

A Study of Mahindra & Mahindra Limited's Green Policy Initiatives: Implications for Sustainable Approach in Automobile Industry

Neeharika

Doctoral Research Scholar, Department of Commerce, Deen Dayal Upadhyaya Gorakhpur University

Abstract: The purpose of this study is to understand how green initiatives and policy adoption in the era of Industry 4.0 is beneficial for company and economy. By taking many green initiatives, the automobile sector is showing its serious concern towards environmental issues. Stakeholders look forward to implementing sustainable logistics and circular practices to deal with these critical issues such as waste generation, resource scarcity, use of renewable resources, climate change etc. This study examines the green practices and initiatives, 4.0 technologies, and policy adoption in Mahindra Ltd. The study also investigated the moderating effect of these initiatives taken by Mahindra Ltd. This research work also provides several managerial and theoretical implications for the policy makers, related companies and other industries.

Keywords: green initiatives, co2 emission, Mahindra Ltd., sustainability, carbon neutrality, GHG.

1-INTRODUCTION

The rise in environmental concerns that have threatened humanity has spotlighted the need to save the environment (Agyabeng - Mensah et al., 2020). Mahindra's environmental sustainability strategy is aligned with the Paris Agreement's goal of limiting global warming to 1.5° Celsius, compared to pre-industrial levels. To contribute on this ambitious target, Mahindra has committed to being a carbon neutral company by 2040 through Science Based Target Initiatives (SBTi). Mahindra is a leader in the ESG space in India and is well poised to become a global leader. Mahindra joined the 'First Movers Coalition' to work towards driving demand for zero-carbon technologies at the World Economic Forum, along with global giants such as Amazon and Apple. Mahindra is the only one named to the leadership band for corporate sustainability by the global environmental non-profit CDP. Being one of the largest car and tractor manufacturers in the world, they are aware of the impact the company has on the

environment. Therefore, they are taking planet positive initiatives to mitigate the risks. This paper tries to understand and analyses the initiatives and its overall impact on economy, society and environment.

M&M has become the first Indian 'Automobile and Components' company to enter the World Index of Dow Jones Sustainability Indexes (DJSI). They are the first company in the world to announce doubling of energy productivity; the first Indian company to announce internal carbon price of USD 10 per ton of carbon emitted; and in 2019, they also got the SBTi targets approved. The policy includes identification of risks, including Climate Change and related risks, and also those which may threaten future existence. The risk management process has been established across the company and is designed to identify, assess and frame a response to threats that affect the achievement of objectives.

Green financial policies and initiative are used for aligning finance flows with the Paris Agreement, and how do countries differ in their policy output in this regard? To this end, we present analysis of initiative and its overall impact. Applying Hood's (1983) taxonomy of policies along governing resources employed and the established measure of policy density. This paper explores policy output. On the basis of the research, observations and analysis, we finally develop a research agenda to deepen the understanding of this important but little-studied area of green policies ,climate policies environmental friendly investments etc.

2-OBJECTIVE

To observe the influence of green initiatives practices and adoption in the selected company.

To explore the mediating effect of green initiatives on Industry 4.0.

To analyse the actual implications of green policies on environment and economic welfare.

3-LITERATURE REVIEW

In the Paris Agreement, more than 190 countries have committed to limiting global warming to well below 2 °C. However, policy action falls dramatically short in delivering on this commitment (Masson-Delmotte et al 2018). Effective climate policies need to induce a rapid transition to new low-carbon technologies, including in the energy, transport, and building sectors (Edenhofer et al 2011, Williams et al 2012, Luderer et al 2018) However, redirecting finance flows is also highly important in industrialized countries (World Resources Institute 2018, Ameli et al 2019, Gençsü et al 2020). Therefore, changing the behavior of financial actors is considered a key element in reaching a Paris-compatible pathway (Campiglio 2016, Ameli et al 2019, Ewers et al 2019, Otto et al 2020, UNEP Finance Initiative 2020).

4-RESEARCH METHODOLOGY

This paper is purely based on secondary data. The data incorporated in the study has been taken from various reports of Mahindra ltd. In order to develop base and understanding about green policy framework Government websites are also being accessed to develop the foundation and direction for the research, observation and analysis and future scope.

5-FINDINGS AND DISCUSSION

There is growing recognition that the social and environmental challenges are so complex and multidimensional that only solution is for government, non-profit organisation and businesses to work together. In order to examine and analyse present status the paper tried to look into the green initiatives and socially responsible actions taken by one of the most recognised companies in the automobile industry that is Mahindra ltd.

