

References

Part A: Global Energy Trends

Chapter 1: Overview and key findings

IEA (International Energy Agency) (2019a), *Southeast Asia Energy Outlook: World Energy Outlook Special Report*, IEA, Paris.

– (2019b), *Offshore Wind Outlook 2019: World Energy Outlook Special Report*, IEA, Paris.

– (2019c), *World Energy Investment 2019*, IEA, Paris.

– (2018), *Outlook for Producer Economies: World Energy Outlook Special Report*, IEA, Paris.

IPCC (Intergovernmental Panel on Climate Change) (2018), *Global Warming of 1.5 °C, An IPCC Special Report on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development and efforts to eradicate poverty*, [Masson-Delmotte, V., P. Zhai, H.O. Pörtner, D. Roberts, J. Skea, P. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J. Matthews, Y. Chen, X. Zhou, M. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)], World Meteorological Organization, Geneva, <https://www.ipcc.ch/sr15/>.

Chapter 2: Energy and the Sustainable Development Goals

Anderson K. and G. Peters (2016), The trouble with negative emissions, *Nature*, Vol. 354, pp. 182–183.

Bento, N., C. Wilson and L. Anadon (2018), Time to get ready: Conceptualizing the temporal and spatial dynamics of formative phases for energy technologies, *Energy Policy*, Vol. 119, 08/2018.

Cárdenas Rodríguez, M., I. Haščič and N. Johnstone (2019), Commentary: Global patent applications for climate change mitigation technologies – a key measure of innovation – are trending down, IEA, <https://www.iea.org/newsroom/news/2019/july/global-patent-applications-for-climate-change-mitigation-technologies--a-key-mea.html>.

CEEW (Council on Energy, Environment and Water) (2019), CEEW, <https://www.ceew.in/>.

GCRI (Global Climate Risk Index) (2019), *Global Climate Risk Index*, <https://germanwatch.org/en/16046>.

CCC (Committee on Climate Change – United Kingdom) (2019), *Net Zero – The UK's contribution to stopping global warming*, <https://www.theccc.org.uk/publication/net-zero-the-uks-contribution-to-stopping-global-warming/>.

Gross, R. et al. (2018), How long does innovation and commercialisation in the energy sectors take? Historical case studies of the timescale from invention to widespread commercialisation in energy supply and end-use technology, *Energy Policy*, Volume 123, pp. 682-699, ISSN 0301-4215, <https://doi.org/10.1016/j.enpol.2018.08.061>.

IEA (International Energy Agency) (2019a), *The Future of Hydrogen*, IEA, Paris, www.iea.org/publications/reports/thefutureofhydrogen/.

– (2019b), *Nuclear Power in a Clean Energy System*, IEA, Paris, <https://webstore.iea.org/nuclear-power-in-a-clean-energy-system>.

– (2019c), *Material Efficiency in Clean Energy Transitions*, IEA, Paris.

– (2019d), *World Energy Investment 2019*, IEA, Paris, <https://www.iea.org/wei2019/>.

– (2019e), *Tracking Clean Energy Progress: Informing Energy Sector Transformations*, IEA, Paris, www.iea.org/tcep/.

– (2019f), *Clean Energy Investment Trends*, IEA, Paris, <https://webstore.iea.org/clean-energy-investment-trends-2019>.

– (2018a), *Global Energy and CO₂ Status Report*, IEA, Paris, www.iea.org/geco/.

– (2018b), *World Energy Investment 2018*, IEA, Paris, <https://webstore.iea.org/world-energy-investment-2018>.

– (2018c), *World Energy Outlook-2018*, IEA, Paris.

– (2018d), *CO₂ Emissions from Fuel Combustion 2018*, IEA, www.iea.org/statistics/.

– (2017a), *Energy Access Outlook 2017: From Poverty to Prosperity: World Energy Outlook Special Report*, IEA, Paris.

– (2017b), *Energy Technology Perspectives 2017*, IEA, Paris.

– (2017c), *Technology Roadmap Delivering Sustainable Bioenergy*, IEA, Paris.

– (2008), *World Energy Outlook-2008*, IEA, Paris.

IPCC (Intergovernmental Panel on Climate Change) (2019), *Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems (SRCLL)*, IPCC, <https://www.ipcc.ch/report/srcll/>.

– (2018), *Global Warming of 1.5 °C, An IPCC Special Report on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development and efforts to eradicate poverty*, [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)], World Meteorological Organization, Geneva, <https://www.ipcc.ch/sr15/>.

– (2014), *Fifth Assessment Report*, IPCC, Cambridge University Press, Cambridge, United Kingdom and New York.

– (2006), *Guidelines for National Greenhouse Gas Inventories, Volume 3, Industrial Processes and Product Use*, IPCC, <https://www.ipcc-nggip.iges.or.jp/public/2006gl/vol3.html>.

IRENA (International Renewable Energy Agency)(2019), *Renewable Power Generation Costs in 2018*, IRENA, Abu Dhabi.

Masera, O., R. Bailis, and R. Drigo (2015), Environmental Burden of Traditional Bioenergy Use, *Annual Review of Environment and Resources*, 11/2015, Vol. 40, Issue 1.

Singh, D., S. Pachauri and H. Zerriffi (2017), Environmental payoffs of LPG cooking in India, *Environmental Research Letters*, 12(11).

UNFCCC (United Nations Framework Convention on Climate Change) (2019a), *Cooperative Initiatives*, <https://climateaction.unfccc.int/views/cooperative-initiative-details.html?id=94>.

– (2019b), *Information on COP 25, CMP 15, CMA 2*, <https://unfccc.int/news/information-on-cop-25-cmp-15-cma-2>, UK Committee on Climate Change, Reducing UK emissions 2019 Progress Report to Parliament, presented to Parliament pursuant to Section 36(1) of the Climate Change Act 2008, www.theccc.org.uk/publications.

Chapter 3: Outlook for oil

AAPG (American Association of Petroleum Geologists) (2000), *Treatise of Petroleum Geology/ Handbook of Petroleum Geology: Exploring for Oil and Gas Traps*, in Beaumont L., *Chapter 3: Petroleum Systems*, pp. 1-34, AAPG.

Automotive World Ltd. (2018), *Special Report: Africa's Auto Industry*, www.exportersec.co.za/wp-content/uploads/2018/05/special-report-africas-auto-industry.pdf, accessed 6 September 2019.

Bird (2019), *A Look at e-Scooter Safety: Examining risks, reviewing responsibilities, and prioritizing prevention*, Bird, Santa Monica, California, United States.

China Passenger Car Association (2019), *2018 Passenger Car Sales Report*, www.cpcauto.com/newlist.asp?types=csjd&id=9345, accessed July 2019.

China Association of Automobile Manufacturers (2019), *2018 sales ranking of the top-ten Chinese car manufacturers*, www.caam.org.cn/chn/4/cate_39/con_5221287.html, accessed July 2019.

EV Volumes (2019), *EV Volumes* (commercial database), accessed 1 September 2019.

Freyman, M. (2016), *Hydraulic Fracturing and Water Stress: Water demand by the numbers – 2016 update*, <https://www.ceres.org/resources/reports/hydraulic-fracturing-water-stress-water-demand-numbers>, accessed 1 September 2019.

GWPC (Ground Water Protection Council) (2019), *Produced Water Report: Regulations, Current Practices, and Research Needs*, GWPC, Oklahoma City, Oklahoma, United States.

IEA (International Energy Agency) (2019a), *World Energy Investment 2019*, IEA, Paris.

– (2019b), *Global EV Outlook 2019*, IEA, Paris.

– (2019c), *The Global Fuel Economy Initiative 2019*, IEA, Paris.

– (2019d), *Oil 2019*, IEA, Paris.

