

Battery Supply Chain

#3 Risk Mitigation and Positive Impact



Attendees of a first aid training organized by the FCA in the DRC



Tesla’s engagement in the DRC and the Fair Cobalt Alliance (FCA)

The DRC is an important source of cobalt for Tesla batteries. We will continue supporting sourcing from the DRC provided our responsible sourcing standards are met. While Tesla does not source cobalt from Artisanal and Small-Scale Mining (ASM), we recognize the importance of ASM for local livelihoods. This is why Tesla provides funding to, and sits on, the Steering Committee of the Fair Cobalt Alliance (FCA), a multi-stakeholder initiative to support the improvement of conditions in communities impacted by artisanal mining through the following activities:

- Occupational health and safety awareness raising campaign for mine workers
- First aid training for mine workers and selection of safety captains
- Distribution of protective equipment to washer women
- Creation of savings groups for mining community members paired with financial literacy training
- Development of referral system for children engaged in mining activities, including child labor notification protocol, remediation solution packages, and guidelines for case managers on remediation steps, in collaboration with the NGO, Save the Children
- Trainings related to child rights
- Electrification of five schools covering students through the distribution of solar-chargeable portable lamps
- A marketplace and football field selected for the placement of lighting poles

Battery Supply Chain

#4 Collaboration with Industry Initiatives



Collaboration with industry initiatives

Tesla understands that many of the environmental and social issues in global EV supply chains do not concern Tesla, alone. Tesla is actively engaging in multi-stakeholder forums and industry groups to find industry-wide solutions to industry-wide questions:

- **Initiative for Responsible Mining Assurance (IRMA):** Tesla joined IRMA as a Member in 2021 to support responsible mining practices and transparent and robust audit processes that emphasize community interviews. It is important to Tesla that NGOs and communities actively participate in third-party audits of mines against the IRMA Standard, as their perspectives provide greater context on mining operations and the impacts of extraction, while also increasing accountability and identifying opportunities for improvement.
- **Global Battery Alliance (GBA):** Tesla has been involved in the GBA since 2020 and has served on the GBA Board and Battery Passport Steering Committee since 2021. Tesla's goal as part of the GBA is to advocate for high standards for responsible battery materials sourcing, align with EU regulatory requirements, and support the development of actionable guidance related to GHG emissions data collection, recycling, and in-country environmental and social projects.
- **Responsible Minerals Initiative (RMI):** Tesla is a member of the RMI to support the RMI's refiner audit programs and industry-wide responsible sourcing dialogue.
- **IFC Net Zero Roadmap Working Group:** Tesla has participated in the IFC Working Group since early 2022 to provide a downstream perspective in the development of actionable guidance for mine sites to reduce carbon emissions.
- **Re|Source:** Tesla participates in the supply chain-wide Re|Source consortium to pilot blockchain-supported traceability in the cobalt supply chain. Tesla offers insights from an OEM perspective on metrics critical to traceability efforts and works with the consortium towards the first end-to-end blockchain-enabled tracing of cobalt material starting from Tesla's supplier in the DRC to Gigafactory Shanghai.
- **Fair Cobalt Alliance (FCA):** Please see the previous page.

Battery Supply Chain Outlook



Outlook for battery supply chain responsible sourcing: Formalization and expansion

Tesla’s battery responsible sourcing program is still relatively new. Yet, the program has achieved several important milestones this last year, including the development and initial implementation of a system to identify environmental and social risks in the battery supply chain and concrete progress towards mitigation and improving the situation of stakeholders impacted by Tesla’s battery supply chain.

In 2022, Tesla plans to continue building on momentum of the program and improve on the data points shared in this report, including the development of supply chain GHG emissions reduction plans and further projects and investments in mining countries to have a positive environmental and social impact. Tesla will then explore an expansion to manganese, graphite, copper and mica.

Responsible Sourcing

Supplier Audit Program

Tesla’s Supplier Audit program

In 2018, Tesla initiated its Supplier Audit program with the objective to extend our supplier performance evaluation to key environmental and social impact metrics relevant to Tesla’s business. This program extension was introduced at the time when Tesla was transitioning from a small automotive manufacturer to a company gaining recognition as the leader in electrical vehicle production. We recognized that this growth came with an increased ability to impact positive change on the practices of our suppliers, but also with an increased responsibility to drive such change in line with our mission statement. During the program pilot phase, we focused our efforts on suppliers that we deemed high risk based on their industry or the use of potentially dangerous processes and/or chemicals in the manufacturing of our parts.

We chose to utilize the Responsible Business Alliance’s (RBA) Validated Assessment Program (VAP) as the basis for our audits. The RBA’s VAP is an audit protocol globally recognized for its breadth of topics and stringent requirements for supplier completion. It covers nearly 200 checkpoints across labor, health and safety, environmental, ethical and management system topics. Audits are conducted by independent third parties that are approved by the RBA, and all auditors must undergo training by the RBA on the audit standard and its implementation ensuring a globally and industry-wide standardized approach.

In any case where any priority non-conformance (the most significant type) occurs, our audit procedures require that suppliers undergo a closure audit. These closure audits – which are a follow up to the original audit where the non-conformances were identified – allow suppliers to address all non-conformances in the earlier audits. Additional audits, rather than an immediate suspension of the business relationship, are preferred to improve working conditions and reduce the risk of continued deficiencies.

As of the end of 2021, we had a total of 152 supplier locations go through our supplier audit at least once, representing 144 suppliers, or 10% of 2021 spend with our direct supply base. As part of these audits over 4,000 supplier employee interviews were conducted.

Responsible Sourcing
Supplier Audit Expansion

Continuing to expand our audit program

In 2021, Tesla redefined its criteria for determining which of our suppliers are subject to the Supplier Audit program. While in its initial stages the suppliers subject to the audit were mainly located in China, and the updated criteria expanded the scope to include significantly more suppliers globally. When we started our audit program, we had only just announced our plans for Gigafactory Shanghai. We now have six factories across three different continents, and our production volume of vehicles has grown exponentially. As our global footprint and manufacturing grew, so did our supply base. Therefore, the expansion of our audit program was an important step to ensure that our supplier due diligence efforts continue to reflect the realities of our supply chain and can properly identify and address potential risks within our supply base.

The criteria on which suppliers are selected to undergo the Supplier Audit is based on an expanded risk assessment approach, looking at Tesla’s exposure to suppliers financially, as well as suppliers’ location. This criteria determines which suppliers are obligated to undergo an audit, but additional suppliers can be nominated by our commercial and supplier industrialization teams where they see value in doing so or the potential to further mitigate risk. With the expanded audit program scope, we are targeting to cover over 50% of our global spend with our direct supply base.

As part of our program expansion, we are building on our ability to influence supplier behavior in a positive way. When a supplier is not meeting our expectations, they are obligated to implement corrective action plans to remedy any deficiencies or non-conformances found during the audit process, regardless of the severity. In cases of the highest priority non-conformances, suppliers are required to undergo closure audits to ensure that their corrective action plans have been fully implemented. In cases of less severe non-conformances, suppliers are still required to develop and implement corrective action plans as well as provide evidence to Tesla that those plans have been fully implemented within our expected timelines.

Furthermore, we defined a separate category called Zero Tolerance Violations, which, for example, include any violations related to the use of forced or child labor and inhumane treatment of workers. In cases where such instances are discovered, our supply chain leadership will be informed, and a corrective action plan will be developed immediately, together with the supplier. Tesla will transition away from the supplier relationship if the supplier is unable or unwilling to correct the identified issues and improve their operations within a reasonable time frame.

Responsible Sourcing

Identifying Priorities



How we identify and prioritize risks in our supply chain

Our Supplier Audit program is an important part of our efforts to identify and address environmental and social risks within our supply chain. These audits allow for a snapshot of a supplier facility’s programs and procedures, but also sets a baseline for future evaluations. Additionally, Tesla utilizes other avenues to evaluate potential risks in our supply chain such as those detailed below.

We engaged with several third-party service providers allowing us to continually monitor our supply chain for emerging issues that may affect our suppliers. These include issues related to labor relations, human rights and environmental degradation. This monitoring allows our Global Supply Managers to be notified as soon as information about suppliers becomes public and act by engaging directly with the supplier to understand their plans for correcting the identified risk.

Tesla follows the OECD Due Diligence Guidance for Responsible Business Conduct when identifying risks within our supply chain. We require suppliers to cooperate with our efforts and assist in identifying and removing practices within our supply chain that are contradictory to our policies. Our responsible sourcing policies require suppliers to provide requested information regarding potential violations of our policies. Furthermore, we continue to leverage our membership with the RBA to identify upcoming supply chain risks as well as understand industry best practices to address them. We are actively involved with the RMI as well as specific action groups within the organization. In addition, we have utilized many of the RBA tools, such as country risk analysis to understand inherent risks in our supply chain and RBA-Online to collect information on corporate and factory-specific supplier performance.

Responsible Sourcing
Supplier Audit Findings

Across all audits, we found no instances of child labor, forced labor or inhumane treatment of workers

The table below details findings of our audits across all suppliers regardless of severity and includes initial audits as well as closure audits. Through July 2021, our suppliers have addressed and remedied 100% of priority non-conformances, with the remaining open priority findings to be addressed in upcoming closure audits. Our initial focus on high-risk suppliers allowed us to cover more than 70% of this group in the first three years of the audit program and gave us an understanding of suppliers to prioritize in an expanded program.