Some of its key green initiatives were observed which are mentioned below:

5.1- Key Environmental Materiality Topics

Mahindra engages with internal and external stakeholders to identify key environmental topics that concern their stakeholders and businesses the most. These are then benchmarked against peers and the final materiality matrix emerges after mapping,

prioritising, preparing and validating the topics. Apart from reporting sustainability, they use materiality topics as a strategic business tool to identify and manage risks, opportunities and megatrends. Following materiality topics were found to be of importance for all stakeholders during assessment:

Environment Initiatives	Amount (in INR million)
STP/ETP Maintenance	14
Air Emission Monitoring	2
External Certification of Management System	1
Renewable Energy Certificates	0.07
Pollution Control	2
Waste Disposal /Treatment	15
Total Environmental Expenditure	35



Source: Mahindra sustainability report 2021-22.

These core topics were given due importance while formulating the sustainability strategy. Mahindra is committed and took initiatives pertaining to each topic mentioned in their respective section.

5.2-CARBON EMISSIONS MANAGEMENT APPROACH

Mahindra has a thorough understanding of climate change and focusses on long-term initiatives that have a positive effect on environment. The company is committed to achieving carbon neutrality target by 2040 and are well on the way to reduce carbon emissions across manufacturing operations.

5.3-INVESTMENT IN ENVIRONMENTAL MANAGEMENT:

Mahindra Holidays has become India's first hospitality company that has signed both RE100 (Renewable Energy) and EP100 (Energy Productivity). The company has set targets to run on 100% renewable energy by 2050 and to double energy productivity by 2030. It has also committed to the EP100 cooling challenge for which it monitors

the efficiency of air conditioning systems and implements energy efficient solutions.

5.4- EMPLOYEE CAPABILITY BUILDING

Employee capability determines not only current business performance but also the speed at which a business adapts to meet future needs. Hence, capability building at Mahindra is a systematic development approach that integrates knowledge and skills to create future leaders. The approach focuses on competency mapping and enhancing employees' mindsets, skills and behaviours. 'Abundant Learning Opportunities' is a part of there Employee Value Proposition and all Mahindra Subsidiaries undertake regular learning and development initiatives.

5.5 SOME OTHER INITIATIVES

5.5.1 MAHINDRA ACCELO

5.5.2-POSH AWARENESS SESSION Organised a mandatory session on Prevention of Sexual Harassment at Workplace with a subject expert for the prevention, prohibition and redressal of complaints.

5.5.3- HUMAN RIGHTS AWARENESS TRAINING Human Rights Education promotes values, beliefs and attitudes that encourage all individuals to uphold their own rights and those of others at work as well as in daily life. We organised a Compliance Training on Human Rights to strengthen awareness on prevalent issues and prevention of violations.

5.6- MAHINDRA LIFE SPACES

5.6.1- SUSTAINABILITY CAPACITY BUILDING Mahindra invest substantially in building the capacity of their employees on sustainability related topics such as reporting and disclosures, waste management, carbon neutrality, energy, water and waste efficiency, and green buildings. More than 80% of their employees have been trained in sustainability.

5.7 MAHINDRA FINANCE

5.7.1-DAKSH: Organised for there business and collection executives who play a crucial role in achieving targets this capability building programme aims to develop the frontline employees. Divisional Managers (DMs) undergo a Train the Trainer programme which equips them with all the necessary knowledge, SOP and competence, to train their team of BEs and CEs (Business and Collection

Executives). 87% of area managers and 75% of executives have been trained by DMs in classroom session format.

5.7.2- SAMARTH

A capability development programme for our branch accountants across our branches, that focusses on instilling and maintaining the first-time-right work standards to provide customer delight at every touch point. 372 employees with a minimum of two years of experience have undertaken this programme. 25 SMEs from across India have been selected to build the functional content internally based on their expertise.

5.8-FOSTERING INCLUSIVE GROWTH MANAGEMENT APPROACH

The success of a business stems from the growth of the community. Empowered communities create an ecosystem of good health and collective prosperity. With this in mind, all Mahindra companies and subsidiaries work to create healthy and self-sustaining communities. Driven by the purpose to create positive impact, Mahindra companies and subsidiaries go beyond philanthropy and focus on fostering inclusive growth that advances community development.

Across India, all their subsidiaries have diverse and unique initiatives for community welfare. Over the years, the collective efforts of all Mahindra Group company have transformed the lives of thousands of people all over the world.