- (2018a), *World Energy Outlook-2018*, IEA, Paris.
 - (2018b), *Outlook for Producer Economies: What do changing energy dynamics mean for major oil and gas exporters*, IEA, Paris.
 - (2012), *Golden Rules for a Golden Age of Gas: World Energy Outlook Special Report*, IEA, Paris.
 - (2011), *World Energy Outlook-2011*, IEA, Paris.
- IHS Markit (2018), *Vehicle Registrations and Other Characteristics at Model Level* (commercial database), accessed 20 March 2019.
- Jacobs, T. (2019), Shale EOR delivers, so why won't the sector go big?, *Journal of Petroleum Technology*, 71 (5).
- Kitamura et al. (1999), *Accessibility and auto use in a motorized metropolis*, Institute of Transportation Studies, University of California, Irvine, California, United States.
- Lime (2019), *Year-end report 2018*, Lime, San Francisco, California, United States.
- Lukash, A. (2019), *US Shale Industry Turns Cash Flow Positive*, Rystad Energy, Oslo.
- Magnani et al. (2017), Discriminating between natural versus induced seismicity from long-term deformation history of intraplate faults, *Science Advances*, 3(11).
- Oruganti Y. et al. (2015), *Re-Fracturing in Eagle Ford and Bakken to increase reserves and generate incremental NPV: Field Study*, Society of Petroleum Engineers, <https://www.onepetro.org/conference-paper/SPE-173340-MS>.
- Quiroga C. et al. (2016), *Truck Traffic and Truck Loads Associated with Unconventional Oil and Gas Development in Texas, Implementation Report RR-16-01*, Texas A&M Transportation Institute, College Station, Texas, United States.
- Rystad Energy (2019), *Re-Frac Market Soars Past 550 Horizontal Wells in 2018*, Rystad Energy, Oslo.
- Schaller, B. (2018), *The New Automobility: Lyft, Uber and the Future of American Cities*, <http://www.schallerconsult.com/rideservices/automobility.pdf>.
- Texas Water Development Board (2017), *2017 State Water Plan*, Austin, Texas, United States.
- US EPA (United States Environmental Protection Agency) (2019), *Unconventional Oil and Gas Extraction Effluent Guidelines*, US EPA, Washington, DC.
- USGS (United States Geological Survey) (2018), Assessment of Undiscovered Continuous Oil and Gas Resources in the Wolfcamp Shale and Bone Spring Formation of the Delaware Basin, Permian Basin Province, New Mexico and Texas, 2018, *Fact Sheet 2018-3073*, USGS, Reston, Virginia, United States.
- Wood Mackenzie (2018), *Permian Produced Water: Slowly Extinguishing a Roaring Basin*, Wood Mackenzie, Aberdeen, United Kingdom.
- World Bank (2019), *Global Gas Flaring Reduction Partnership*, World Bank, Washington DC.

Chapter 4: Outlook for natural gas

Argus Media (2019), *Global LNG Reports*, London, <https://www.argusmedia.com/en/natural-gas-lng/argus-global-lng>, accessed 15 July 2019

Gas Infrastructure Europe (2018), *Small-scale LNG* (database), <https://www.gie.eu/index.php/gie-publications/databases/gle-lng-services-inventory>, accessed 20 July 2019.

IEA (International Energy Agency) (2019a), *World Energy Investment 2019*, IEA, Paris.

– (2019b), *The Role of Gas in Today's Energy Transitions*, IEA, Paris.

– (2018), *World Energy Outlook-2018*, IEA, Paris.

– (2011), *World Energy Outlook-2011*, IEA, Paris.

IGU (International Gas Union) (2019), *Wholesale Gas Price Survey*, <https://www.igu.org/>, accessed 15 July 2019.

OGJ (Oil and Gas Journal) (2019), Permian gas flaring, venting reaches record high, *OGJ* 117 (6a).

Saudi Aramco (2019), *Base Prospectus*, London Stock Exchange, London, www.londonstockexchange.com, accessed 12 June 2019.

Speirs J. et al. (2019), *Can natural gas reduce emissions from transport?*, Imperial College, London, <https://www.sustainablegasinstitute.org/can-natural-gas-reduce-emissions-from-transport/>, accessed 5 March 2019.

White, N. and C. Brooks (2018), *Catching cold or catching fire? Current state and growth prospects for small-scale LNG*, Cedigaz, www.cedigaz.org, accessed 12 April 2019.

Chapter 5: Outlook for coal

Bloomberg (2019), Bloomberg Terminal, accessed multiple times during July-September 2019.

CRU (2019), Thermal Coal Model (database), accessed April 2019.

IEA (International Energy Agency) (2018), *World Energy Outlook-2018*, IEA, Paris.

– (2017), *World Energy Outlook-2017*, IEA, Paris.

India Ministry of Coal (2018), *Coal Directory of India, 2017-18*, Kolkata, <http://www.coalcontroller.gov.in/pages/display/16-coal-directory>, accessed 31 May 2019.

Miller et al. (2019), China's coal mine methane regulations have not curbed growing emissions, *Nature Communications*, 10(303).

PPCA (Powering Past Coal Alliance) (2019), <https://poweringpastcoal.org/>, accessed 7 October 2019.

Singh, A. K. and J. N. Sahu (2018), Coal mine gas: a new fuel utilization technique for India, *International Journal of Green Energy*, 15(12), pp. 732-743.

Thomson Reuters Eikon (2019), (database), accessed multiple times during July-September 2019.

US EPA (US Environmental Protection Agency) (2018), *Inventory of US Greenhouse Gas Emissions and Sinks, 1990-2017*, <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2017>.

Wang et al. (2018), Lifecycle carbon emission modelling of coal-fired power: Chinese case, *Energy*, 162, 841-852.

World Bank (2019), *Worldwide Governance Indicators*, Washington DC, <https://info.worldbank.org/governance/wgi/>, accessed 31 May 2019.

Zhu et al. (2017), An Improved Approach to Estimate Methane Emissions from Coal Mining in China, *Environmental Science and Technology*, 51(21).

Chapter 6: Outlook for electricity

Central Electricity Authority (2017), *Report of the Technical Committee on Study of Optimal Location of Various Types of Balancing Energy Sources/Energy Storage Devices to Facilitate Grid Integration of Renewable Energy Sources and Associated Issues*, CEA, New Delhi.

Climate Analytics (2017), About 80% of EU and German, virtually all Polish coal plants non-compliant with new EU 2021 air pollution regulations, Climate Analytics, Berlin, https://climateanalytics.org/media/coal_germany_briefing_15112017.pdf.

Hirth, L. (2013), The Market Value of Variable Renewables: The effect of solar wind power variability on their relative price, *Energy Economics*, Vol. 38, pp. 218-236.

IEA (International Energy Agency) (2019a), *The Future of Rail: Opportunities for Energy and the Environment*, IEA, Paris, <https://webstore.iea.org/the-future-of-rail>.

– (2019b), *World Energy Investment 2019*, IEA, Paris, www.iea.org/wei2019/.

– (2019c), *The Role of Gas in Today's Energy Transitions*, IEA, Paris, www.iea.org/publications/roleofgas/.

– (2019d), *Nuclear Power in a Clean Energy System*, IEA, Paris.

– (2019e), *Southeast Asia Energy Outlook: World Energy Outlook Special Report*, IEA, Paris.

– (2019f), *Status of Power System Transformation 2019*, IEA, Paris.

– (2018a), *World Energy Outlook-2018*, IEA, Paris.

– (2018b), *The Future of Cooling*, IEA, Paris, www.iea.org/futureofcooling/.

– (2018c), *World Energy Investment Report 2018*, IEA, Paris, www.iea.org/wei2018/.

– (2018d), *Status of Power System Transformation 2018*, IEA, Paris.

– (2016), The Potential for Equipping China's Existing Coal Fleet with Carbon Capture and Storage, *IEA-Insights Paper Series*, IEA, Paris.

