

Hi Callie,

I have read through the World Economic Forum Insight Report on abatement curves. I have also reviewed the additional resources you sent through and conducted some of my own research.

Looking at the emissions data provided to us by Fast Cars, we can see that the majority of their scope 1 and 2 emissions come from two main sources: purchased electricity (with the majority being used at Fast Cars' manufacturing locations) and onsite gas boilers.

With that in mind, I have identified the following abatement interventions to address those emissions sources.

#### **Emissions Source: Scope 2 Electricity for Fast Cars Manufacturing**

##### **Initiative: Renewable Power in Production (40-55% abatement lever)**

Purchased electricity for manufacturing makes up most of Fast Cars scope 2 emissions. Fast Cars can transition their manufacturing facilities to renewable power to significantly cut their carbon emissions. This approach can be coupled with investment in energy efficiency measures to reduce their overall energy demands.

Fast Cars also could influence its suppliers to transition to renewable energy. This could have industry-wide benefits. For example, if Fast Cars is able to require and support its supplier or aluminium to decarbonize its processes, other companies may benefit from access to the same decarbonized aluminium.

##### **Case Study**

- Daimler intends to make its assembly plants carbon neutral by 2022 by transitioning to renewable energy. For instance, Mercedes-Benz's plant in Bangkok, which is expected to achieve carbon-neutral production in 2022, uses large solar-powered systems on its roof to generate electricity.
- Daimler is also requiring its suppliers to adopt its standards for decarbonisation.

##### **Initiative: Renewable Power and New Processes in Battery Production (40-55% abatement lever)**

We expect that Fast Cars will increase their production of electric vehicles, in line with global trends and regulations. However, the energy intensity of making batteries has the potential to increase Fast Cars emissions. For example, producing a BEV can generate up to 60% more CO<sub>2</sub> emissions than producing a comparable ICE.

We can recommend to Fast Cars that their investment in increased battery production should be powered by renewable energy and, where they use other facilities, Fast Cars should prioritize factories that produce batteries with renewable energy.

#### **Emissions Source: Scope 1 Fast Cars Manufacturing Onsite Gas Boilers**

##### **Initiative: Renewable Heat (40% abatement lever)**

Fast Cars currently use onsite gas boilers for heat production in their manufacturing processes. This makes up the greatest proportion of their scope 1 emissions. There are several options to reduce or eliminate these emissions that we could recommend to Fast Cars. These include using high-efficiency burners that recover and use waste heat, as well as using biomass in place of gas.

## Case Study

- One of Volkswagen's production plants in the Czech Republic is working to replace the only fossil fuel still used at the plant: natural gas. From 2021 onwards, natural gas will be replaced by CO2-neutral methane from biogas plants. They are combining this with energy efficiency measures such as closing heating circuits to limit wasted heat.

## Next Steps

I recommend that we present our ideas to Fast Cars and work with them to determine the investment and payback periods for these and other interventions the team has come up with.

## Sources:

- <https://www.cleanenergywire.org/news/battery-gigafactories-will-rapidly-make-e-cars-even-greener-battery-expert>
- [BCG, Who Will Drive Electric Cars to the Tipping Point?](#)
- [BCG Report: Supply Chains as a Game-Changer in the Fight Against Climate Change](#)
- WEF Report
- <https://www.bcg.com/publications/2020/green-factory-of-future>
- <https://www.volkswagen-newsroom.com/en/stories/pioneers-in-climate-friendly-vehicle-manufacturing-6428>
- <https://www.daimler.com/sustainability/corporate-environmental-protection/co2-neutral-production.html>