2.5 million people benefitted from Tech Mahindra Foundation's COVID-19 relief efforts

6,000 masks and 2,500 sanitiser bottles distributed at Chunchale Gharku by Mahindra EPC Irrigation Limited.

16,715 students were trained in F22 through Tech Mahindra Foundation's SMART Centres

3,000 villagers to be benefitted by Mahindra Holidays & Resorts' Water Rejuvenation Project



Education & Skilling



Environment and Rural Development



Women's Empowerment



Health and Well - Being

The company focuses on four major areas shown above.

Over the years, the company has impacted 3,32,730 lives across all the programmes (41,374 in FY 2022). In addition, over 2.5 million lives were impacted through COVID Response programme.

5.9-ENVIRONMENT

Environmental protection and biodiversity conservation are crucial to mitigate and manage climate change. The Mahindra Group and its companies realise the urgency of reducing the destruction of ecosystems, and have implemented the multiple initiatives and projects such as:

5.10 PROJECT HARIYALI

The Mahindra Group contributes to increasing the tree cover through Project Hariyali. The main purpose of the project is to restore the diminishing green cover and build awareness on environment protection across communities. Some of the tree plantation and awareness efforts undertaken by various companies include

5.11-MAHINDRA SUSTEN

Planted 20,681 trees with M&M and are raising 38,148 tree saplings for next year's plantation drive. Plantation activities were taken up at various sites other than company premises, such as schools and police stations, and about 780 saplings planted. The focus is on ensuring large scale tree plantation with natural resource management and global organic farming protocols to support local community livelihoods and enrich the agricultural ecosystems to

build functional forests. This will benefit 44,116 people from villages/districts in Rajasthan, Gujarat, Himachal Pradesh, Uttar Pradesh and Punjab.

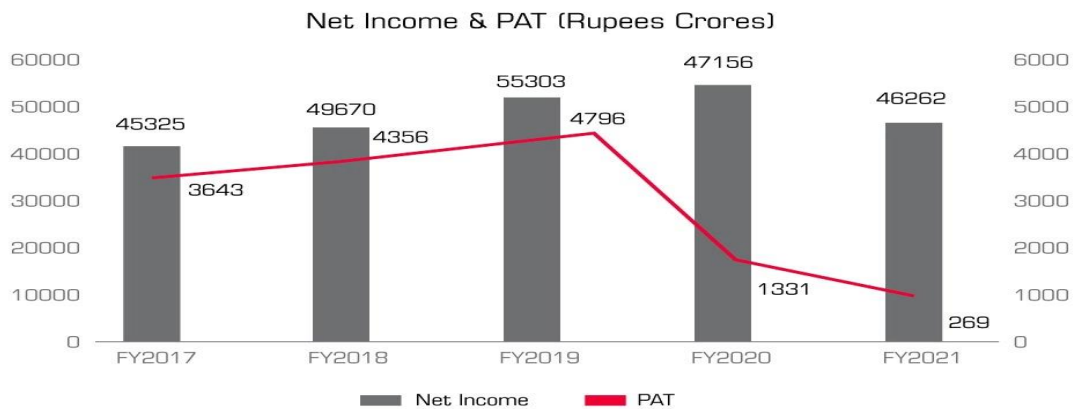
5.12- SUSTAINABLE FUELWOOD MANAGEMENT

5.12.1-MAHINDRA HOLIDAYS & RESORTS Mahindra Holidays & Resorts in collaboration with Sambhav Foundation implemented an initiative in Sustainable Fuelwood Management in Mussoorie (Uttarakhand) and Varca (Goa). The key objective of the project was to promote sustainable and cleaner form of cooking among the community. At present, the demand for modern fuels, renewable cooking alternatives, advanced biomass cookstoves (ACSS) and improved biomass cookstoves (ICSS) is still very low. The biggest challenge is the affordability of fuel and cookstove for end users, who often have very low awareness about the benefits of the alternatives. To sensitise the people about the importance of sustainable fuel management, we held an awareness camp and distributed cookstoves. Our NGO partner will keep a monthly track of the beneficiaries' cookstove usage. During F22, the project benefitted around 800 households

5.13-PERFORMANCE:

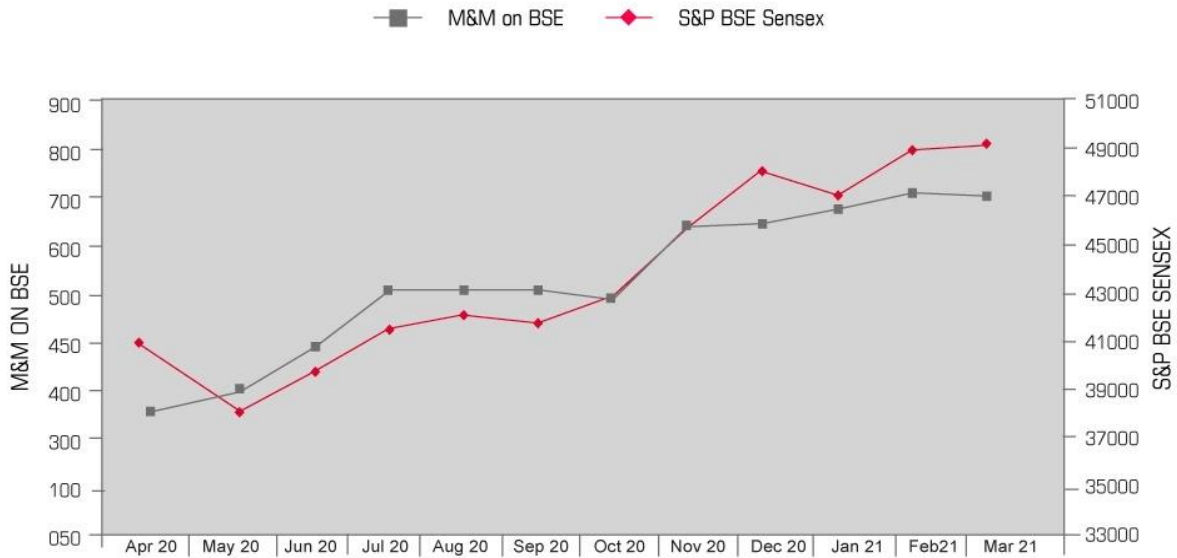
Emission tCO2
 Source: Mahindra Sustainability report 2021-22
 This table shows how Mahindra Ltd. has worked on reducing the carbon emission over the passing years.

Total Absolute GHG Emissions	2018-19	2019-20	2020-21	2021-22
Scope 1 (Direct Emissions)	56,600	41,386	48,862	54,715
Scope 2 (Indirect Emissions)	2,82,492	2,63,137	2,29,003	2,23,782
Total Absolute GHG Emissions	3,39,092	3,04,523	2,77,865	2,78,497



Source: <https://www.mahindra.com/investors/financial-highlights>

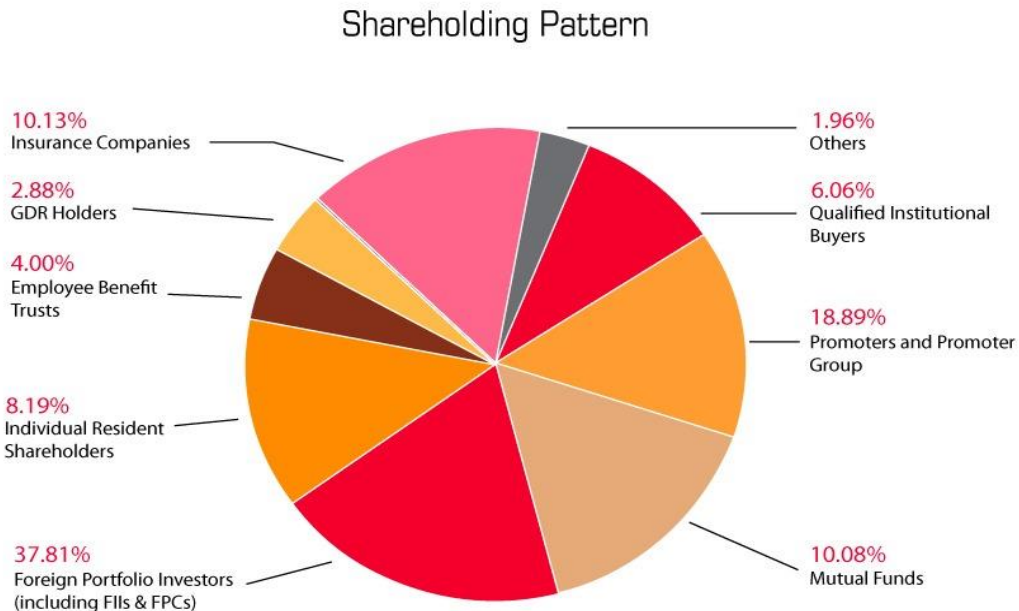
We can observe the above graph to understand net profit and profit after tax of Mahindra ltd. Till financial year 2021.



