinforcement learning. In: *Intl J of Energy Research* 45 (15), S. 21082–21095. DOI: 10.1002/er.7165.

Chen, Song-Jen; Chiu, Wei-Yu; Liu, Wei-Jen (2021): User Preference-Based Demand Response for Smart Home Energy Management Using Multiobjective Reinforcement Learning. In: *IEEE Access* 9, S. 161627–161637. DOI: 10.1109/ACCESS.2021.3132962.

Christensen, Morten Herget; Ernewein, Cédric; Pinson, Pierre (2020): Demand Response through Price-setting Multi-agent Reinforcement Learning. In: Proceedings of the 1st International Workshop on Reinforcement Learning for Energy Management in Buildings & Cities. BuildSys '20: The 7th ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation. Virtual Event Japan, 17 11 2020 17 11 2020. New York,NY,United States: Association for Computing Machinery (ACM Digital Library), S. 1–5.

Fraija, Alejandro; Agbossou, Kodjo; Henao, Nilson; Kelouwani, Sousso; Fournier, Michael; Hosseini, Sayed Saeed (2022): A Discount-Based Time-of-Use Electricity Pricing Strategy for Demand Response With Minimum Information Using Reinforcement Learning. In: *IEEE Access* 10, S. 54018–54028. DOI: 10.1109/ACCESS.2022.3175839.

Ghasemkhani, Amir; Yang, Lei (2018): Reinforcement Learning Based Pricing for Demand Response. In: ICC Workshops. 2018 IEEE International Conference on Communications Workshops : proceedings : Kansas City, MO, USA, 20-24 May 2018. 2018 IEEE International Conference on Communications Workshops (ICC Workshops). Kansas City, MO, 5/20/2018 - 5/24/2018. Piscataway, New Jersey: Institute of Electrical and Electronics Engineers, S. 1–6.

Jang, Doseok; Spangher, Lucas; Nadarajah, Selvaprabu; Spanos, Costas (2023): Deep reinforcement learning with planning guardrails for building energy demand response. In: *Energy and AI* 11, S. 100204. DOI: 10.1016/j.egyai.2022.100204.

Kim, Byung-Gook; Zhang, Yu; van der Schaar, Mihaela; Lee, Jang-Won (2016): Dynamic Pricing and Energy Consumption Scheduling With Reinforcement Learning. In: *IEEE Trans. Smart Grid* 7 (5), S. 2187–2198. DOI: 10.1109/TSG.2015.2495145.

Kong, Xiangyu; Kong, Deqian; Yao, Jingtao; Bai, Linquan; Xiao, Jie (2020): Online pricing of demand response based on long short-term memory and reinforcement learning. In: *Applied Energy* 271, S. 114945. DOI: 10.1016/j.apenergy.2020.114945.

Lu, Renzhi; Hong, Seung Ho; Zhang, Xiongfeng (2018): A Dynamic pricing demand response algorithm for smart grid: Reinforcement learning approach. In: *Applied Energy* 220, S. 220–230. DOI: 10.1016/j.apenergy.2018.03.072.

Pallonetto, Fabiano; Rosa, Mattia de; Milano, Federico; Finn, Donal P. (2019): Demand response algorithms for smart-grid ready residential buildings using machine learning models. In: *Applied Energy* 239, S. 1265–1282. DOI: 10.1016/j.apenergy.2019.02.020.

Remani, T.; Jasmin, E. A.; Ahamed, T. ImthiasP. (2019): Residential Load Scheduling With Renewable Generation in the Smart Grid: A Reinforcement Learning Approach. In: *IEEE Systems Journal* 13 (3), S. 3283–3294. DOI: 10.1109/JSYST.2018.2855689.

Shojaeighadikolaei, Amin; Ghasemi, Arman; Jones, Kailani; Dafalla, Yousif; Bardas, Alexandru G.; Ahmadi, Reza; Haashemi, Morteza (2022): Distributed Energy Management and Demand Response in Smart Grids: A Multi-Agent Deep Reinforcement Learning Framework. Hg. v. Cornell University. Online verfügbar unter <https://arxiv.org/pdf/2211.15858>.

Shojaeighadikolaei, Amin; Ghasemi, Arman; Jones, Kailani R.; Bardas, Alexandru G.; Hashemi, Morteza; Ahmadi, Reza (2021): Demand Responsive Dynamic Pricing Framework for Prosumer Dominated Microgrids using Multiagent Reinforcement Learning. In: 2020 52nd North American Power Symposium (NAPS). 2020 52nd North American Power Symposium (NAPS). Tempe, AZ, USA, 4/11/2021 - 4/13/2021: IEEE, S. 1–6.

Zeng, Kaiwen; Wang, Haizhu; Liu, Jianing; Lin, Bin; Du, Bin; You, Yi (2022): Demand response considering user behaviour differences for load serving entity: A multi‐agent deep reinforcement learning approach. In: *IET Energy Syst Integration* 4 (2), S. 267–280. DOI: 10.1049/esi2.12059.