OECD/NEA (Organisation for Economic Co-operation and Development and Nuclear Energy Agency) (2016), *Small Modular Reactors: Nuclear Energy Market Potential for Near-term Deployment*, OECD, Paris.

REN21 (2019), *Renewables 2019 - Global Status Report*, REN21 Secretariat, Paris.

Ueckerdt, F. et al. (2013), System LCOE: What are the costs of renewables?, *Energy*, Vol. 63, pp. 61-75.

US EIA (US Energy Information Administration) (2019), Levelized Cost and Levelized Avoided Cost of New Generation Resources, *Annual Energy Outlook 2019*, US EIA, Washington, DC.

– (2016), Today in energy: EIA electricity generator data show power industry response to EPA mercury limits, US EIA, Washington, DC, www.eia.gov/todayinenergy/detail.php?id=26972, accessed 1 September 2019.

Wanner, B. (2019), Commentary: Is exponential growth of solar PV the obvious conclusion?, IEA, Paris, <https://www.iea.org/newsroom/news/2019/february/is-exponential-growth-of-solar-pv-the-obvious-conclusion.html>, accessed 1 June 2019.

Chapter 7: Outlook for energy efficiency and renewables

California Air Resources Board (2019), *Low-Carbon Fuel Standard*, <https://ww3.arb.ca.gov/fuels/lcfs/lcfs.htm>, accessed 15 July 2019.

EBA (European Biogas Association) (2019), *EBA Statistical Report 2019*, EBA, Brussels.

– (2017), *EBA Statistical Report 2017*, EBA, Brussels.

Gibon, T. et al. (2017), Health Benefits, Ecological Threats of Low-Carbon Electricity, *Environmental Research Letters*, <https://iopscience.iop.org/article/10.1088/1748-9326/aa6047>.

GMI (Global Methane Institute) (2019), *Global Methane Institute*, www.globalmethane.org/partners/country.aspx?c=india, accessed 1 July 2019.

IEA (International Energy Agency) (2019a), *Energy Efficiency 2019*, IEA, Paris.

– (2019b), *World Energy Investment 2019*, IEA, Paris.

– (2019c), *Renewable Energy Market Report 2019*, IEA, Paris.

– (2019d), *Global EV Outlook 2019: Scaling up the transition to electric mobility*, IEA, Paris.

– (2018a), *The Future of Petrochemicals*, IEA, Paris.

– (2018b), *World Energy Outlook-2018*, IEA, Paris.

Material Economics (2018), *The Circular Economy a Powerful Force for Climate Mitigation*, Material Economics Sverige AB, Stockholm.

Platts (2019), *Olefins Data*, S&P Platts, London, accessed 1 September 2019.

REN21 (2019), *Renewables Status Report 2019*, REN21 Secretariat, Paris.

Suwanasri, K. et al. (2015), Biogas – Key Success Factors for Promotion in Thailand, *Semantic Scholar*, <https://pdfs.semanticscholar.org/deec/9ca1d8852608aa27af3656223ea24db0b0b2.pdf>.

TERI (The Energy and Resources Institute) (2019), *Reference Report for National Resource Efficiency Policy for India*, TERI, New Delhi.

Theuerl, S. et al. (2019), The Future of Agricultural Biogas Plant in Germany: A Vision, *Energies*, www.mdpi.com/1996-1073/12/3/396.

USDA (United States Department of Agriculture) (2016), *Methane Emissions from Dairy Farming*, USDA, Washington DC.

US EPA (United States Environmental Protection Agency) (2018), *Renewable Fuel Standard Program: Standards for 2019 and Biomass-based Diesel Volume for 2020*, US EPA, Washington DC.

USGS (United States Geological Survey) (2018a), *Aluminium Minerals Yearbooks and Commodities Summaries*, USGS, Washington DC.

– (2018b), *Cement Mineral Yearbooks and Commodity Summaries*, USGS, Washington DC.

Part B: Special Focus on Africa

Chapter 8: Africa today

AfDB (African Development Bank) (2018), *African Energy Portal*, AfDB, *Regional Profile*, <https://africa-energy-portal.org/regional-profile>, accessed 1 October 2019.

– (2019), *2019 African Economic Outlook*, AfDB, Tunis.

Africa Report (2019), Growth prospects hurt as Ethiopia struggles to keep the lights on, *The Africa Report*, <https://www.theafricareport.com/13533/growth-prospects-hurt-as-ethiopia-struggles-to-keep-the-lights-on/>, accessed 30 May 2019.

Asante, K. et al. (2018), Ghana's rural liquefied petroleum gas program scale up: A case study, *Energy for Sustainable Development*, Vol. 46, pp. 94-102.

AUC/OECD (African Union Congress/Organisation for Economic Co-operation and Development) (2018), *Africa's Development Dynamics 2018: Growth, Jobs and Inequalities*, AUC/OECD Publishing, Addis Ababa, Paris.

Baruah, B. (2010), Energy Services for the Urban Poor: NGO participation in slum electrification in India, *Environment and Planning*, Vol. 28, pp. 1011-1027.

BGR (German Federal Institute for Geosciences and Natural Resources) (2016), *Geothermal Energy: East Africa*, *Bundesanstalt für Geowissenschaften und Rohstoffe* (BGR) https://www.bgr.bund.de/EN/Themen/Zusammenarbeit/TechnZusammenarb/Projekte/Laufend/Afrika/2029_2016-2066-5_RegionalOstafrika_Geothermie_en.html?nn=1549142, accessed 1 July 2019.

Bloomberg Businessweek (2017), *The Army of Women Battling India's \$10 Billion Power Problem*, Bloomberg Businessweek: <https://www.bloomberg.com/news/features/2017-10-03/army-of-women-tackle-electricity-thieves-in-indian-slums>, accessed 1 October 2019.

Bloomberg (2019), *Africa Growth at 7-Year High, No Thanks to Its Major Economies*. Bloomberg, <https://www.bloomberg.com/news/articles/2019-04-03/africa-growth-at-7-year-high-no-thanks-to-its-major-economies>, accessed 3 April 2019.

Carbon Africa (2015), *Kenya Market Assessment for Off-Grid*, International Finance Corporation, Washington DC.

Couture, T. and D. Jacobs (2019), *Beyond Fire: How to achieve electric cooking*, Hivos and World Future Council, https://www.worldfuturecouncil.org/wp-content/uploads/2019/05/Beyond-Fire_How-to-achieve-electric-cooking.pdf.

Cronk, R. and J. Bartram (2018), Environmental conditions in health care facilities in low- and middle-income countries: coverage and inequalities, *International Journal of Hygiene and Environmental Health*, Vol. 221, Issue 3, pp. 409-422.

Dalberg Advisors (2018), *Scaling up clean cooking in urban Kenya with LPG & Bio-ethanol: A market and policy analysis*, https://dalberg.com/system/files/2018-06/Dalberg_Long-form%20report_FINAL_PDF_0.pdf.

ESMAP (Energy Sector Management Assistance Program) (2019), *Mini-Grids for Half a Billion People*, The International Bank for Reconstruction and Development / World Bank Group, Washington, DC.

FAO (Food and Agriculture Organization of the United Nations) (2018), *Sustainable woodfuel for food security. A smart choice: green, renewable and affordable*, FAO, Rome.

Fenix (2019), <https://www.fenixintl.com/blog/fenix-reaches-500000-customers-in-6-markets-and-announces-new-leadership-team/>, accessed 20 July 2019.

Geothermal Development Company (2019), *U.S.-East Africa Geothermal Partnership*, http://www.gdc.co.ke/projects_intro.php, accessed 1 July 2019.

Geothermal Energy Association (2019), *Geothermal Energy Association*, http://www.geo-energy.org/EastAfrica/EAGP.aspx?no_redirect=true, accessed 1 July 2019.

GOGLA (2019), *Global Off-Grid Solar Market Report, Semi-Annual Sales and Impact Data, July-December 2018 Public Report*, GOGLA, Utrecht, Netherlands.