Closing Price on Last Trading day of the Month

Source: <https://www.mahindra.com/investors/financial-highlights>

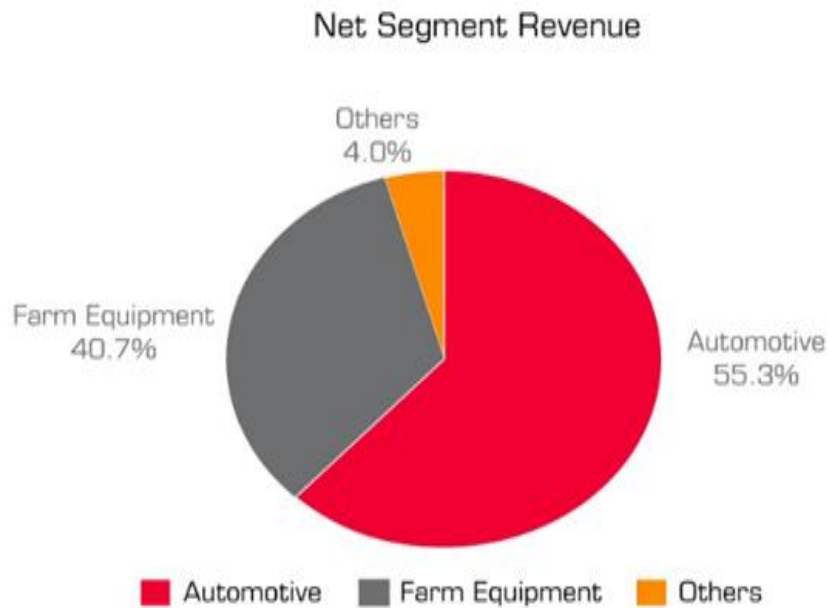
Mahindra Ltd.'s stock market upward graph shows its stock market stability and rise and demand over last 18 months .



% of total shares of the Company held at the end of the year [As on 31st March 2021]

Source: <https://www.mahindra.com/investors/financial-highlights>

Mahindra is also a good investor and we can see its share of investment in various sector.



Source: <https://www.mahindra.com/investors/financial-highlights>

We can observe that 53.3% revenue is generated from Mahindra’s automotive sector 40.7% from farm equipment’s .and 4% from other sectors .

6-CONCLUSION AND FUTURE IMPLICATIONS

The stocktaking of green financial policies until 2019 clearly shows an increased momentum of policy output after the Paris Agreement, suggesting some effort to be incorporated in industries in the era of Industry 4.0. However, similar to other climate policy areas, there are large differences in the ambitions of countries (as measured by their policy density). While the paper considers the analysis of green policy framework and initiatives as a starting point for more detailed studies, the present results should also be of direct interest to various stakeholders. For policymakers and other companies, the inventory and categorization of policies can help evaluate the available options for redirecting finance flows consistent with the Paris Agreement. Green financial policies are a policy innovation for many companies and industries, but our analysis emphasizes that a versatile toolbox has already been implemented in Mahindra Ltd., encouraging policymakers to use the various governing resources available. A greater transparency in green financial policies employed internationally can facilitate policy learning from the experience of others (Meseguer 2005) in the area. For automobile companies climate policy advocates, the transparency created can help to hold

accountable the companies that are laggards in green initiatives policies and action. Delivering on the ‘Forgotten Goal of the Paris Agreement’ (World Resources Institute 2018) of aligning finance flows in OECD countries in no way competes with providing climate finance to developing countries, as both are required to achieve a pathway of economic prosperity within the boundaries of the Paris Agreement. Specifically, advocates can engage with financial centres that are important for global financial markets but have only a few green financial policies in place. For researchers, much work is still required to increase the understanding of green financial policies, initiatives and actions being taken and incorporated in various industries. Here, we present a research agenda structured along to analyse and develop an understanding about the present scenario and we found that the green initiatives taken and incorporated by Mahindra Ltd. has an overall positive impact on environment, society and economy. Future research scope is open in various related domains to develop an understanding about green initiatives, carbon footprints, and green finance, Paris agreement, SDG goals etc.