In all audits conducted at Tesla’s request at supplier manufacturing facilities producing Tesla products, we found no instances of child labor, forced labor or inhumane treatment.

Supplier Audit Findings (2018-2021)				
	2018	2019	2020 ¹	2021 ¹
Audits Conducted	12	108	81	41
Average Non-Conformance per Audit	28	21	16	15
Breakdown of Findings by Topic (%)				
Labor	30%	30%	31%	37%
Health & Safety	30%	27%	30%	33%
Environment	14%	14%	13%	14%
Ethics	6%	4%	2%	1%
Management Systems	20%	25%	24%	15%
Total	100%	100%	100%	100%

- In 2021, the five most common findings were related to (% of total findings within each category)²:
- 1. Working Hours (20.4%): no more than 60 hours work per week, overtime is voluntary, one day off per seven days
 - 2. Emergency Preparedness (11.1%): proper permitting, emergency risk assessment at 11.1% of total findings;
 - 3. Wages and Benefits (9.4%): proper calculation of regular and overtime wages, timely payment of wages;
 - 4. Occupational Safety (7.5%): availability of PPE, proper permitting; and
 - 5. Freely Chosen Employment (5.5%): contract provided in worker’s native language, no excessive penalty for leaving position

¹ Over the past two years, global pandemic conditions have significantly impacted our suppliers’ ability to schedule on-site audits, leading to a decrease in our annual audit numbers.

² The colors of percentages above indicate their inclusion in broader categories in the table. For example, Working Hours is a subcategory of Labor and, therefore, both are colored blue.

Supporting Materials

Summary – Corporate Governance

Topic	Description	Page(s)
Introduction	Sound corporate governance is critical to our mission. We are committed to establishing an operating framework that exercises appropriate oversight of responsibilities at all levels throughout the company and manages its affairs consistent with high principles of business ethics.	11 - 12
Our Approach to Corporate Governance	Our unique business requires a unique approach to corporate governance. And our mission requires a long-term focus that we believe will ultimately maximize value to our employees and our stockholders. Our corporate governance structure has facilitated several key decisions which might have appeared counter-intuitive to some, but which have set up the Tesla to achieve long-term success.	13
Board Committees (as of March 1, 2022)	The Board has four standing committees — the Audit Committee, the Compensation Committee, the Nominating and Corporate Governance Committee and the Disclosure Controls Committee — which are each further described in this section.	14 - 15
Compensation Philosophy	Our compensation philosophy reflects our long-term mission and our startup origins. We emphasize structuring compensation to reward our named executive officers based on performance, and equity awards weigh heavily in our named executive officers’ total compensation, including awards that vest upon the achievement of clear and measurable milestones.	16
Data Privacy and Cybersecurity	Tesla builds products with privacy and security at their core. Additionally, managing data privacy is a shared task through all levels of our organization. Our privacy principles are: 1. We build privacy into our products from start to finish; 2. We give customers choices about their data; 3. We maintain trust through transparency; and 4. We safeguard personal data.	17 - 18
Human Rights	The ethical treatment of all people and regard for human rights is core to our mission of a sustainable future. We believe all businesses within our supply chain have a responsibility to share our respect for human rights. Our human rights policy is the formalization of our commitment to uphold and respect these rights and the values they represent. We have a zero-tolerance policy when it comes to child or forced labor and human trafficking by our suppliers.	19 - 20

Summary – People and Culture

Topic	Description	Page(s)
Introduction	Tesla’s employees are its greatest asset and critical to achieving our mission. Our People Strategy is centered on providing meaningful work, a respectful, safe, inclusive and equitable workplace, compensating our people well, and making our benefits an outlier.	22
Attracting Employees	Our employee count has grown ~70 fold over the past decade and, in just over ten years, created nearly 100,000 direct jobs. Whether it is through our direct hiring opportunities, internships or workforce development programs, interest in joining Tesla’s mission is at an all-time high. We had more than 3,000,000 unique applicants globally in 2021 alone.	23 - 27
Compensating Employees	Tesla provides a highly competitive wage that meets or exceeds the wages of comparable manufacturing roles, even before equity and benefits are factored in, and we want our benefits to be an outlier in the manufacturing industry. We have an annual pay equity program in place, designed to assess whether similarly situated employees are paid in a similar manner after accounting for a range of variables.	28 - 32
Retaining Employees	As Model 3 has become the best-selling premium sedan globally and our profitability (operating margin) has rose to the highest in the industry, employee satisfaction has improved. This has fueled our ability to expand dramatically and provide career opportunities for many strong performers. As nearly 70% of our leadership is promoted from within Tesla, our employees are surrounded by examples of successful progression.	33 - 34
Diversity, Equity and Inclusion	We are proud to be a majority-minority company with a large representation of employees from communities that have long struggled to break through the historic roadblocks to equal opportunity in the U.S. As of December 31, 2020, 34% of our directors and vice presidents are people of color. This year we published our latest EEO-1 data for the first time.	35 - 41
Respectful Workplace	We strive to create an environment where people love to come to work every day. With over 100,000 employees as of March 2022, challenges arise, and we address them head on. In 2021, we re-doubled our efforts to educate employees and managers that any form of discrimination must be reported.	42 - 43
Employee Engagement	Employee engagement drives productivity, satisfaction and loyalty and plays a critical role in employee retention. Tesla’s engagement initiatives strive to make employees feel informed, valued and respected, while company-wide open-door policies with leaders empower employees to make their ideas heard.	44
Disaster Relief	We are committed to providing disaster relief through product donations. Our disaster relief efforts have provided 100% clean, emissions free emergency power to people in Ukraine, New Orleans after Hurricane Ida, and Kentucky and Texas after sever winter storms. We also provided free supercharging to customers in countries surrounding Ukraine.	45 - 46
Environmental, Health, Safety and Security	In 2021, our focus remained on protecting people, the planet, our property and products. We recently deployed our new EHS&S system – MyEHS – in order to better collect and manage data, allowing us to make decision that reduce risk. Furthermore, in 2021, our ATSM Global Serious Injury Rate remained below the industry average.	47 - 54

Summary – Environmental Impact

Topic	Description	Page(s)
Lifecycle Analysis of Tesla Vehicles versus Average ICE	Regardless of where they are driven (U.S., Europe or China), a Model 3 and Model Y emit far fewer greenhouse gas emissions per mile than a comparable ICE. Moving the grid toward more renewables and making our operations and supply chain less GHG intensive will only make this dynamic more pronounced as time goes on.	56 – 67
GHG Emissions: Scope 1, 2, 3	We have disclosed our full Scope 1 and Scope 2 (location-based) emissions this year. We have also disclosed the amount of CO2e emitted through the use of our vehicles (part of Scope 3). The global Supercharger network and home charging in California were both 100% renewable in 2021, achieved through a combination of onsite resources (for the Supercharger network only) and annual renewable matching.	68 – 69
NOx, Particulates and Other Pollutants	New research shows that fossil fuels are alone responsible for more than 8 million premature deaths annually, or almost one out of every five deaths globally, double previous estimates. Zero tailpipe emissions is a commonly overlooked benefit of EVs.	70
Tesla Semi’s Impact on Emissions	Tesla Semi is poised to make a large impact: in the U.S., combination trucks make up just 1.1% of the vehicle fleet but account for 17.9% of annual emissions.	71
Waste Generated per Vehicle Manufactured	As we continue to build new, more efficient factories our ability to limit packaging and reduce waste increases. Waste generated per vehicle in Shanghai production is 60% less than our manufacturing in the U.S. We continue to push for innovative approaches to reducing waste as we expand our global operations.	72
Water Used per Vehicle Manufactured	Water use per vehicle produced by Tesla was again below the industry average in 2021. Our new factories such as Gigafactory Berlin-Brandenburg will set a new standard when it comes to low water use per vehicle.	73 - 74
Emissions Credits	In 2021, Tesla delivered more than 2x as many EVs as our next closest competitor, helping drive \$1.5bn in revenue from selling regulatory credits. This money is being used to accelerate our production capacity deployment in direct support of our mission.	75