Greentech Media (2019), *Africa's Wind Project Pipeline Grows to 18GW*, Greentech Media: <https://www.greentechmedia.com/articles/read/africa-18-gw-wind-project-pipeline#gs.1moh9l>, accessed 6 June 2019.

– (2017), *Living Under the Grid: 110 Million of Africa's Unconnected Customers Represent a Massive Opportunity*, Greentech Media: <https://www.greentechmedia.com/articles/read/living-under-the-grid-110-million-of-africas-unconnected-customers-represent#gs.adiomx>, accessed 1 October 2019.

GTM Research (2017), *Living Under the Grid: 110 Million of Africa's Unconnected Customers Represent a Massive Opportunity*, GTM Research, New York.

ICA (Infrastructure Consortium for Africa) (2017), *Infrastructure Financing Trends in Africa – 2017*, ICA, Abidjan.

IEA (International Energy Agency) (2019a), *Energy Access* (database), IEA, <https://www.iea.org/sdg/electricity/>, accessed 18 October 2019.

– (2019b), *Oil 2019*, IEA, Paris.

– (2019c), *Energy, Water and the Sustainable Development Goals*, IEA, <https://webstore.iea.org/energy-water-and-the-sustainable-development-goals>, accessed 4 October 2019.

– (2018a), *Outlook for Producer Economies: World Energy Outlook Special Report*, IEA, Paris.

– (2018b), *Renewables 2018*, IEA, Paris.

– (2018c), *Coal 2018*, IEA, Paris.

– (2017a), *Energy Access Outlook 2017: From Poverty to Prosperity: World Energy Outlook Special Report*, IEA, Paris.

– (2017b), *Digitalization and Energy*, IEA, Paris.

– (2014), *World Energy Outlook-2014*, IEA, Paris.

IEA, IRENA, UNSD, WB, WHO (International Energy Agency, International Renewable Energy Agency, United Nations Statistics Division, World Bank and World Health Organization) (2019), *Tracking SDG 7: The Energy Progress Report 2019*, International Bank for Reconstruction and Development / The World Bank, Washington DC.

IPCC (Intergovernmental Panel on Climate Change) (2018), *Global Warming of 1.5 °C, An IPCC Special Report on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development and efforts to eradicate poverty*, [Masson-Delmotte, V., P. Zhai, H. Pörtner, D. Roberts, J. Skea, P. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)], World Meteorological Organization, Geneva, <https://www.ipcc.ch/sr15/>.

IPU (Inter-Parliamentary Union) (2019), Percentage of women in national parliaments, IPU, <https://data.ipu.org/women-ranking?>, accessed 1 September 2019.

IRENA (International Renewable Energy Agency) (2014), *Estimating the Renewable Energy Potential in Africa*, IRENA-KTH working paper, IRENA, Abu Dhabi.

ITU (International Telecommunication Union) (2019), ICT Statistics, <https://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx>, accessed 7 June 2019.

Kojima, M., R. Bacon and C. Trimble (2014), *Political Economy of Power Sector Subsidies: A Review with Reference to Sub-Saharan Africa*, World Bank Group, Washington, DC.

Korkovelos, et al. (2018), A Geospatial Assessment of Small-Scale Hydropower Potential in Sub-Saharan Africa, *Energies*, Vol. 11 (11), 3100 <https://www.mdpi.com/1996-1073/11/11/3100>.

Lee, K., E. Miguel and C. Wolfram (2016), *Experimental evidence of the demand for and costs of rural electrification*, National Bureau of Economic Research, <https://www.nber.org/papers/w22292>, accessed 1 October 2019.

Leo, B., V. Ramachandran and R. Morello (2014), *Shedding New Light on the Off-Grid Debate in Power Africa Countries*, Center for Global Development, <https://www.cgdev.org/blog/shedding-new-light-grid-debate-power-africa-countries>.

Luque, A. (2016), *From consumers to customers: Regularizing electricity networks in São Paulo's favelas*, in *Retrofitting Cities: Priorities, Governance and Experimentation*, Routledge, Abingdon.

OECD (Organisation for Economic Co-operation and Development) (2016), *The Cost of Air Pollution in Africa*, OECD Publishing, Paris.

Padam, G. et al. (2018), *Ethiopia, Beyond Connection, Energy Access Diagnostic Report Based on the Multi-Tier Framework*, World Bank Group, Washington DC.

Pilishvili, T. et al. (2016), *Effectiveness of Six Improved Cookstoves in Reducing Household Air Pollution and Their Acceptability in Rural Western Kenya*, *PLoS ONE*, <https://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0165529&type=printable>, accessed 1 October 2019.

REN21 (2017), *Renewables 2017 - Global Status Report*, REN21 Secretariat, Paris.

RES4Africa Foundation (2019), *Africa's Future Counts: Renewables & the Water-Energy-Food Nexus in Africa*, Res4Africa, Rome, http://www.res4med.org/wp-content/uploads/2019/06/RES4Africa_flagship_2019.pdf.

SAPP (Southern African Power Pool) (2019), *Annual Report*, SAPP, <http://www.sapp.co.zw/annual-reports>.

Shrivastava, B. (2017, October 4). *The Army of Women Battling India's \$10 Billion Power Problem*, Bloomberg Businessweek, <https://www.bloomberg.com/news/features/2017-10-03/army-of-women-tackle-electricity-thieves-in-indian-slums>, accessed 15 July 2019.

Solar Sisters (2019), *Our Model*, Solar Sisters, <https://solarsister.org/what-we-do/our-model/>, accessed 1 June 2019.

Transparency International (2019), *Corruption Perceptions Index 2018*, Transparency International, <https://www.transparency.org/cpi2018>.

Tusting, L. et al. (2019), *Mapping changes in housing in sub-Saharan Africa from 2000 to 2015*, *Nature*, 568, pp. 391–394.

United Nations (2019a), *Ending poverty*, United Nations, <https://www.un.org/en/sections/issues-depth/poverty/>, accessed 20 July 2019.

– (2019b), *Global warming: severe consequences for Africa*, *UN Africa Renewal*, <https://www.un.org/africarenewal/magazine/december-2018-march-2019/global-warming-severe-consequences-africa>.

UNCTAD (United Nations Conference on Trade and Development) (2019), *Foreign Direct Investment to Africa Defies Global Slump, Rises to 11%*, UNCTAD, <https://unctad.org/en/pages/newsdetails.aspx?OriginalVersionID=2109>, accessed 12 June 2019.

UNDESA (United Nations Department of Economic and Social Affairs) (2019), *World Population Prospects 2019 Highlights*, UNDESA, New York.

– (2018), *World Urbanization Prospects 2018: Highlights*, UNDESA, New York.

UNDP (United Nations Development Programme) (2017), *Income Inequality Trends in sub-Saharan Africa: Divergence, Determinants and Consequences*, UNDP, New York.

UNECA (United Nations Economic Commission for Africa) (2018a), *An empirical assessment of the African Continental Free Trade: Area modalities on goods*, UNECA, Addis Ababa.

– (2018b), *Clean Water and Sanitation*, UNECA, Addis Ababa, https://www.uneca.org/sites/default/files/images/arfsd_2018_goal_6_clean_water_and_sanitation_en.pdf.

– (2017), *The Case for the African Continental Free Trade Area: the AfCFTA, Africa's trade flows and industrialization*, UNECA, Addis Ababa.

UNEP (United Nations Environment Programme) (2017), *Atlas of Africa Energy Resources*, UNEP, Nairobi.

UNESCO (United Nations Educational, Scientific and Cultural Organization) (2019), *Water as Cross-Cutting Factor in the SDGs Under Review at the High-Level Policy Forum for Sustainable Development 2019 in Africa*, https://www.uneca.org/sites/default/files/uploaded-documents/ARFSD/2019/water_as_cross-cutting_factor_in_the_sdgs_under_review_at_the_high-level_panel_forum_for_sustainable_development_hlpf_2019_in_africa.pdf.