REFERENCE

- [1] Agyabeng-Mensah, Y., Ahenkorah, E., Afum, E., Nana Agyemang, A., Agnikpe, C. and

- Rogers, F. (2020). Examining the influence of internal green supply chain practices, green human resource management and supply chain environmental cooperation on firm performance. *Supply Chain Management*, Vol. 25 No. 5, pp. 585-599. <https://doi.org/10.1108/SCM-11-2019-0405>
- [2] Ameli N, Drummond P, Bisaro A, Grubb M and Chenet H (2019). Climate finance and disclosure for institutional investors: why transparency is not enough. *Climatic Change* (2020) 160:565–589 <https://link.springer.com/content/pdf/10.1007/s10584-019-02542-2.pdf>
- [3] Climate Transparency (2017) Financing the Transition from Brown to Green: How to Track Country Performance Towards Low Carbon, Climate-Resilient Economies (ODI and HVGP) <https://www.climate-transparency.org/finance>
- [4] Campiglio E (2016). Beyond carbon pricing: the role of banking and monetary policy in financing the transition to a low-carbon economy. *Ecological Economics* 121 220–30. https://www.researchgate.net/publication/274196840_Beyond_carbon_pricing_The_role_of_banking_and_monetary_policy_in_financing_the_transition_to_a_low-carbon_economy
- [5] Ewers B, Donges J F, Heitzig J and Peterson S(2019). Divestment May Burst the Carbon Bubble if Investors’ Beliefs tip to Anticipating Strong Future Climate Policy. *Papers (arXiv:1902.07481)* <https://ideas.repec.org/p/arx/papers/1902.07481.html>
- [6] Edenhofer O et al 2011 IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation (Cambridge, United Kingdom and New York, NY, USA) <https://www.semanticscholar.org/paper/IPCC-Special-Report-on-Renewable-Energy-Sources-and-Revel/53b88106f94b7e76892e17d1c322b1a84dc62222>
- [7] Gençsü I, Whitley S, Trilling M, Van Der Burg L, McLynn M and Worrall L(2020). Phasing out public financial flows to fossil fuel production in Europe, *Climate Policy* 20 1–14 <https://www.readkong.com/page/phase-out-2020-monitoring-europe-s-fossil-fuel-subsidies-5027273>
- [8] Hood C C 1983 The Tools of Government (London: Macmillan) *Journal of Public Policy* Volume 4 Issue 2. <https://www.cambridge.org/core/journals/journal-of-public-policy/article/abs/christopher-hood-the-tools-of-government-macmillan-1983-viii-178pp-1250-hbk-650-pbk/AD0C49C66B6BFF73E455EE3F9AE6D81D>
- [9] IEA 2020 IEA Policies Database (available at: www.iea.org/policies)
- [10] IMF 2000 Supporting Document to the Code of Good Practices on Transparency in Monetary and Financial Policies—Approved by the IMF Executive Board on July 24, 2000 (Washington, DC)
- [11] Luderer G et al(2018) Residual fossil CO2 emissions in 1.5 °C–2 °C pathways .*Nature Climate Change (Nature Publishing Group)-* Vol. 8, Iss: 7, pp 626-633 <https://www.nature.com/articles/s41558-018-0198-6/>
- [12] Sustainability Report 2021-22-Mahindra <https://www.mahindra.com/resources/pdf/sustainability/Mahindra-Sustainability-Report-2021-22.pdf>(retrieved on 24-12-2022)
- [13] Masson-Delmotte V et al 2018 IPCC Special Report 1.5—Summary for Policymakers
- [14] OECD 2020 OECD National Accounts Statistics (available at: www.oecd-ilibrary.org/economics/data/oecd-nationalaccounts-statistics_na-data-en)
- [15] Otto I M et al(2020). Social tipping dynamics for stabilizing Earth’s climate by 2050 Proc. Natl Acad. Sci. 117 2354–65 <https://doi.org/10.1073/pnas.1900577117>
- [16] UNEP Finance Initiative (2020) UN-convened Net-Zero Asset Owner Alliance (available at: www.unepfi.org/net-zeroalliance/)
- [17] UN Environment Programme 2019 Measures backing green finance more than doubled since 2015, UN figures show Press Release (13 December 2019) (available at: <https://greenfinanceplatform.org/news/measures-backing-greenfinance-more-doubled-2015-un-figures-show>)
- [18] Williams J H, Debenedictis A, Ghanadan R, Mahone A, Moore J, Iii W R M, Price S and Torn M S(2012) . The Technology Path to Deep Greenhouse Gas Emissions Cuts by 2050: The Pivotal Role of Electricity *Research Article* <https://sci-hub.se/10.1126/science.1208365>