Summary – Product Impact

Topic	Description	Page(s)
Product Affordability (Price Equivalency & Total Cost of Ownership)	Model 3 is price competitively with ICE equivalents. But, when compared on a total cost of ownership basis, the Model 3 is much closer to a Toyota Camry on all-in cost per mile than to an ICE equivalent such as a BMW 3 Series.	77 - 78
Product Usage & Usability	Our data shows that Tesla vehicles are being driven more than average vehicles in the U.S., suggesting that they are generally being used as a customer’s primary vehicle. The superior range of our vehicles and a robust global Supercharger Network makes this possible.	79 - 80
Vehicle Safety	At Tesla, safety features are not optional. Our full suite of safety features comes standard with every vehicle. When we design vehicles, first and foremost, we want them to be safe. Our active safety features are powered by eight cameras, a neural-net computer and learnings from our fleet of over two million cars.	81 – 84
Autopilot Safety	In 2021, we recorded 0.22 crashes for every million miles driven in which drivers were using Autopilot technology (Autosteer and active safety features). For drivers who were not using Autopilot technology (no Autosteer and active safety features), we recorded 0.77 crashes for every million miles driven. By comparison, NHTSA’s most recent data shows that in the United States there are 1.81 automobile crashes for every million miles driven.	85
Data Driven Safety	Tesla strived to go beyond industry standard testing. We leverage data from our fleet of over two million cars to better understand accidents and build solutions around them.	86 - 87
Passive Safety & Tesla Safety Awards	Since 2019, Tesla vehicles earned 5-star ratings from safety rating agencies across the U.S., Europe and Australia.	88 - 89
Fire Risk	From 2012 to 2021, there has been approximately five Tesla vehicle fires for every billion miles traveled. By comparison, data from the National Fire Protection Association (NFPA) and U.S. Department of Transportation show that in the U.S. there are 53 vehicle fires for every billion miles travelled.	90
Solar + Storage Products	Pairing energy storage with renewables is required to transition our grid to zero-emission sources. In 2021, in order to meet demand that is well in excess of supply for energy storage products, Tesla began building a new production facility capable of producing 40,000,000 kWh of energy storage per year.	91- 92
Resilience of the Grid	Electric grid disturbances in the U.S. have increased dramatically over the last 15 years. Our solar and storage products not only deliver cost savings and energy independence, but they also harden the grid from adverse events in a cost-effective and environmentally friendly manner.	93

Summary – Supply Chain

Topic	Description	Page(s)
Introduction	Protecting human rights and the environment is core to our procurement strategy. Our responsible sourcing strategy aims to increase the share of direct procurement and continually improve local conditions of the communities from where we source.	95
Battery Recycling	Tesla is building capacity to recycle manufacturing scrap and end of life batteries in order to close the loop on battery raw materials. By the end of 2021, our battery recycling facility at Gigafactory Nevada achieved a production rate of over 50 tons of recycled material per week.	96 - 97
Alignment with Best Practices	Our responsible sourcing program is based on the OECD Due Diligence Guidance for Responsible Mineral Supply Chains. This means Tesla collects data from its supply chain (including through audits), translates this data into on-the-ground actions and discloses the outcomes in our annual Impact Report.	98
Battery Supply Chain	We have prioritized responsible sourcing activities for cobalt, lithium and nickel given their unique significance to EVs and energy storage. To ensure we are appropriately managing risk, we continue to map our supply chain, conduct in third-party audits and on-the-ground engagements, and collaborate with industry initiatives to ensure our suppliers are living up to our strict standards.	99 - 111
Responsible Sourcing & Tesla Supplier Audit Program	In 2018, Tesla initiated its Supplier Audit program with the objective to extend our supplier performance evaluation to key environmental, social, and governance metrics relevant to Tesla’s business. As of the end of 2021, we had a total of 152 supplier locations go through our Suppler Audit at least once, representing 144 suppliers, or 10% of 2021 spend with our direct supply base.	112 - 115

Appendix

Key Metrics

Average Lifecycle Emissions (gCO₂e/mi)

Delivery-weighted U.S. Average	Manufacturing Phase	use-phase	Total
Model 3 Ridesharing Use (solar charged)	29	0	29
Model 3 Personal Use (solar charged)	70	0	70
Model 3 Ridesharing Use (grid charged)	10	111	121
Model 3 Personal Use (grid charged)	51	111	162
Avg. Mid-Size Premium ICE	48	417	465

New York State	Manufacturing Phase	use-phase	Total
Model 3 Ridesharing Use (solar charged)	29	0	29
Model 3 Personal Use (solar charged)	70	0	70
Model 3 Ridesharing Use (grid charged)	10	78	88
Model 3 Personal Use (grid charged)	51	78	129
Avg. Mid-Size Premium ICE	48	417	465

Delivery-weighted Europe Average

Model 3 Ridesharing Use (solar charged)	31	0	31
Model 3 Personal Use (solar charged)	100	0	100
Model 3 Ridesharing Use (grid charged)	12	48	60
Model 3 Personal Use (grid charged)	81	48	130
Avg. Mid-Size Premium ICE	47	417	464

Austria

Model 3 Ridesharing Use (solar charged)	31	0	31
Model 3 Personal Use (solar charged)	100	0	100
Model 3 Ridesharing Use (grid charged)	12	35	47
Model 3 Personal Use (grid charged)	81	35	116
Avg. Mid-Size Premium ICE	47	417	464

Delivery-weighted China Average

Model 3 Ridesharing Use (solar charged)	31	0	31
Model 3 Personal Use (solar charged)	100	23	123
Model 3 Ridesharing Use (grid charged)	12	172	184
Model 3 Personal Use (grid charged)	81	172	253
Avg. Mid-Size Premium ICE	47	417	464

Sichuan Province

Model 3 Ridesharing Use (solar charged)	31	0	31
Model 3 Personal Use (solar charged)	100	4	105
Model 3 Ridesharing Use (grid charged)	12	33	45
Model 3 Personal Use (grid charged)	81	33	114
Avg. Mid-Size Premium ICE	47	417	464

Appendix

Key Metrics

GHG Emissions (tCO₂e)

Scope 1 & 2 Emissions	Scope 1	Scope 2 (location based)
Manufacturing	124,000	342,000
SSD	31,000	35,000
Other	30,000	26,000
Total*	185,000	403,000

Scope 3 Emissions	Use of Sold Product
Scope 3	1,954,000

Waste Generated in Manufacturing

Waste Generated in Global Manufacturing ¹ (2021; tons)		Diverted from Disposal	Directed to Disposal
Hazardous Waste		14,432	20,502
Non-Hazardous Waste		254,541	15,701
Total Waste Generated		268,973	36,203

Waste Generated in Vehicle Manufacturing (2021; kg per vehicle) ²		Diverted from Disposal	Directed to Disposal
Hazardous Waste		14	22
Non-Hazardous Waste		271	16
Total Waste Generated per Vehicle		285	38

Water Withdrawal for Manufacturing (cubic meters)

Total Fresh Water Withdrawal ¹	2019	2020	2021
Major Manufacturing Sites	1,765,374	2,082,163	2,874,904

Total Fresh Water Withdrawal per vehicle ²	2019	2020	2021
Major Manufacturing Sites	2.43	3.10	3.02

Uptime of Tesla Supercharger Sites

Uptime of Supercharger Sites	2019	2020	2021
Uptime	99.90%	99.74%	99.96%

Vehicle Safety

Numbers of Vehicular Accidents per Million Miles Driven (2021)	Autopilot Engaged	No Active Safety
Tesla	0.22	0.77

Number of Vehicle Fires per Billion Miles Driven	2012 - 2019	2012 - 2020	2012 - 2021
Tesla	5.71	4.88	4.76

¹ Includes all major manufacturing sites: Fremont Factory and supporting facilities, Gigafactory Nevada, Gigafactory New York, Tesla Grand Rapids and Gigafactory Shanghai.

² Includes major manufacturing sites dedicated to vehicle production: Fremont Factory and supporting facilities, Gigafactory Nevada Vehicle Operations, Tesla Grand Rapids and Gigafactory Shanghai.

*PwC performed an attest review engagement on this metric. See their report on page 138.

Appendix

Key Metrics

Workplace Safety

ASTM Level One Rate

	2019	2020	2021
Tesla		2.6	3.6

Global Total Recordable Injuries per 1,000 Vehicles Produced

	2019	2020	2021
Tesla	4.9	3.3	2.9

Days Away from Work, Restricted Time (DART)

	2019	2020	2021
Fremont Factory	4.4	3.5	4.4

¹ Includes all major manufacturing sites: Fremont Factory and supporting facilities, Gigafactory Nevada, Gigafactory New York, Tesla Grand Rapids and Gigafactory Shanghai.
² Includes major manufacturing sites dedicated to vehicle production: Fremont Factory and supporting facilities, Gigafactory Nevada Vehicle Operations, Tesla Grand Rapids and Gigafactory Shanghai.
³ Please see page 137 of the appendix for detailed explanation of energy consumption figures.

Appendix
SASB Response

Topic	Accounting Metric	Response
Product Safety	Percentage of models rated by NCAP programs with overall 5-star safety rating, by region	See page 81 – 90 for our discussion of vehicle safety. See page 89 for specifics related to our 5-star safety ratings.
Product Safety	Number of safety-related defect complaints, percentage investigated	Tesla reviews 100 percent of NHTSA VOQ complaints filed for any and all Tesla vehicles produced
Product Safety	Number of vehicles recalled (number conducted with OTA software update*)	Number of U.S. safety recalls in 2021: 11 (1) Number of global safety recalls in 2021: 12 (2) Total units in U.S. affected by these recalls in 2021: 646,862 (11,704) Total units globally affected by recalls in 2021: 1.6m (297,266)
Labor Practices	Percentage of active workforce covered under collective-bargaining agreements	No Tesla employees; employees of some contractors and service providers are covered by CBAs
Labor Practices	(1) Number of work stoppages and (2) total days idle	0 / 0
Fuel Economy & Use-phase Emissions	Sales-weighted average passenger fleet fuel economy, by region	See pages 59 – 63 for discussion / data
Fuel Economy & Use-phase Emissions	Number of (1) zero emission vehicles (ZEV), (2) hybrid vehicles, and (3) plug-in hybrid vehicles sold	Tesla only sells zero emission vehicles. In 2021, we delivered 936,222 vehicles
Fuel Economy & Use-phase Emissions	Discussion of strategy for managing fleet fuel economy and emissions risks and opportunities	See page 63
Materials Sourcing	Description of the management of risks associated with the use of critical materials	See supply chain section, pages 95 - 115
Materials Efficiency & Recycling	Total amount of waste from manufacturing, percentage recycled	See page 72
Materials Efficiency & Recycling	Weight of end-of-life material recovered, percentage recycled	We make the best effort to recycle every battery pack we can. See page 95 - 96 for a discussion on recycling. Tesla is still working to collect end of life data as our vehicles are relatively new in the auto market
Materials Efficiency & Recycling	Average recyclability of vehicles sold	See page 95 – 96 for a discussion on recycling
Number of vehicles manufactured		930,422
Number of vehicles sold		936,222

*OTA designation indicates how many recalls / units were able to be satisfied using over-the-air updates. When a recall is fixed with an OTA update it obviates the need for a visit by the customer to a Tesla Service Center.