UNICEF Institute for Statistics (2019), (database), <http://data.uis.unesco.org/>.

– (2017), *Literacy rates continue to rise from one generation to the next*, UNESCO Institute for Statistics, Montreal.

UNICEF and WHO (United Nations Children's Fund and World Health Organization) (2019), *Progress on Household Drinking Water, Sanitation and Hygiene 2000-2017: Special focus on inequalities*, UNICEF and WHO, New York.

van de Valle (2015), *Africa Can End Poverty*, World Bank, <https://blogs.worldbank.org/africacan/poverty-is-falling-faster-for-female-headed-households-in-africa>, accessed 1 October 2019.

Wolfram, C. (2013), *Power Africa: Observations from Kenya*, Energy Institute at Haas, <https://energyathaas.wordpress.com/2013/07/15/power-africa-observations-from-kenya/>, accessed 15 July 2019.

World Bank (2019), *World Bank Enterprise Surveys*, www.enterprisesurveys.org/, accessed 1 September 2019.

– (2018), *Worldwide Governance Indicators*, World Bank, <https://info.worldbank.org/governance/wgi/>.

– (2017a), Infrastructure, growth, and productivity in sub-Saharan Africa, *Africa's Pulse*, <https://openknowledge.worldbank.org/handle/10986/32480>, accessed 1 October 2019.

– (2017b), Africa - Electricity Transmission And Distribution Grid Map, *Data Catalog*, <https://datacatalog.worldbank.org/dataset/africa-electricity-transmission-and-distribution-grid-map-2017><https://www.enterprisesurveys.org/en/data/exploretopics/infrastructure>, accessed 1 October 2019.

Wijnen, M. et al. (2018), *Assessment of Groundwater Challenges & Opportunities in Support of Sustainable Development in Sub-Saharan Africa*, World Bank, Washington, DC.

WWAP (World Water Assessment Programme - UNESCO) (2019), *The United Nations World Water Development Report 2019: Leaving No One Behind*, United Nations Educational, Scientific and Cultural Organization, Paris.

Chapter 9: Urbanisation, industrialisation and clean cooking

ACUMEN (2018), *Accelerating Energy Access: the role of patient capital*, ACUMEN, <https://acumen.org/wp-content/uploads/Accelerating-Access-Role-of-Patient-Capital-Report.pdf>.

AMANHI (Alliance for Maternal and Newborn Health Improvement) (2018), Population-based rates, timing, and causes of maternal deaths, stillbirths, and neonatal deaths in south Asia and sub-Saharan Africa: a multi-country prospective cohort study, AMANHI mortality study group, *The Lancet Global Health*, Vol. 6(12), pp. 1297-1308.

Bentsen et al. (2014), Agricultural residue production and potentials for energy, material and feed services, *Progress in Energy and Combustion Science*, Vol. 40, pp. 59-73.

Biofuture Platform (2018), *Creating the Biofuture: A Report on the State of the Low-Carbon Bioeconomy*, <http://biofutureplatform.org/wp-content/uploads/2018/11/Biofuture-Platform-Report-2018.pdf>.

Clean Cooking Alliance (2019), *Increasing Investment in the Clean Cooking Sector*, Clean Cooking Alliance, <https://www.cleancookingalliance>.

Clemens et al. (2018), Africa Biogas Partnership Program: a review of clean cooking implementation through market development in East Africa, *Energy for Sustainable Development*, Vol. 46, pp. 23-31.

Demographia (2019), *World Urban Areas*, <http://demographia.com/db-worldua.pdf>.

FAO (Food and Agriculture Organization of the United Nations) (2017), *The Charcoal Transition*, FAO, <http://www.fao.org/3/a-i6935e.pdf>.

Fundira, T. and G. Henley (2017), Biofuels in Southern Africa: Political economy, trade and Policy Environment, *World Institute for Development Economic Research (UNU-WIDER) Working Paper Series 048*.

Harkouss et al. (2018), Passive design optimization of low energy buildings in different climates, *Energy*, Vol. 165, pp. 591-613.

Hofman et al. (2008), Motorcycle ambulances for referral of obstetric emergencies in rural Malawi: Do they reduce delay and what do they cost?, *International Journal of Gynecology and Obstetrics*, Vol. 102(2), pp. 191-197.

IEA (International Energy Agency) (2017), *Energy Access Outlook 2017: From Poverty to Prosperity*, IEA, Paris.

IPCC (Intergovernmental Panel on Climate Change) (2014), *Climate Change 2014: Synthesis Report Summary for Policymakers, Contribution of Working Groups I, II and III to the Fifth Assessment Report of the IPCC* [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)], IPCC, Geneva, Switzerland.

IRENA (International Renewable Energy Agency) (2017), *Biofuel Potential in Sub-Saharan Africa: Raising food yields, reducing food waste and utilising residues*, IRENA, Abu Dhabi.

Khavari et al. (2019), *PopClusters*, <https://data.mendeley.com/datasets/z9zfzhzk8cr/2>.

KTH-dESA (Royal Institute of Technology – Divisions of Energy Systems Analysis), *GitHub*: <https://github.com/KTH-dESA/PopCluster>.

Lane, J. (2019), Biofuel Mandates around the World 2019, *Biofuels Digest*, <https://www.biofuelsdigest.com/bdigest/2019/01/01/biofuels-mandates-around-the-world-2019/50/>.

Ministry of Energy and Petroleum, Republic of Kenya (2014), *Draft National Energy Policy*, Nairobi.

NCAR (2012), GIS Program Climate Change Scenarios GIS data portal, <http://gisclimatechange.ucar.edu>.

NOAA (National Oceanic and Atmospheric Administration) (2018), Global Surface Summary of the Day, 1990-2018 (dataset), US Department of Commerce: <https://data.noaa.gov/dataset/dataset/global-surface-summary-of-the-day-gsod>.

Odamo, L. (2019), *Closing Sub-Saharan Africa's Electricity Access Gap: why cities must be part of the solution*, World Resources Institute, <https://www.wri.org/blog/2019/08/closing-sub-saharan-africa-electricity-access-gap-why-cities-must-be-part-solution>.

REN21 (2017), *Renewables 2017 - Global Status Report*, REN21 Secretariat, Paris.

Sekoai. P. and K. Yoro (2016), Biofuel Development Initiatives in sub-Saharan Africa: opportunities and challenges, *Climate*, Vol 4(2), 33.

ter Heegde, F. (2019), *Technical potential for household biogas in Africa*, SNV (Netherlands Development Organisation), The Hague.

National Environment Management Authority, Republic of Uganda (2010), *The Potential of Biofuels in Uganda*, Kampala.

Tremeac et al. (2012), Influence of air conditioning management on heat island in Paris air street temperatures, *Applied Energy*, Vol. 95, pp. 102-110.

UNCTAD (United Nations Conference on Trade and Development) (2014), *The State of Biofuels Market: Regulatory, Trade and Development Perspectives*, United Nations Publications.

UNDESA (United Nations Department of Economic and Social Affairs), Population Division (2019), *World Population Prospects 2019*, (database), <https://population.un.org/wpp/>.

UNEP (United Nations Environment Programme) (2019), *Africa Used Vehicle Report*, UNEP, <https://wedocs.unep.org/bitstream/handle/20.500.11822/25233/AfricaUsedVehicleReport.pdf>, accessed 15 July 2019.

– (2017), *Vehicle Emissions Standards*, http://wedocs.unep.org/bitstream/handle/20.500.11822/17534/Africa_VehicleEmissions_March2017.pdf.

Chapter 10: Access to electricity and reliable power

BCEAO (Central Bank of West African States) (2018), *Short-term, medium-term and long-term credits 2014-2018*, Dakar, Senegal (database), accessed 25 June 2019.

