

References

- [1] European commission. Attitudes of european citizens towards the environment. 2017.
- [2] The shift project. Lean ict towards digital sobriety. 2019.
- [3] Jodie Van Horn Gary Cook. How dirty is your data ? a look at the energy choices that power cloud computing. 2011.
- [4] Mitchell Waldrop. The chips are down for moore's law. 2016.
- [5] Haut conseil pour le climat. Maitriser l'impact carbone de la 5g. 2020.
- [6] IPCC. Climate change 2014: Synthesis report. contribution of working groups i, ii and iii to the fifth assessment report of the intergovernmental panel on climate change. *Internet Request for Comments*, 2014.
- [7] Climate Action Tracker. Warming projections global update. 2021.
- [8] John Cook, Naomi Oreskes, Peter T. Doran, William R. L. Anderegg, Bart Verheggen, Ed W. Maibach, J. Stuart Carlton, Stephan Lewandowsky, Andrew G. Skuce, Sarah A. Green, Dana Nuccitelli, Peter Jacobs, Mark Richardson, Bärbel Winkler, Rob Painting, and Ken Rice. Consensus on consensus: a synthesis of consensus estimates on human-caused global warming. *Environmental Research Letters*, 2016.
- [9] Intergovernmental panel on climate change. Climate change 2013 the physical science basis. 2013.
- [10] John J. Kennedy, Mike Kendon, Rachel E. Killick, Robert J. H. Dunn, Rob J. Allan, Nick A. Rayner, and Mark McCarthy. Global and regional climate in 2019. *Weather*, 2020.

- [11] Ahmet Ay Emrah Sofuoğlu. The relationship between climate change and political instability: the case of mena countries (1985:01–2016:12). *Environmental Science and Pollution Research*, 2020.
- [12] Kanta Kumari Rigaud et al. Groundswell preparing for internal climate migration. *World bank group*, 2018.
- [13] Abrahm Lustgarten. The great climate migration. *The New York Times Magazine*, 2020.
- [14] IPCC. Annex iii: Glossary [planton, s. (ed.)]. in: Climate change 2013: The physical science basis. contribution of working group i to the fifth assessment report of the intergovernmental panel on climate change. 2013.
- [15] Paul Balcombe, Jamie F. Speirs, Nigel P. Brandon, and Adam D. Hawkes. Methane emissions: choosing the right climate metric and time horizon. *Environ. Sci.: Processes Impacts*, 2018.
- [16] Myles R. Allen et al. New use of global warming potentials to compare cumulative and short-lived climate pollutants. *Nature*, 2016.
- [17] John Lynch et al. Demonstrating gwp*: a means of reporting warming-equivalent emissions that captures the contrasting impacts of short- and long-lived climate pollutants. *Environmental Research Letters*, 2020.
- [18] Bradley Ridoutt. Short communication: climate impact of australian livestock production assessed using the gwp* climate metric. *Livestock Science*, 2021.
- [19] Hannah Ritchie and Max Roser. Emissions by sector. *Our world in data*, 2021.
- [20] Julian Allwood Jonathan Cullen. The efficient use of energy: Tracing the global flow of energy from fuel to service. *Energy Policy*, 2010.
- [21] European Environment Agency. Emissions of the main air pollutants in europe. 2019.
- [22] United States Environmental Protection Agency. Sulfur dioxide (so₂) pollution. 2019.
- [23] United States Environmental Protection Agency. Nitrogen dioxide (no₂) pollution. 2016.

- [24] Gerhard Lammel and Hartmut Grassl. Greenhouse effect of nox. *Environmental Science and Pollution Research*, 1995.
- [25] Jonilda Kushta, Niki Paisi, Hugo Denier Van Der Gon, and Jos Lelieveld. Disease burden and excess mortality from coal-fired power plant emissions in europe. *Environmental Research Letters*, 2021.
- [26] Karn Vohra, Alina Vodonos, Joel Schwartz, Eloise A. Marais, Melissa P. Sulprizio, and Loretta J. Mickley. Global mortality from outdoor fine particle pollution generated by fossil fuel combustion: Results from geos-chem. *Environmental Research*, 2021.
- [27] United States Environmental Protection Agency. Land use : What are the trends in land use and their effects on human health and the environment? 2021.
- [28] Hannah Ritchie and Max Roser. Land use. *Our world in data*, 2019.
- [29] S. Diaz. Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the intergovernmental science-policy platform on biodiversity and ecosystem service. *Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services*, 2019.
- [30] Malcolm Farley. *Eutrophication in Fresh Waters: An International Review*, pages 258–270. Springer Netherlands, Dordrecht, 2012.
- [31] Yi Li, Jiahui Shang, Chi Zhang, Wenlong Zhang, Lihua Niu, Longfei Wang, and Huanjun Zhang. The role of freshwater eutrophication in greenhouse gas emissions: A review. *Science of The Total Environment*, 2021.
- [32] Moses Karakouzian Mohammad Nazari-Sharabian, Sajjad Ahmad. Climate change and eutrophication: A short review. *Engineering, Technology & Applied Science Research*, 2018.
- [33] Thomas C. Malone and Alice Newton. The globalization of cultural eutrophication in the coastal ocean: Causes and consequences. *Frontiers in Marine Science*, 2020.
- [34] Sayer, Reader, and Dalziel. Freshwater acidification: effects on the early life stages of fish. *Reviews in Fish Biology and Fisheries*, 1993.