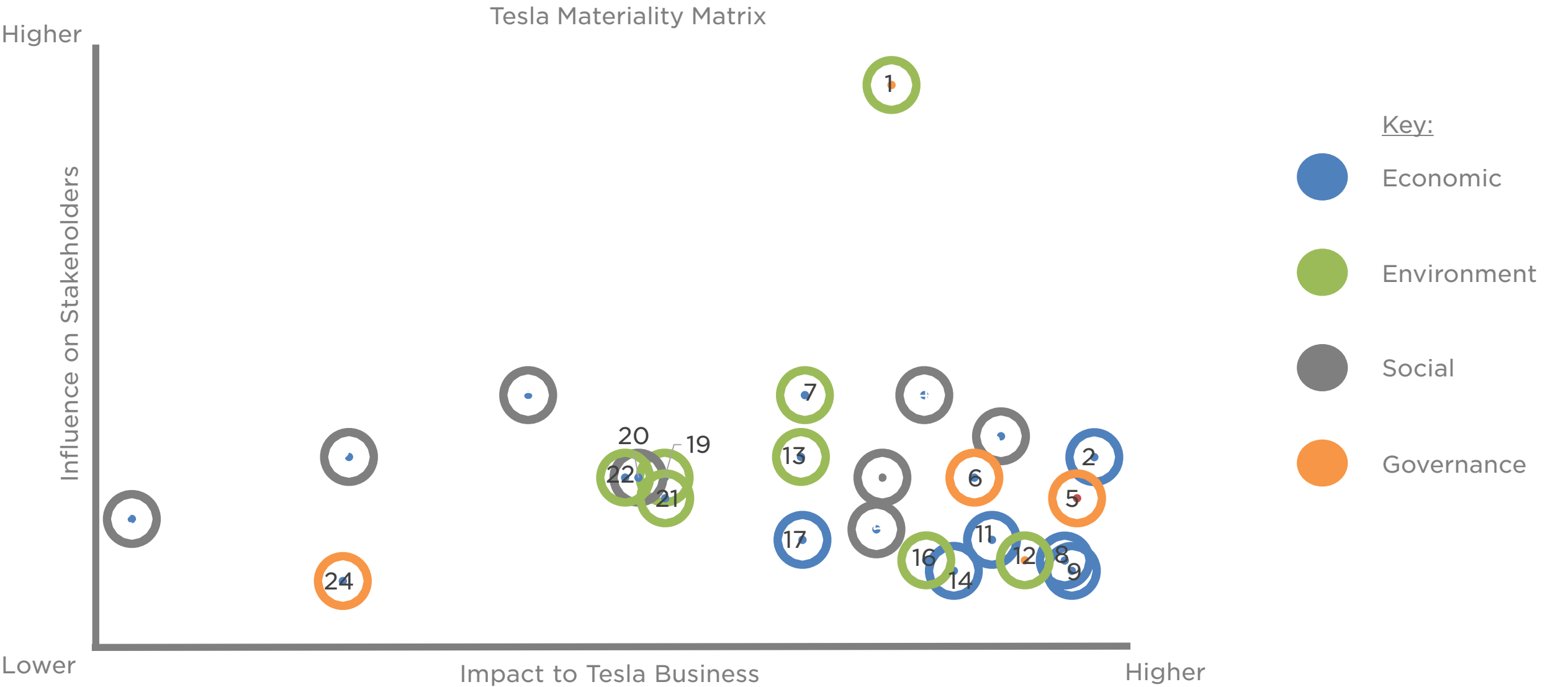
Appendix

Our Materiality Analysis

In 2021, we conducted a comprehensive materiality analysis to better understand the key ESG topics that were most salient to our diverse group of stakeholders. To start, we identified over 40 issues in key areas that could directly or indirectly impact our business. The topics ranged from economic, environmental, social and governance issues. These issues were identified from four components: (1) a competitive landscape review, (2) interviews with investors and other key external stakeholders, (3) industry reports and documented research, such as the World Economic Forum’s 2021 Global Risks Report and (4) external ESG frameworks relevant to our industry and regulatory requirements across global capital markets.

Tesla’s Sustainability Council refined the list of 40 key issues into a survey containing 25 questions in an effort to help us prioritize these topics for operational management and disclosure in this year’s Impact Report. As part of the assessment, we surveyed our key stakeholders, asking them to rate the identified economic and ESG topics on a scale of 1-5, based on their perceived importance and impact to Tesla’s business. A total of 2,168 individuals from Tesla and approximately 40 external partners, including trade associations, universities, suppliers, environmental consultants, nonprofits and local administrators, responded to the survey. 35% of responses came from North America, 57% from China and 8% from Europe. Below are the top issues identified by our materiality analysis, in order of importance to survey responders.

- 1. Environmental Management, Reducing Carbon
- 2. Quality Management- Product Safety
- 3. Employee Workplace Safety
- 4. Employee Attraction, Retention, Development
- 5. Ethical Business Conduct, Integrity, Transparency
- 6. Data Protection, Cybersecurity
- 7. Supply Chain Management, Sustainable Materials/Products
- 8. Customer Satisfaction, Trust and Loyalty
- 9. Company Brand and Mission
- 10. Employee Health and Wellness
- 11. Company’s Intellectual Property, Innovation, R&D
- 12. Renewable Energy
- 13. Waste Management/Recycling
- 14. Company Financial Health (Product Sold, Profitability)
- 15. Employee Compensation and Benefits
- 16. Air Quality, Reducing Toxic Emissions
- 17. New Markets, EV, Autonomous Cars
- 18. Labor Relations
- 19. Water Management
- 20.Diversity, Equity and Inclusion
- 21. Climate Change and Risk Management
- 22. Biodiversity Preservation, Natural Resource Conservation
- 23. Human Trafficking, Forced Labor
- 24.Critical Events, Disaster Relief, Pandemic
- 25. Community Engagement, Economic Development



Appendix
Supply Chain Policies

The following tables provide summaries of our responsible sourcing policies, the full text of which can be found on our [Responsible Sourcing Policies page](#):

Tesla Human Rights Policy		
Tesla believes the ethical treatment of all people and regard for human rights is core to our mission of a sustainable future and believe all businesses within our supply chain have a responsibility to support our mission and share our respect for human rights. We endorse and base our definition of human rights on the United Nation’s Universal Declaration for Human Rights (“UDHR”). The UDHR focuses on dignity, respect, and equality, without discrimination, for all people. We are committed to upholding these rights and values throughout our value chain – including with respect to our employees, customers, shareholders, suppliers, and the communities in which we operate.		
Health and Safety Suppliers are responsible for ensuring that their employees and contractors are provided with a safe and healthy work environment.	Respectful Workplace and Equal Opportunities Tesla recognizes the value of different backgrounds and perspectives in our workforce, and fully promotes equal opportunity for all employees, both current and prospective. Just as we do not discriminate on the basis of race, color, religion, creed, sex, sexual orientation, gender expression or identity, national origin, disability, medical condition, military and veteran status, marital status, pregnancy or any other characteristic protected by law, regulation or ordinance, we require our suppliers to similarly respect the people in their workforces.	Environmental Protection We expect our suppliers to share our goal of recognizing environmental protection as a key principle of a sustainable future.
Child Labor and Young Workers Tesla strictly follows local and national laws restricting the employment of underage workers. Regardless of local laws, no workers at a facility or location that provides materials used in Tesla products may be under the age of 15.	Relationship with Communities Tesla is dedicated to being a responsible member of the communities in which we live and operate. This goes beyond our ability to create jobs and contribute to local value creation. We expect suppliers to also take every effort to continuously improve the positive aspects and reduce any negative impact of their operations on the local community, including with respect to environmental, social, and other quality of life factors.	Indigenous Rights The mining industry on which Tesla relies to source many raw materials that go into our products has historically had an adverse impact on the rights of indigenous peoples and communities in the areas in which they operate. For all raw material extraction and processing used in Tesla products, we expect our mining industry suppliers to engage with legitimate representatives of indigenous communities and include the right to free and informed consent in their operations.