CDKN (Climate & Development Knowledge Network) (2015), *Using climate information for large-scale hydropower planning in sub-Saharan Africa*, <https://cdkn.org/resource/climate-change-data-hydropower-planning-sub-saharan-africa/>.

Eberhard, A. et al. (2016), *Independent Power Projects in Sub-Saharan Africa: Lessons from Five Key Countries*, World Bank, Washington, DC.

ESMAP (Energy Sector Management Assistance Program) (2019), *Mini-Grids for Half a Billion People: Market Outlook and Handbook for Decision Makers*, World Bank, Washington, DC, https://esmap.org/mini_grids_for_half_a_billion_people.

Gernaat D. et al. (2017), High-resolution assessment of global technical and economic hydropower potential, *Nature Energy*, Vol. 2, pp. 821–828.

Grimm, M. et al. (2016), A first step up the energy ladder? Low cost solar kits and household's welfare in Rural Rwanda, *Policy Research Working Paper*, WPS 7859, World Bank, Washington, DC.

Horn, S., C. Reinhart and C. Trebesch (2019), China's Overseas Lending, *National Bureau of Economic Research Working Paper No. 26050*, Cambridge, Massachusetts, United States, www.nber.org/papers/w26050.

IEA (International Energy Agency) (2017), *Energy Access Outlook 2017: From Poverty to Prosperity*, IEA, Paris.

– (2014), *Africa Energy Outlook: World Energy Outlook Special Report*, IEA, Paris.

IFC (International Finance Corporation) (2018), *Off-Grid Solar Market Trends Report*, IFC, Washington, DC.

IJ Global (2019), *Transactions* (database), <https://ijglobal.com/data/search-transactions>, accessed June-October 2019.

IPCC (Intergovernmental Panel on Climate Change) (2014), *Climate Change 2014: Synthesis Report. Fifth Assessment Report*, IPCC, Geneva, https://ar5-syr.ipcc.ch/resources/htmlpdf/WG1AR5_Chapter12_FINAL/#pf1a.

Kojima, M. (2016), *Making Power Affordable for Africa and Viable for its Utilities*, World Bank, Washington, DC.

Korkovelos, A. et al. (2019), The role of open access data in geospatial electrification planning and the achievement of SDG 7: an onset-based case study for Malawi, *Energies*, Vol. 12/7.

MIT-IIT (2019), Optimal Electrification Planning Incorporating On- and Off-Grid Technologies: The Reference Electrification Model (REM), Proceedings of the IEEE, DOI: 10.1109/JPROC.2019.2922543.

OECD (Organisation for Economic Co-operation and Development) (2019), *Flows based on individual projects (Creditor Reporting System)*, <https://stats.oecd.org/>, accessed 20 September 2019.

Power Africa (2019), *Solar Mini-grids Boost Women's Entrepreneurship*, <https://medium.com/power-africa/solar-mini-grids-boost-womens-entrepreneurship-8479e4c1f8f8>, accessed 8 March 2019.

Power for All (2019), *Powering Jobs Census 2019: The Energy Access Workforce*, <https://www.powerforall.org/application/files/8915/6310/7906/Powering-Jobs-Census-2019.pdf>.

Umeme (2018), *Annual Report 2019*, https://www.umeme.co.ug/umeme_api/wp-content/uploads/2019/05/Umeme-Limited_Annual-Report-2018_compressed-1.pdf.

World Bank (2019a), *Private Participation in Infrastructure Projects* (database), <https://ppi.worldbank.org/en/ppidata>, accessed 20 June 2019.

– (2019b), *Global Financial Development*, Private credit by deposit money banks and other financial institutions to GDP (database), <https://datacatalog.worldbank.org/dataset/global-financial-development>, accessed June 2019.

– (2018), *Infrastructure*, World Bank Group Enterprise Surveys, www.enterprisesurveys.org/data/exploretopics/infrastructure#sub-saharan-africa, accessed 20 July 2019.

– (2017), *Linking Up: Public-Private Partnerships in Power Transmission in Africa*, World Bank, Washington, DC.

– (2014), *Supplemental Implementation Completion and Results Report* (Credit Number 3411-UG), World Bank, Washington, DC.

Chapter 11: Natural gas and resource management

African Energy (2019), Small-scale LNG schemes start to gain momentum, *African Energy Newsletter*, Issue 392, <https://archive.crossborderinformation.com/Article/Small-scale+LNG+schemes+start+to+gain+momentum.aspx?date=20190516&docNo=14&qid=1&page=2&from=IssueNumber/Issue+392.aspx#>.

Bauer, A. and D. Mihalyi (2018), *Premature Funds: How Overenthusiasm and Bad Advice Can Leave Countries Poorer*, Natural Resource Governance Institute, <https://resourcegovernance.org/sites/default/files/documents/premature-funds.pdf>.

Cust, J. and D. Mihalyi (2017), *Evidence for a pre-source curse? Oil discoveries, elevated expectations, and growth disappointments*, World Bank, Washington, DC, <http://documents.worldbank.org/curated/en/517431499697641884/Evidence-for-a-presource-curse-oil-discoveries-elevated-expectations-and-growth-disappointments>.

Heller, P. and D. Mihalyi (2019), *Massive and Misunderstood: Data-driven Insights into National Oil Companies*, Natural Resource Governance Institute, https://resourcegovernance.org/sites/default/files/documents/massive_and_misunderstood_data_driven_insights_into_national_oil_companies.pdf.

Hove and Ncube (n.d.), *Sovereign Wealth Funds as a Driver of African Development*, Quantum Global, <http://quantumglobalgroup.com/wp-content/uploads/2017/10/Sovereign-Wealth-Funds-as-a-driver-of-African-development.pdf>.

IEA (International Energy Agency) (2019), *World Energy Investment 2019*, IEA, Paris.

McKinsey (2010), *What's driving Africa's growth*, McKinsey, <https://www.mckinsey.com/featured-insights/middle-east-and-africa/whats-driving-africas-growth>.

MEES (Middle East Economic Survey) (2018), Egypt gas turns the corner, but can it maintain investment?, *Weekly Energy, Economic and Geopolitical Outlook*, Vol. 61/7, <https://www.mees.com/vol/61/issue/7>.

Natural Resource Governance Institute (2019), *Resource Governance Index: From Legal Reform to Implementation in Sub-Saharan Africa*, Natural Resource Governance Institute, <https://resourcegovernance.org/analysis-tools/publications/sub-saharan-africa-implementation-gap>.

OIES (Oxford Institute of Energy Studies) (2019), *Opportunities for Gas in Sub-Saharan Africa*, OIES, London.

– (2018), *Egypt - A Return to a Balanced Gas Market?*, OIES, London.

UNCTAD (United Nations Conference on Trade and Development), UNCTAD Statistics, <https://unctadstat.unctad.org/EN/BulkDownload.html>, accessed 3 June 2019.

USGS (United States Geological Survey) (2019), *Mineral Commodity Summaries 2019*, USGS, Washington DC, <https://www.usgs.gov/centers/nmic/mineral-commodity-summaries>, accessed 7 October 2019.

World Bank (2017), *The Growing Role of Minerals and Metals for a Low-Carbon Future*, World Bank Publications, Washington DC, <http://documents.worldbank.org/curated/en/207371500386458722/pdf/117581-WP-P159838-PUBLIC-ClimateSmartMiningJuly.pdf>.

World Nuclear Association (2019), *World Uranium Mining Production*, World Nuclear Association, www.world-nuclear.org/information-library/nuclear-fuel-cycle/mining-of-uranium/world-uranium-mining-production.aspx, accessed 29 May 2019.

Chapter 12: Implications for Africa and the world

FAO (Food and Agriculture Organization of the United Nations), *FAOSTATS*, <http://www.fao.org/faostat/en/#data/GF>, accessed 17 July 2019.

IEA (International Energy Agency) (2019), *Global EV Outlook 2019*, IEA, Paris.