- [35] Daniel M. Flanagan. Mineral commodity summaries. *U.S. Geological Survey*,, 2021.
- [36] International Energy Agency. World energy outlook 2012. 2012.
- [37] Charles A.S. Hall, Jessica G. Lambert, and Stephen B. Balogh. Eroi of different fuels and the implications for society. *Energy Policy*, 2014.
- [38] Rystad Energy. Ucube. 2021.
- [39] Rystad Energy. Shalewellcube. 2021.
- [40] Paul W. Gruber, Pablo A. Medina, Gregory A. Keoleian, Stephen E. Kesler, Mark P. Everson, and Timothy J. Wallington. Global lithium availability. *Journal of Industrial Ecology*, 15(5):760–775, 2011.
- [41] Rystad Energy. Millions of electric vehicles may face production delays from 2027 as lithium mining capacity lags. 2021.
- [42] European Commission. Study on the review of the list of critical raw materials. 2017.
- [43] Bobba et al. Critical raw materials for strategic technologies and sectors in the eu. 2020.
- [44] Organisation for Economic co operation and development. Measuring the information economy 2002. 2002.
- [45] Jon Gough. E-commerce and internet use: What defines the digital sector ? 2015.
- [46] Frédéric Bordage. Empreinte environnementale du numérique mondial. 2019.
- [47] The world bank. World development indicators. 2021.
- [48] Cisco. Cisco annual internet report (2018–2023). 2020.
- [49] Anders S. G. Andrae and Tomas Edler. On global electricity usage of communication technology: Trends to 2030. *Challenges*, 2015.
- [50] European Commission. Shaping europe’s digital future. 2020.
- [51] Enerdata. Between 10 and 20% of electricity consumption from the ict sector in 2030? 2018.

- [52] International Energy Agency. Data centres and data transmission networks. 2020.
- [53] Nokia. People and planet report 2017. 2017.
- [54] Aarne Mämmelä. Energy efficiency in 5g networks. *International Federation for Information Processing*, 2015.
- [55] Ch. Poinssot, S. Bourg, N. Ouvrier, N. Combernoux, C. Rostaing, M. Vargas-Gonzalez, and J. Bruno. Assessment of the environmental footprint of nuclear energy systems. comparison between closed and open fuel cycles. *Energy*, 2014.
- [56] International Trade Center. Trade map. 2018.
- [57] The dragonfly initiative. Guide to the scoping study. 2017.
- [58] Saleem H. Ali Laura J. Sonter and James E. M. Watson. Mining and biodiversity: key issues and research needs in conservation science. *Proc. R. Soc. B.*, 2018.
- [59] ADEME. Face cachée du numérique : Réduire les impacts du numérique sur l’environnement. 2019.
- [60] American forest and paper association. Printing & writing papers : Life-cycle assessment summary report. 2007.
- [61] Jeswani and Azapagic. Is e-reading environmentally more sustainable than conventional reading? *Clean Technologies and Environmental Policy*, 2015.
- [62] Liliane Dedryver. La consommation de métaux du numérique : un secteur loin d’être dématérialisé. *France stratégie*, 2020.
- [63] Conseil national du numérique. Feuille de route sur l’environnement et le numérique. 2020.
- [64] Citizing. Étude relative à l’évaluation des politiques publiques menées pour réduire l’empreinte carbone du numérique. 2018.
- [65] Dag Lundén Jens Malmödin. The energy and carbon footprint of the ict and e&m sector in sweden : 1990-2015 and beyond. *Advances in Computer Science Research*, 2016.

- [66] World Economic Forum. State of the connected world : 2020 edition. 2020.
- [67] Paul E. Brockway, Steve Sorrell, Gregor Semieniuk, Matthew Kuperus Heun, and Victor Court. Energy efficiency and economy-wide rebound effects: A review of the evidence and its implications. *Renewable and Sustainable Energy Reviews*, 2021.
- [68] Zeke Hausfather. Analysis: Why children must emit eight times less co2 than their grandparents. 2019.
- [69] Ministère de la Transition Écologique. Indice de réparabilité. 2021.