Appendix

Supply Chain Policies

The following tables provide summaries of our responsible sourcing policies, the full text of which can be found on our [Responsible Sourcing Policies page](#):

Tesla Responsible Materials Policy		
Suppliers are required to use reasonable efforts to ensure that their parts and products supplied to Tesla do not contribute to armed conflict, human rights abuses, or environmental degradation, regardless of sourcing location. For all materials used in Tesla products, Tesla requires its suppliers to establish policies, due diligence frameworks, and management systems consistent with the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas or the OECD Guidelines for Multinational Enterprises.	Materials Explicitly Covered: • Cassiterite (tin); • Columbite-tantalite (tantalum); • Cobalt; • Gold; • Lithium; • Mica; • Nickel; • Wolframite (tungsten); • And any derivatives of the above.	Tesla requires suppliers to document their efforts to monitor their supply chain for any red flags indicating the use of child or forced labor or contribution to conflict or human rights abuses as well as environmental impacts in the mining or processing of these materials throughout the value chain. Suppliers must implement due diligence programs for the value chains of these materials and are expected to use the RMI’s reporting template for the collection of information where such a template is available.
For all other materials, Tesla will continuously assess their sourcing for potential risks and red flags, and where any are identified will engage with those suppliers to address any issues and require cooperation with our efforts.		Suppliers are required to provide information upon request on their sourcing, due diligence efforts and findings for all materials included in the responsible materials policy.

Appendix

Supply Chain Policies

The following tables provide summaries of our responsible sourcing policies, the full text of which can be found on our [Responsible Sourcing Policies page](#):

Tesla Supplier Code of Conduct	
Labor	Suppliers must commit to uphold the human rights of workers, and to treat them with dignity and respect as understood by the international community. This applies to all workers including temporary, migrant, student, contract, direct employees, and any other type of worker.
Freely Chosen Employment	Forced, bonded (including debt bondage) or indentured labor, involuntary or exploitative prison labor, slavery or trafficking of persons is not permitted. All workers must be provided with a written employment agreement in their native language that contains a description of terms and conditions of employment. All work must be voluntary, and workers shall be free to leave work at any time or terminate their employment without penalty if reasonable notice is given as per worker’s contract. Workers shall not be required to pay employers’ agents or sub-agents’ recruitment fees or other related fees for their employment.
Young Workers	Child labor is not to be used in any stage of manufacturing. The term “child” refers to any person under the greater of (i) the age of 15, (ii) the minimum applicable legal age for completing compulsory education in a country, or (iii) under the minimum legal age for employment in the country. Workers under the age of 18 (Young Workers) shall not perform work that is likely to jeopardize their health or safety, including night shifts and overtime. If child labor is identified, assistance and remediation according to the stricter of international standards or local standards shall be provided.
Working Hours	Working hours are not to exceed the maximum set by local law. Further, a workweek should not be more than 60 hours per week, including overtime, except in emergency or uncommon circumstances. All overtime must be voluntary. Workers shall be allowed at least one day off every seven days, defined as a rest period of at least 24 consecutive hours every seven days. Suppliers must keep employee working hour and pay records in accordance with local and national laws and provide records to Tesla upon request.
Non-Discrimination/Non-Harassment	Suppliers should be committed to a workplace free of harassment and unlawful discrimination. Companies shall not engage in discrimination or harassment based on race, color, age, gender, sexual orientation, gender identity and expression, ethnicity or national origin, disability, pregnancy, religion, political affiliation, union membership, covered veteran status, protected genetic information or marital status in hiring and employment practices such as wages, promotions, rewards, and access to training.
Health and Safety	Suppliers recognize that in addition to minimizing the incidence of work-related injury and illness, a safe and healthy work environment enhances the quality of products and services, consistency of production and worker retention and morale. Suppliers also recognize that ongoing worker input and education are essential to identifying and solving health and safety issues in the workplace
Occupational Safety	Worker potential for exposure to health and safety hazards (chemical, electrical and other energy sources, fire, vehicles, and fall hazards, etc.) are to be identified and assessed, mitigated using the Hierarchy of Controls, which includes eliminating the hazard, substituting processes or materials, controlling through proper design, implementing engineering and administrative controls, preventative maintenance and safe work procedures (including lockout/tagout), and providing ongoing occupational health and safety training.
Emergency Preparedness	Potential emergency situations and events are to be identified and assessed, and their impact minimized by implementing emergency plans and response procedures including emergency reporting, employee notification and evacuation procedures, worker training, and drills. Emergency plans should also include appropriate fire detection and suppression equipment, clear and unobstructed egress, adequate exit facilities, contact information for emergency responders, and recovery plans.
Industrial Hygiene	Worker exposure to chemical, biological, and physical agents is to be identified, evaluated, and controlled according to the Hierarchy of Controls. If any potential hazards were identified, suppliers shall look for opportunities to eliminate and/or reduce the potential hazards. When hazards cannot be adequately controlled by such means, workers are to be provided with and use appropriate, well maintained, personal protective equipment free of charge.
Health and Safety Communication	Suppliers shall provide workers with appropriate workplace health and safety information and training in the language of the worker or in a language the worker can understand for all identified workplace hazards that workers are exposed to, including but not limited to mechanical, electrical, chemical, fire, physical hazards, pathogens, toxins, and other health related risks.

Appendix

Supply Chain Policies

The following tables provide summaries of our responsible sourcing policies, the full text of which can be found on our [Responsible Sourcing Policies page](#):

Tesla Supplier Code of Conduct (continued)	
Environment	Suppliers recognize that environmental responsibility is integral to producing world-class products. Suppliers shall identify the environmental impacts and minimize adverse effects on the community, environment, and natural resources within their manufacturing operations, while safeguarding the health and safety of the public.
Environmental Permits and Reporting	All required environmental permits (e.g. discharge monitoring), approvals, and registrations are to be obtained, maintained, and kept current and their operational and reporting requirements are to be followed.
Pollution Prevention and Resource Reduction	Emissions and discharges of pollutants and generation of waste are to be minimized or eliminated at the source or by practices such as adding pollution control equipment; modifying production, maintenance, and facility processes; or by other means.
Energy Consumption and Greenhouse Gas Emissions	Suppliers are to establish a greenhouse gas (“GHG”) data or all products and related services supplied to Tesla upon request. Energy consumption and all relevant Scopes 1 and 2 greenhouse gas emissions (using the GHG protocol) are to be tracked, documented, and publicly reported. Where such tracking is not currently available Suppliers should establish a plan to implement tracking within one-year and provide the data and/or components required to calculate GHG emissions.
Ethics	To meet social responsibilities and to achieve success in the marketplace, Suppliers and their agents are to uphold the highest standards of ethics.
Business Integrity	The highest standards of integrity are to be upheld in all business interactions. Suppliers shall have a zero-tolerance policy to prohibit any and all forms of bribery, corruption, extortion, and embezzlement.
Disclosure of Information	All business dealings should be transparently performed and accurately reflected on the Supplier’s business books and records. Information regarding Supplier’s labor, health and safety, environmental practices, business activities, structure, financial situation, and performance is to be disclosed in accordance with applicable regulations and prevailing industry practices. Falsification of records or misrepresentation of conditions or practices in the supply chain are unacceptable.
Protection of Identity and Non-Retaliation	Programs that ensure the confidentiality, anonymity, and protection of supplier and employee whistleblowers are to be maintained, unless prohibited by law. Suppliers should have a communicated process for their personnel to be able to raise any concerns without fear of retaliation.
Responsible Sourcing of Minerals	Suppliers shall adopt a policy and exercise due diligence on the source and chain of custody of the cobalt, tantalum, tin, tungsten, and gold in the products they manufacture to reasonably assure that they are sourced in a way consistent with the Organization for Economic Co-operation and Development (OECD) Guidance for Responsible Supply Chains of Minerals from Conflict Affected and High-Risk Areas or an equivalent and recognized due diligence framework.

Appendix
Supply Chain Policies

The following tables provide summaries of our responsible sourcing policies, the full text of which can be found on our [Responsible Sourcing Policies page](#):

Tesla Supplier Code of Conduct (continued)	
Management Systems	Suppliers shall adopt or establish a management system with a scope that is related to the content of the Code of Conduct. The management system shall be designed to ensure: (a) compliance with applicable laws, regulations and customer requirements related to the Supplier’s operations and products; (b) conformance with this Code; and (c) identification and mitigation of operational risks related to this Code. It should also facilitate continual improvement.
Company Commitment	Corporate social and environmental responsibility policy statements affirming Supplier’s commitment to compliance and continual improvement, endorsed by executive management, and posted in the facility in the local language.
Risk Assessment and Risk Management	A process to identify the legal compliance, environmental, health and safety labor practice and ethics risks associated with Supplier’s operations. Determination of the relative significance for each risk and implementation of appropriate procedural and physical controls to control the identified risks and ensure regulatory compliance.
Worker Feedback, Participation and Grievance	Ongoing processes, including an effective grievance mechanism, to assess workers’ understanding of and obtain feedback on or violations against practices and conditions covered by this Code and to foster continuous improvement. Workers must be given a safe environment to provide grievance and feedback without fear of reprisal or retaliation. Suppliers must periodically provide workers with information on all grievance procedures. No retaliation against workers for raising workplace concerns may be tolerated, including personal attacks, intimidation, or other threats against workers.
Corrective Action Process	A process for timely correction of deficiencies identified by internal or external assessments, inspections, investigations, and reviews.