IPCC (Intergovernmental Panel on Climate Change) (2014), Africa in: *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part B: Regional Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Niang, I., O. Ruppel, M. Abdrabo, A. Essel, C. Lennard, J. Padgham and P. Urquhart, Cambridge University Press, Cambridge, United Kingdom and New York.

Kojima, M. (2016), *Making Power Affordable for Africa and Viable for its Utilities*, World Bank, Washington, DC.

Power Africa (2019), *Solar Mini-grids Boost Women's Entrepreneurship...*, <https://medium.com/power-africa/solar-mini-grids-boost-womens-entrepreneurship-8479e4c1f8f8>, accessed 8 March 2019.

UNCTAD (United Nations Conference on Trade and Development), UNCTAD Statistics, <https://unctadstat.unctad.org/EN/BulkDownload.html>, accessed 3 June 2019.

USGS (United States Geological Survey) (2019), *Mineral Commodity Summaries 2019*, USGS, Washington DC, <https://www.usgs.gov/centers/nmic/mineral-commodity-summaries>, accessed 7 October 2019.

World Bank (2018), *Accelerating Climate-Resilient and Low-Carbon Development: Africa Climate Business Plan – Third Implementation Progress Report and Forward Look*, World Bank, Washington DC.

– (2015), *Innovative financing: the case of India Infrastructure Finance Company*, World Bank, Washington DC.

Part C: WEO Insights

Chapter 13: Prospects for gas infrastructure

Altfeld, K. and D. Pinchbeck (2013), Admissible hydrogen concentrations in natural gas systems, *Gas for Energy*, Vol. 3, www.gerg.eu/public/uploads/files/publications/GERGpapers/SD_gfe_03_13_Report_Altfeld-Pinchbeck.pdf.

Arapostathis S. et al. (2013), Governing transitions: Cases and insights from two periods in the history of the UK gas industry, *Energy Policy*, Vol. 52(2013), pp. 25-44.

Cadent (2018), HyNet North West, *From vision to reality*. https://hynet.co.uk/app/uploads/2018/05/14368_CADENT_PROJECT_REPORT_AMENDED_v22105.pdf.

Cedigaz (2019), *Global Biomethane Market: Green Gas Goes Global*, www.cedigaz.org/global-biomethane-market-green-gas-goes-global/.

Dodds, P. and W. McDowall (2013), The future of the UK gas network, *Energy Policy*, Vol. 60 (2013), pp. 305-316.

Dolci F. et al. (2019), Incentives and legal barriers for power-to-hydrogen pathways: An international snapshot, *International Journal of Hydrogen Energy*, Vol. 44(23), pp. 11394-11401.

Fasihi M. et al. (2019), Techno-economic assessment of CO₂ direct air capture plants, *Journal of Cleaner Production*, Vol. 224(2019), pp. 957-980.

Frazer-Nash Consultancy (2018), *Appraisal of Domestic Hydrogen Appliances*, prepared for the UK Department of Business, Energy & FNC, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/699685/Hydrogen_Appliances-For_Publication-14-02-2018-PDF.pdf.

Giuntoli J. et al. (2015), *Solid and Gaseous Bioenergy Pathways: Input Values and GHG Emissions*, European Commission Joint Research Centre, Institute for Energy and Transport, Ispra, Italy.

GRDF (2018), *Perspectives gaz naturel & renouvelables sur l'horizon 2018-2035* (Natural gas and renewables perspectives, 2018-2035), GRDF, Paris.

H21 (2016), *Leeds City Gate, Northern Gas Networks*, Leeds, United Kingdom.

HyLaw (2019), *HyLaw* (database), www.hylaw.eu/database#/database/gas-grid-issues/injection-of-hydrogen-at-transmission-level-for-energy-storage-and-enhancing-sustainability, accessed 15 May 2019.

IEA (International Energy Agency) (2019), *The Future of Hydrogen*, IEA, Paris.

– (2018) *World Energy Outlook-2018*, IEA, Paris.

– (2010), *World Energy Outlook-2010*, IEA, Paris.

– (1995), *World Energy Outlook-1995*, IEA, Paris.

Koornneef J. et al. (2013), *Potential for Biomethane Production with Carbon Dioxide Capture and Storage*, Report 2013/11, IEAGHG, Paris.

Liebetrau J. et al. (2017), *Methane emissions from biogas plant*, IEA Bioenergy Task 37, https://www.ieabioenergy.com/wp-content/uploads/2018/01/Methane-Emission_web_end_small.pdf.

Jacobson M. et al. (2017), 100% Clean and Renewable Wind, Water, and Sunlight All-Sector Energy Roadmaps for 139 Countries of the World, *Joule*, 1(1), pp. 108-121.

Keith D. et al. (2018), A process for capturing CO₂ from the atmosphere, *Joule*, Vol. 2(8) pp. 1573-1594.

McDonagh S. et al. (2019), Are electro fuels a sustainable transport fuel? Analysis of the effect of controls on carbon, curtailment, and cost of hydrogen, *Applied Energy*, Vol. 247(1) pp. 716-730.

MTT Research (*Maa-ja elintarviketalouden tutkimuskeskus*) (Agrifood Research Centre, Finland), (2009), *Energy from field energy crops*, www.codigestion.com/fileadmin/codi/images/ENCROP/Handbook_for_energy_producers_www_version.pdf.

NATURALHY (2009), *Using the Existing Natural Gas System for Hydrogen*, www.fwg-grossbieberau.de/fileadmin/user_upload/Erneuerbare_Energie/Naturalhy_Brochure.pdf.

Navigant (2019), *Gas for Climate: The optimal role for gas in a net-zero emissions energy system*, Navigant, Utrecht, Netherlands.

NREL (US National Renewable Energy Laboratory) (2013), *Blending Hydrogen into Natural Gas Pipeline Networks: A Review of Key Issues*, NREL, www.nrel.gov/docs/fy13osti/51995.pdf.

Pérez-Fortes, M. and E. Tzimas (2016), *Techno-Economic and Environmental Evaluation of CO₂ Utilisation for Fuel Production*, European Commission Joint Research Centre, Petten, The Netherlands.

Quarton, C. and S. Samsatli (2018), Power-to-gas for injection into the gas grid: What can we learn from real-life projects, economic assessments and systems modelling?, *Renewable and Sustainable Energy Reviews*, Vol. 98, pp. 302-316.

Staffell I. et al. (2019), The role of hydrogen and fuel cells in the global energy system, *Energy & Environmental Science*, 463-491, doi: <https://doi.org/10.1039/C8EE01157E>.

Underground Sun Storage (2017), *Publizierbarer Endbericht*, (Published final report), www.underground-sun-storage.at/fileadmin/bilder/SUNSTORAGE/Publikationen/UndergroundSunStorage_Publizierbarer_Endbericht_3.1_web.pdf.

UNFCCC (United Nations Framework Convention on Climate Change) (2018), *CDM Methodology Booklet*, https://cdm.unfccc.int/methodologies/documentation/meth_booklet.pdf.

US EPA (US Environmental Protection Agency) (2019), *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2017*, US EPA, Washington, DC.

– (2016), *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2014*, US EPA, Washington, DC.

Chapter 14: Outlook for offshore wind

Bloomberg (2019), Bloomberg Terminal, accessed 16 September 2019.

BNEF (Bloomberg New Energy Finance) (2019), *Offshore Wind Projects June 2019*, BNEF, London.

Carbon Trust (2015), *Floating Offshore Wind: Market and Technology Review*, The Carbon Trust, United Kingdom.

Danish Energy Agency (2019), *Environmental Impacts of Offshore Wind Farms*, https://ens.dk/sites/ens.dk/files/Globalcooperation/Short_materials/environmental_impacts_of_offshore_wind_farms.pdf.

DIW ECON (2019), *Market Design for an Efficient Transmission of Offshore Wind Energy*, https://diw-econ.de/en/wp-content/uploads/sites/2/2019/05/DIW-Econ_2019_Market-design-for-an-efficient-transmission-of-offshore-wind-energy.pdf.

ENTSO-E (European Network of Transmission System Operators for Electricity) (2018), *Ten-Year Network Development Plan*, ENTSO-E, Brussels.

European Commission (2018), *A Clean Planet for all: A European Long-Term Strategic Vision for a Prospectus, Modern, Competitive and Climate Neutral Economy*, European Commission, Brussels.

Green Giraffe (2019), *Recent Trends in Offshore Wind Finance*, Green Giraffe, Bilbao, Spain.

IEA (International Energy Agency) (2019a), *World Energy Investment 2019*, IEA, Paris, www.iea.org/wei2019/.

– (2019b), *The Future of Hydrogen*, IEA, Paris, www.iea.org/hydrogen2019/.

– (2019c), *World Offshore Wind Outlook: World Energy Outlook Special Report*, IEA, Paris.

– (2018a), *World Energy Investment 2018*, IEA, Paris, www.iea.org/wei2018/.

– (2018b), *World Energy Outlook-2018*, IEA, Paris.

– (2018c), *Status of Power System Transformation*, IEA, Paris.

– (2017), *World Energy Outlook-2017*, IEA, Paris.

– (2016), *Re-powering Markets*, IEA, Paris.

IJGlobal (2019), *Asset Data*, <http://ijglobal.com>, accessed 16 September 2019.

IRENA (International Renewable Energy Agency) (2019), *Renewable Power Generation Costs in 2018*, IRENA, Abu Dhabi.

– (2016), *A Supplement to Innovation Outlook: Offshore Wind*, IRENA, Abu Dhabi.

IUCN (International Union for Conservation of Nature) (2013), *Guidelines for Applying Protected Area Management Categories*, IUCN, Gland, Switzerland.

NSWPH (North Sea Wind Power Hub) (2019), *Concept Paper 4: The Benefits*, NSWPH, https://northseawindpowerhub.eu/wp-content/uploads/2019/07/Concept_Paper_4-The-benefits.pdf.

NDRC (National Development and Reform Commission) (2019), *National Development and Reform Commission on Improving Wind Power: Notice of On-Grid Tariff Policy*, 21 May 2019, NRDC, Beijing.

– (2016), *Wind Power Development 13th Five-Year Plan*, NRDC, Beijing.

NREL (US National Renewables Energy Laboratory) (2017), *8760-Based Method for Representing Variable Generation Capacity Value in Capacity Expansion Models*, NREL, www.nrel.gov/docs/fy17osti/68869.pdf.

Open Power System Data (2019), *Open Power System (database)*, https://data.open-power-system-data.org/time_series, accessed 1 June 2019.

PBL (PBL Netherlands Environmental Assessment Agency) (2018), *Costs of Offshore Wind Energy 2018*, www.pbl.nl/en/publications/costs-of-offshore-wind-energy-2018.

Renewables.ninja, (database), www.renewables.ninja, accessed 1 July 2019.

Saint-Drenan Y. et al. (2019), *A Parametric Power Curve Model Dependent on the Main Characteristics of a Wind Turbine*, <https://arxiv.org/abs/1909.13780>, accessed 26 September 2019.

Staffell I. and S. Pfenninger (2016), Using Bias-Corrected Reanalysis to Simulate Current and Future Wind Power Output, *Energy*, Vol. 114, pp. 1224-1239.

The Wind Power (2019), www.thewindpower.net, accessed 16 September 2019.

Ueckerdt F. et al. (2016), Decarbonizing the Global Power Supply under Region-Specific Consideration of Challenges and Options of Integrating Variable Renewables in the REMIND Model, *Energy Economics*, Vol. 64, pp. 665-684.

Ueckerdt F. et al. (2013), System LCOE: What are the costs of variable renewables?, *Energy*, Vol. 63, pp. 61-75.

US DOE (United States Department of Energy), *2018 Offshore Wind Technologies Market Report*, US DOE, Oak Ridge, Tennessee, United States.

van Zalk, J. et al. (2018), The spatial extent of renewable and non-renewable power generation: A review and meta-analysis of power densities and their application in the United States, *Energy Policy*, Vol. 123, pp. 83-91.

WindEurope (2019), *Offshore Wind in Europe: Key Trends and Statistics 2018*, WindEurope, <https://windeurope.org/about-wind/statistics/offshore/european-offshore-wind-industry-key-trends-statistics-2018/>, Brussels.

– (2017), *Floating Offshore Wind Vision Statement*, Brussels, <https://windeurope.org/wp-content/uploads/files/about-wind/reports/Floating-offshore-statement.pdf>.

World Bank (2019), *New Program to Accelerate Expansion of Offshore Wind Power in Developing Countries*, World Bank, Washington DC.

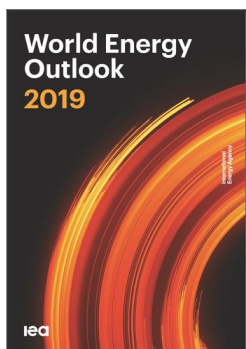
WWF (World Wildlife Fund for Nature) (2014), *Environmental Impacts of Offshore Wind Power Production in the North Sea*, Oslo, www.wwf.no/assets/attachments/84-wwf_a4_report__havvindrapport.pdf.

Xiang X. et al. (2016), Cost Analysis and Comparison of HVAC, LFAC and HVDC for Offshore Wind Power Connection, 12th IET International Conference on AC and DC Power Transmission, *IET Conference Publications 696*, pp. 29-35, Beijing.

Annex B

BGR (German Federal Institute for Geosciences and Natural Resources) (2018), *Energiestudie 2018, Reserven, Ressourcen und Verfügbarkeit von Energierohstoffen*, (Energy Study 2018, Reserves, Resources and Availability of Energy Resources), BGR, Hannover, Germany.

- BP (2019), *BP Statistical Review of World Energy 2019*, BP, London.
- Cedigaz (2019), Cedigaz databases, Cedigaz, Rueil-Malmaison, France, www.cedigaz.org.
- IEA (International Energy Agency) (2019), *World Energy Investment 2019*, IEA, Paris.
- IMF (International Monetary Fund) (2019), *World Economic Outlook*, IMF, Washington, DC.
- IRENA (International Renewable Energy Agency) (2019), *Renewable Power Generation Costs in 2018*, IRENA, Abu Dhabi.
- OGJ (Oil and Gas Journal) (2018), Worldwide Oil, Natural Gas Reserves exhibit marginal increases, *OGJ* 116 (12), Pennwell Corporation, Oklahoma City, Oklahoma, United States.
- United Nations Population Division, UNDESA, (database), <https://www.un.org/en/development/desa/population/publications/database/index.asp>.
- US DOE/EIA (US Department of Energy/Energy Information Administration) (2019), *Assumptions to the Annual Energy Outlook 2019*, US DOE/EIA, Washington, DC.
- (2018), *U.S. Crude Oil and Natural Gas Proved Reserves, Year-end 2017*, US DOE/EIA, Washington, DC.
- US DOE/EIA/ARI (US Department of Energy)/(Energy Information Administration)/(Advanced Resources International) (2013 and last updated September 2015), *Technically Recoverable Shale Oil and Shale Gas Resources: An Assessment of 137 Shale Formations in 41 Countries Outside the United States*, US DOE/EIA, Washington, DC.
- USGS (United States Geological Survey) (2012a), “Assessment of Potential Additions to Conventional Oil and Gas Resources of the World (Outside the United States) from Reserve Growth”, *Fact Sheet 2012–3052*, USGS, Boulder, Colorado, United States.
- (2012b), “An Estimate of Undiscovered Conventional Oil and Gas Resources of the World”, *Fact Sheet 2012–3042*, USGS, Boulder, Colorado, United States.



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