Appendix
Stakeholder Engagement

Managing a successful and effective Impact program requires robust engagement with an entire ecosystem of stakeholders – both internal and external to Tesla – including our employees, customers, investors, suppliers, non-profit organizations, educational institutions, governments, the communities in which we operate and trade associations. These groups, among others, all have a stake in the success of our businesses — they are people or organizations who are affected by or can impact our operations. For our business to continue to grow, we need to keep innovating, developing new products and markets all in a sustainable manner. We do this by attracting and retaining the best employees, serving our customers and investors and working with non-profits, our local communities, schools, governments and trade associations to make a positive impact.

Appendix

Tesla’s Alignment with the United Nations’ Sustainable Development Goals

In 2015, the United Nations defined a blueprint of 17 sustainable development goals to meet the urgent environmental, political and economic challenges facing our world. We understand that companies can play a critical role in providing solutions to these challenges. Our mission to accelerate the world’s transition to sustainable energy directly addresses some of these challenges — our products and services have helped to create industry demand for sustainable energy products.

In 2021, as part of our Impact program, we reviewed the issues and topics most material to Tesla (identified on page 126) and key areas of focus for the Company and mapped them to the most relevant Sustainable Development Goals:

United Nations Sustainable Development Goals:	Material Issues and Topics and Other Key Areas of Focus
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE 7 AFFORDABLE AND CLEAN ENERGY	- Technological innovation in manufacturing - Development of zero-emission technologies - Reduction of carbon emissions from transport and energy generation - Increase renewable energy generation - Further improve product affordability and accessibility
13 CLIMATE ACTION	- Environmental/climate change management and reporting - Reduce carbon footprint across Scope 1, 2 and 3 emissions
12 RESPONSIBLE CONSUMPTION AND PRODUCTION 3 GOOD HEALTH AND WELL-BEING 6 CLEAN WATER AND SANITATION	- Responsible supply chain management and sourcing - Reduce injuries and deaths from traffic accidents - Reduce deaths and illnesses from air, water and soil pollution - Waste reduction and responsible management supply chains - Reduce stress on water systems through efficient use of water in manufacturing
4 QUALITY EDUCATION 5 GENDER EQUALITY 8 DECENT WORK AND ECONOMIC GROWTH	- Workforce development, education and training - Diversity, Equity and Inclusion - Human capital management and employee development - Community engagement
16 PEACE, JUSTICE AND STRONG INSTITUTIONS	- Ethics, corruption and bribery, human rights and labor relations - Human trafficking and responsible supply chain management

Appendix

Metric / Disclosure / Topic	Source(s)	Methodology / Definition
Vehicle use-phase emissions, which represent 80-90% of total automotive emissions (included in Scope 3 of ESG reporting), tend to be misreported due to the use of unrealistic assumptions or not reported at all.	OEM sustainability reports	Analysis of sustainability reports by auto OEMs shows unrealistic assumptions for both vehicle life and annual mileage. For those that disclose their methodology we have found that vehicle life is often estimated to be as low as 10 years and annual distance traveled by vehicles as low as 6,200 miles. This compares to an average life of 17 years in the U.S. (20 years in Europe) and 12,000 annual miles in the U.S. (and 7,450 in Europe). When taken together, even before considering the impacts of using real-world MPG instead of NEDC, WLTP or EPA ratings, this leads to a drastic under-reporting of Scope 3 emissions.
8.4 million metric tons of CO2e savings	Tesla estimate	To estimate CO ₂ e savings, we first measured the amount of miles driven by our vehicles and kWh of electricity generated and stored by our solar panels and energy storage products at the state, province, and country level for 2021. We then applied an emissions savings factor (in gCO ₂ e/mi for miles driven and gCO ₂ e/kWh for electricity generated), for each state, province, and country to estimate CO2e avoided. For miles driven, the emissions savings factor is the net of estimated emissions from our vehicles and an ICE with a real-world fuel efficiency rating of ~24 mpg. The emissions savings factor is based on grid emissions intensity in each respective location and includes upstream emissions from the production and transport of fuels.
Tesla Cumulative Net Energy Impact: 2012–2021 (TWh)	Tesla	Figures based on actual electricity consumption from utility bills for 2018, 2019, 2020 and 2021. 2020 and 2021 figures also include measured consumption for on-site fuel use including propane, diesel and gasoline. Figures for 2012-2017 for electricity, and 2012-2019 for on-site fuel use, are estimated based on actuals scaled for vehicle and battery production for each respective year and facility.
Global Greenhouse Gas (GHG) Emissions by Economic Sector	CAIT data: Climate Watch. 2020. GHG Emissions. Washington, DC: World Resources Institute. Available at: https://www.climatewatchdata.org/ghg-emissions . Land Use Data Source: Food and Agriculture Organization of the United Nations. FAO 2020, FAOSTAT Emissions Database. Latest update: 2020. Accessed: June 2021. https://www.climatewatchdata.org/ghg-emissions .	For simplicity, select categories were combined based on similarity of emissions source. Emissions from Agriculture were combined with emissions from Land-Use Change and Forestry under the label “Agriculture, Land-Use Change and Forestry.” Emissions from Industrial Processes were combined with emissions from Manufacturing/Construction under the label “Industry.” Emissions from Waste, Fugitive Emissions, Other Fuel Combustion and Bunker Fuels (U.S.-only) were combined under the label “Other Energy.”
EEO-1 comparison to industry averages	Publicly available EEO-1 disclosures	Figures for peer benchmarking were sourced from the latest available EEO-1 disclosure on each company’s website. For comparability, all figures were converted to percentages of total workforce. Figures for each Tech and Automotive industry were calculated based on an average of the percentages for the companies in each respective industry. Tables on pages 37 and 38 represent the difference in representation in Tesla’s workforce across each category. Companies in the Tech average: Adobe, Alphabet, Amazon, Apple, Cisco, Meta, HPE, Lyft, Microsoft, Netflix, Nvidia, Oracle, Qualcomm, Salesforce, and Uber Companies in the Automotive average: Ford and General Motors

Appendix

Metric / Disclosure / Topic	Source(s)	Methodology / Definition
Scope 1, 2 and 3 Emissions Definition	Greenhouse Gas Protocol	Scope 1 emissions are direct emissions from owned or controlled sources. Scope 2 emissions (location-based) are indirect emissions from the generation of purchased energy. Scope 3 emissions are all indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions. Emissions from the use of a company’s products are included in Scope 3.
6,500 miles At the moment, the manufacturing process of a Model 3 results in slightly higher GHG emissions than an equivalent combustion engine vehicle. However, based on the global weighted average grid mix, a Model 3 has lower lifetime emissions than an equivalent ICE after driving 6,500 miles.	Tesla estimate	Estimate is based on the difference in CO2e emissions from the average of manufacturing phase of a Model 3 and Model Y and an equivalent ICE which is then divided by the net CO2e savings per mile from a Model 3 and Model Y versus an equivalent ICE. Net CO2e savings are based on delivery-weighted global grid mix.
70 tons: Lifetime CO ₂ emitted by an average combustion engine vehicle (model year 2021) sold in the U.S. through its use-phase, excluding CO ₂ emitted during the oil refining phase.	Tesla estimate based on the EPA 2021 Automotive Trends Report	Figure based on EPA’s real-world (5-cycle) testing result of 25.3 MPG across all manufacturers for model year 2021, which equates to 348gCO ₂ /mi, and 200,000 lifetime miles. Excludes CO ₂ emitted during fuel production and transportation. Note: the EPA’s real-world testing cycle is not the same as owner-reported MPG sourced from Consumer Reports.

Appendix

Metric / Disclosure / Topic	Source(s)	Methodology / Definition
Manufacturing Phase Emissions for Average Mid-Size Premium ICE	Tesla, Sphera Solutions	In order to estimate the cradle-to-gate carbon footprints (GWP100) of select benchmark vehicles, a simplified approach of multiplying their curb weights by a carbon intensity of ~5.5 kg CO2e/kg was chosen. This reference value is based on a currently produced mid-size premium sedan that is comparable to the Model 3. The accuracy of this estimate for the other ICE vehicles directly depends on how their material compositions compared to that of the reference vehicle as well as on the existing variability of environmental impact profiles across different geographies and suppliers. As such, the specific carbon footprint (GWP100/kg) of the reference vehicle is only a proxy for the average premium mid-size ICE vehicle. Based on past work on automotive LCAs (Rohde-Brandenburger & Koffler, 2019) (Koffler C. 873 , 2013) (Koffler C. , 2010) (Koffler C. , Krinke, Schebek, & Buchgeister, 2008) (Koffler C. , 2007), the uncertainty of these estimates is estimated to be less than ±20% for a cradle-to-gate system boundary, and therefore less than ±5% once the use-phase is added. The reference manufacturer’s Environmental Certificates are calculated using the same BOM import functionality of the GaBi DfX software used for the Model 3 in the LCA authored by Sphera as well as GaBi 878 databases for all background data. Benchmark mid-size premium ICE vehicles include BMW 330i 2.0, Audi A4 2.0, Mercedes-Benz C300 2.0, Alfa Romeo Giulia 2.0, Volvo S60 2.0, Cadillac ATS 2.0, Lexus IS 300 2.0 and Infiniti Q50 2.0. Benchmark cross-over SUV premium ICE vehicles include BMW X3, Audi Q5, Mercedes GLC, Jaguar F-Pace, AR Stelvio, Volvo XC60, Cadillac XT5, Lexus NX and Porsche Macan.
Use-phase Emissions for Average Mid-Size Premium ICE	Consumer Reports	Figured based on owner-reported fuel economy from Consumer Reports for the latest available model year (2018-2020, depending on the make/model). 24.8 MPG is representative of the average of Alfa Romeo Giulia , Audi A4, BMW 330i, Cadillac ATS, Infiniti Q50, Lexus IS 300, Mercedes-Benz C300, and Volvo S60. use-phase GWP100 of ~400 gCO2e/mi includes gasoline production and distribution emissions from GaBi 2019 databases as well as consideration of bio-fuel mix of gasoline in the U.S. (~12%).
Manufacturing Phase Emissions for Model 3 and Model Y	Tesla	Figure inclusive of: raw and semi-finished material production including transportation, mechanical processing and shaping, battery manufacturing, vehicle assembly and paint shop, all fuels and energy (natural gas, electricity, etc.), other auxiliaries (lubricants, water, etc.) and end-of-life disposal. Figure exclusive of: capital goods (e.g., machinery, buildings), infrastructure (e.g., roads, power transmission systems), employee commute, external charging equipment and infrastructure, maintenance and service during use, packaging, transport to recycler, disposal of manufacturing waste, inbound transportation from Tier 1 suppliers, distribution to customers. Excluded activities are estimated to represent minor contributions to the cradle-to-gate as well as the overall LCA results. Where solar and storage are assumed to be a fuel source for the use-phase of the Model 3Y, emissions were included in the manufacturing phase figure. The Model 3Y Rideshare Use (solar charged) scenario is allocated 100% of these emissions on a per mile basis, while the Model 3Y Personal Use (solar charged) scenario is allocated 82% of these emissions and 18% grid-charged emissions on a per mile basis (based on observed supercharging vs. other split).
Use-phase Emissions for Model 3 and Model Y	Tesla; U.S. Department of Energy; IEA; China Electricity Council	Use-phase emissions for grid charging are based on Model 3 and Model Y delivery-weighted state, province and country level grid mix based on grid carbon intensity data. U.S. Source: U.S. Department of Energy E.U. + EFTA Source: IEA China Source: China Electricity Council’s China Power Industry Annual Report 2021 Use-phase emissions calculated using the geographic distribution of the Model 3 and Model Y in each respective region based on Tesla’s delivery data, which weights state, province and country level carbon intensity figures and assumes no change in grid mix into the future. This is a conservative assumption based on recent new electricity generation capacity trends and commitments made by states and countries to increase renewable mix on their respective grids. Grid emission intensities include upstream emissions from the production and transport of fuels. Real-world observed efficiency of Model 3 and Model Y over ~30 billion miles, inclusive of energy losses from grid to battery, utilized for use-phase emissions calculations (converting gCO₂e/kWh to gCO₂e/mi).

Appendix

Metric / Disclosure / Topic	Source(s)	Methodology / Definition
Vehicle useful life	U.S. Department of Transportation, European Automobile Manufacturers Association, International Organization of Motor Vehicle Manufacturers, Association Auxiliaire De L'Automobile	To calculate scrappage age of vehicles in a region, sum up annual vehicle sales from the most current year going back until the sum equals the current vehicle parc size. In order to be conservative, and normalize our figure based on recent vehicle sales trends in each region, we divided total vehicle parc by average vehicles sales in the respective regions for 2019 and 2020 (latest available data). This resulted in a scrappage age of 17 years and 200,000 miles in the U.S. and 20 years and 150,000 miles for Europe. For simplicity, China assumed to have similar useful life to Europe of approximately 20 years and 150,000 miles.
Energy Efficiency EPA range in miles/kWh	OEM data	Figures based on estimated EPA range and usable battery capacity disclosures by OEMs for each model.
Combination Trucks % of U.S. Fleet and U.S. Vehicle Emissions	U.S. EPA, U.S. Department of Transportation	% of U.S. Vehicle Fleet chart figures calculated using vehicle parc figures from U.S. Department of Transportation. % of U.S. Vehicle Emissions chart figures estimated using vehicle parc, fuel economy and VMT data from U.S. Department of Transportation. Calculation assumes fuel emissions factor for combination trucks are the same as the rest of the vehicle parc and are therefore conservative. Combination trucks use diesel fuel which, according to the U.S. EPA, has a higher GHG content versus gasoline used for light duty cars and trucks.
Water Consumption per Vehicle	Tesla, OEM Sustainability Reports	OEM data sourced from respective websites and latest available ESG reports. Tesla 2021 figure includes all our major manufacturing facilities dedicated to vehicle production.. It excludes Gigafactory New York, which produces solar and energy products.
Total Cost of Ownership	Tesla, Edmonds, OEM websites, CarEdge	Figures reflective of model year 2021 estimates from various sources. Depreciation based on latest MSRP. Model 3 RWD figures based on data from the Tesla fleet.



Report of Independent Accountants

To the Board of Directors of Tesla, Inc.

We have reviewed the accompanying Tesla, Inc. (Tesla) management assertion that the greenhouse gas (GHG) emissions metrics for the year ended December 31, 2021 in management's assertion are presented in accordance with the assessment criteria set forth in management's assertion. Tesla's management is responsible for its assertion and for the selection of the criteria, which management believes provide an objective basis for measuring and reporting on the GHG emissions metrics. Our responsibility is to express a conclusion on management's assertion based on our review.

Our review was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants (AICPA) in AT-C section 105, *Concepts Common to All Attestation Engagements*, and AT-C section 210, *Review Engagements*. Those standards require that we plan and perform the review to obtain limited assurance about whether any material modifications should be made to management's assertion in order for it to be fairly stated. The procedures performed in a review vary in nature and timing from, and are substantially less in extent than, an examination, the objective of which is to obtain reasonable assurance about whether management's assertion is fairly stated, in all material respects, in order to express an opinion.

Accordingly, we do not express such an opinion. Because of the limited nature of the engagement, the level of assurance obtained in a review is substantially lower than the assurance that would have been obtained had an examination been performed. We believe that the review evidence obtained is sufficient and appropriate to provide a reasonable basis for our conclusion.

We are required to be independent and to meet our other ethical responsibilities in accordance with relevant ethical requirements related to the engagement.

Our firm applies the Statements on Quality Control Standards established by the AICPA and, accordingly, maintains a comprehensive system of quality control.

The procedures we performed were based on our professional judgment. In performing our review, we performed inquiries, performed tests of mathematical accuracy of computations on a sample basis, read relevant policies to understand terms related to relevant information about the GHG emissions metrics, reviewed supporting documentation in regard to the completeness and accuracy of the data in the GHG emissions metrics on a sample basis, and performed analytical procedures.

GHG emissions quantification is subject to significant inherent measurement uncertainty because of such things as GHG emissions factors that are used in mathematical models to calculate GHG emissions, and the inability of these models, due to incomplete scientific knowledge and other factors, to accurately measure under all circumstances the relationship between various inputs and the resultant GHG emissions. Environmental and energy use data used in GHG emissions calculations are subject to inherent limitations, given the nature and the methods used for measuring such data. The selection by management of different but acceptable measurement techniques could have resulted in materially different amounts or metrics being reported.

As discussed in management's assertion, Tesla has estimated GHG emissions for certain emissions sources for which no primary usage data is available.

Based on our review, we are not aware of any material modifications that should be made to Tesla's management assertion in order for it to be fairly stated.

San Jose, California
May 5, 2022

Management Assertion

Scope 1 & 2 GHG Emissions

Overview

With respect to the greenhouse gas (GHG) emissions metrics for the year ended December 31, 2021 presented in table 2 below, which are also included in this Tesla Impact Report 2021 as identified by the “*” symbol, management of Tesla, Inc. (Tesla) asserts that the GHG emissions metrics are presented in accordance with the assessment criteria set forth below.

Management is responsible for the selection of the criteria, which management believes provide an objective basis for measuring and reporting on the GHG emissions metrics, and for the completeness, accuracy, and validity of the GHG emissions metrics. Tesla’s GHG emissions are rounded to the nearest thousand.

Organizational Boundary

Tesla uses the operational control approach to account for and report its Scope 1 and Scope 2 GHG emissions. This includes sites engaged in manufacturing; sales, service, and delivery; and other activities described below. Data for acquired sites are included once the site has been operating for at least a year at the beginning of the reporting period.

Table 1: Description of Tesla Sites

Site Type	Site Activities
Manufacturing	Manufacture Tesla products, including vehicles, superchargers, solar tiles, and energy storage products. Support manufacturing through the design and manufacture of equipment and tools used at manufacturing sites or by storing manufacturing materials, parts, or finished products.
Sales, Service, and Delivery (SSD)	Sell products, provide vehicle service, store parts for vehicle service, and deliver vehicles.
Other	Conduct research & development, administration, energy product warehousing and deployment, and other mixed-use warehousing.

Table 2: Metrics – GHG Emissions

GHG Emissions and Assessment Criteria ^{1,2,3}	Quantity
Scope 1 GHG Emissions ⁴ Direct GHG emissions occurring from stationary combustion, mobile combustion, and process emissions.	185,000 Metric Tons CO ₂ e
Scope 2 GHG Emissions (location-based) ⁵ Indirect GHG emissions from the generation of electricity purchased by Tesla for site operations.	403,000 Metric Tons CO ₂ e

GHG Emissions Disclosure

1. Tesla considers the principles and guidance of the World Resources Institute (WRI) and the World Business Council for Sustainable Development’s (WBCSD) Greenhouse Gas Protocol Initiative’s A Corporate Accounting and Reporting Standard, Revised Edition, and GHG Protocol Scope 2 Guidance, An amendment to the GHG Protocol Corporate Standard (together the “GHG Protocol”) to guide the criteria to assess, calculate and report direct and indirect GHG emissions.
2. GHG emissions quantification is subject to significant inherent measurement uncertainty because of such things as GHG emissions factors that are used in mathematical models to calculate GHG emissions, and the inability of these models, due to incomplete scientific knowledge and other factors, to accurately measure under all circumstances the relationship between various inputs and the resultant GHG emissions. Environmental and energy use data used in GHG emissions calculations are subject to inherent limitations, given the nature and the methods used for measuring such data. The selection by management of different but acceptable measurement techniques could have resulted in materially different amounts or metrics being reported.

Management Assertion

Scope 1 & 2 GHG Emissions

GHG Emissions Disclosure (cont.)

3. Carbon dioxide equivalent (CO₂e) emissions are inclusive of carbon dioxide (CO₂), nitrous oxide (N₂O), methane (CH₄), and industrial gases such as hydrofluorocarbons (HFCs), and sulfur hexafluoride (SF₆). Perfluorocarbons (PFCs) and nitrogen trifluoride (NF₃) are not emitted by Tesla’s sites. These carbon dioxide equivalent emissions utilize Global Warming Potentials (GWPs) defined by the Intergovernmental Panel on Climate Change’s (IPCC) Fifth Assessment Report (AR5 – 100 year) unless a different Assessment Report is already embedded in the emission factor source. Carbon dioxide equivalent emissions are calculated by multiplying actual or estimated energy and fuel usage by the relevant emission factor taking into account the equivalent GWP. All emission factors are updated annually where applicable.

Management Assertion

Scope 1 & 2 GHG Emissions

GHG Emissions Disclosure (cont.)

4. Related to Scope 1 GHG emissions:
- Stationary combustion (natural gas):
 - Combustion from stationary equipment and machinery at all Tesla sites.
 - Global natural gas usage data was collected from monthly utility invoices obtained from third-party providers.
 - If monthly usage data was not available, Tesla estimated the natural gas usage by determining an annual natural gas usage rate per square foot based on actual 2021 monthly natural gas usage data for sites in a similar geographic location and type of site. This rate was then multiplied by the square footage of the site building space.
 - Emission factors: United States (U.S.) Environmental Protection Agency (EPA) Emission Factors for Greenhouse Gas Inventories 2022.
 - Stationary and mobile combustion (propane, diesel, and gasoline):
 - Combustion from emergency and portable generators, powered industrial vehicles (e.g., forklifts), temporary space heaters, and other portable equipment (e.g., landscaping equipment) at manufacturing sites.
 - Propane, diesel, and gasoline usage data was collected from invoices and fuel reports obtained from third-party providers.
 - Emission factors: U.S. EPA Emission Factors for Greenhouse Gas Inventories 2022.
 - Fleet mobile combustion (diesel and gasoline):
 - Combustion from the operation of Tesla’s on-road and non-road vehicles (i.e., Tesla’s global fleet).
 - Diesel and gasoline usage (volume) from Tesla’s global fleet was collected from fuel cards issued by Tesla’s fleet management partner. Vehicle miles driven by Tesla on-road vehicles was collected from odometer readings and driver logs.
 - Tesla classified vehicles in its global fleet by type: diesel medium and heavy-duty vehicles, diesel light-duty trucks, gasoline passenger cars, gasoline light-duty trucks, gasoline heavy-duty vehicles, and non-road industrial/commercial equipment. Temporary fleet additions for operational use were categorized as ‘other’, for which only CO₂ emissions are calculated, because Tesla does not have detailed information on what type of vehicles were rented and miles driven.
 - CO₂ emissions were calculated by multiplying the relevant emission factor by the volume of diesel and gasoline used by Tesla’s on-road and non-road vehicles for the year ended December 31, 2021.
 - CH₄ and N₂O emissions were calculated by multiplying the relevant emission factor (depending on vehicle type and age) by the miles driven by Tesla’s on-road vehicles, and by the volume of diesel and gasoline used by Tesla’s non-road vehicles, for the year ended December 31, 2021.
 - Emission factors: U.S. EPA Emission Factors for Greenhouse Gas Inventories 2022.
 - Process emissions (Gigafactory Nevada lithium-ion battery cell recycling plant):
 - Emissions from processing manufacturing scrap lithium-ion cells at the Gigafactory Nevada cell recycling plant.
 - The quantity of manufacturing scrap processed was collected from Tesla’s cell recycling plant operations team. The concentration of CO₂ and CH₄ in emissions (emission rates) were measured during two emissions source tests. GHG emissions were calculated by multiplying the quantity of manufacturing scrap processed, as recorded by the recycling plant operations team, by the CO₂ and CH₄ emission rates developed based on emissions source tests.
 - Estimated emissions from the sources above account for approximately 10% of Scope 1 GHG emissions.
 - Excluded Scope 1 GHG emissions: Tesla excluded the following sources of GHG emissions which are estimated to represent less than 5 percent of Tesla’s reported Scope 1 GHG emissions:
 - GHG emissions resulting from propane, diesel, and gasoline combustion at Tesla sites not engaged in manufacturing.
 - GHG emissions from refrigerant loss to the atmosphere.
 - GHG emissions from emergency stabilization of damaged and potentially damaged lithium-ion cells.
 - GHG emissions resulting from the chemical reaction of two-part polyurethane adhesives

Management Assertion

Scope 1 & 2 GHG Emissions

GHG Emissions Disclosure (cont.)

5. Related to Scope 2 GHG emissions (location-based):
 - GHG emissions from the generation of electricity purchased by Tesla for site operations. For sites that include Superchargers (electric vehicle fast charging stations), Tesla did not include electricity procured for customer use through the Supercharger stations as those emissions are included in Scope 3, Category 11 Use of Sold Products.
 - Global electricity usage data was collected from monthly utility invoices obtained from third-party providers.
 - The WRI and WBSCD issued additional guidance for Scope 2 emissions in 2015 (in GHG Protocol Scope 2 Guidance, An amendment to the GHG Protocol Corporate Standard), which sets forth reporting under both location-based and market-based methodologies, where the prior version of the GHG Protocol only addressed a location-based methodology. The location-based method applies average emission factors that correspond to the grid where the consumption occurs, whereas the market-based method applies emission factors that correspond to energy purchased through contractual instruments. Where contractual instruments were not purchased, the market-based emission factors represent either the residual mix, where available, or the location grid-average factors. This management assertion only includes Tesla’s location-based Scope 2 GHG emissions as Tesla is continuing to implement its processes to measure and report its market-based Scope 2 GHG emissions.
 - Emission factors:
 - Canada: Environment Canada. 2019 National inventory report: greenhouse gas sources and sinks in Canada.
 - United Kingdom (UK): UK database published by the Department for Environment Food & Rural Affairs (DEFRA) 2022.
 - U.S. EPA Emission Factors for Greenhouse Gas Inventories 2022.
 - All other countries: International Energy Agency (IEA) Emissions Factors 2021.
- Estimated emissions from the source above account for approximately 5% of Scope 2 GHG emissions.
 - Excluded Scope 2 GHG Emissions: Tesla excluded the following sources of GHG emissions which are estimated to represent less than 5 percent of Tesla’s reported Scope 2 GHG emissions:
 - District heating and cooling.

Appendix

Except as otherwise noted, this report covers Tesla, Inc.’s fiscal year 2021, and references to “to date,” “currently,” or similar expressions reflect information as of December 31, 2021. Our data and methodologies have been collected and reviewed internally using relevant scientific and technical methodologies. Our statements about past occurrences and potential future development are based on data, estimates and assumptions made as of the date of publication. Certain information and data in this report may come from third-party sources and operations outside of our control. Tesla’s ESG Sustainability Council actively reviews and updates our methodologies for calculating the metrics set forth in this report. From time to time, data reported for prior periods may change due to improvement in data collection and measurement, new data availability, methodological adjustments or activities related to mergers and acquisitions, and we reserve the right to revisit our prior historical data and estimates to ensure accuracy and make any necessary corrections to our public reporting. Tesla holds no obligation to update any information or statements in this report.

Forward-Looking Statements

Certain statements in this report, including statements relating to future product development, performance and capability, timelines for the building of new factories and opening of new locations, expected cost savings from local manufacturing and materials recycling operations, the expansion of our Supercharger Network, future environmental sustainability efforts and expected efficiencies, data collection and reporting of results in subsequent Impact Reports are forward-looking statements that are subject to risks and uncertainties. These forward-looking statements are based on management’s current expectations. Various important factors could cause actual results to differ materially, including the risks identified in our U.S. Securities and Exchange Commission (“SEC”) filings and reports, including the risks identified under the section captioned “Risk Factors” in our quarterly report on Form 10-Q filed with the SEC on July 27, 2021 . Tesla disclaims any obligation to update any forward-looking statement contained in this report.



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