Valmet Automotive, pioneering electric cars[1]

The decision by Valmet Automotive in 2007 to actively penetrate the market for hybrid and electric cars dramatically changed the capability requirements on Valmet Automotive. How these requirements gradually have evolved can be described through five distinct phases. Each phase will here be shortly explained.

Phase 1; mapping the context

As Valmet Automotive decided to enter the market of hybrid and electric cars it had to engage in a process of rapidly forming an understanding of how the market of hybrid and electric cars would evolve. This revealed that three major factors would influence the development:

- ***the financial situation***, which during 2008 already dramatically affected the whole automotive sector, and further on in 2009 forced GM into Chapter 11, saw VW and Porsche merge etc.
- ***globalization***, with China becoming the biggest individual automotive market in 2009, and
- ***eco-consciousness***, driven on one hand from the demand side through changes in consumer preferences and legislative actions by e.g. the EU, and on the other hand seeing a number of car manufacturers such as BYD and Nissan aggressively promoting the shift from combustion technology to electric powertrains.

To maneuver in this dynamic context Valmet Automotive formed a network of experts through which it could become involved in the discussions taking place on political, trade, car manufacturer and technology level all around the world. In this phase the government sponsored initiative Glocal Metals (partly financed by Tekes, the Finnish Funding Agency for Technology and Innovation, and orchestrated by Synocus Group) was supportive. These contacts enabled Valmet Automotive to rapidly access key decision makers relating to new energy vehicles in China.

Valmet Automotive also analyzed and monitored the situation of the market for hybrid and electric cars in Europe and North-America in a similar way as the Chinese ecosystem was portrayed.

Phase 2; engaging customers

The business logic for new energy vehicles is different from the competitive set-up for traditional cars. As new energy vehicles initially are more expensive than gasoline cars, the role of legislation and governmental subsidies is very decisive for the further development of the industry. This also implies new opportunities for entrepreneurs to exploit this state of technology disruption.

[1] Originally published in the book *Innovation and Collaboration for a Harmonious World* (Wallin, Su, 2010).

In 2008 Valmet Automotive was approached by one entrepreneur seeing the changes coming and using this to build a new type of car company, Henrik Fisker. He saw the opportunity to introduce a different business model into the car business. Comparing the car industry to the semiconductor industry he characterized his company as a "fabless car company". Taking his inspiration from firms such as Apple and Nike he wanted to focus on branding and design, not running factories. To do this he had to find a partner that was excellent in manufacturing. He chose Valmet Automotive to become this partner. In the cover page story for Forbes magazine in June 2009 the cooperation with Valmet Automotive was described as follows:[2]

From the beginning Fisker focused on capital efficiency. His company says it can develop a car in two and a half years--half the time it takes a large company--for one-third the $1 billion it costs a traditional carmaker. Fisker avoided some $300 million in capital outlays by handing off manufacturing of the Karma to Valmet Automotive of Finland, which will build the car in the same Finnish factory where it now assembles Porsche's Boxster and Cayman. Fisker agreed to pay Valmet around $25 million in advance to help offset tooling and factory costs, plus a fee for every car produced. Fisker says that per-vehicle cost is ''very close to what it would cost in your own factory.''

In September 2009 Fisker was granted a conditional loan of $528 million from the Department of Energy of the United States. The loan was to support the production of the Fisker Karma car in Uusikaupunki and to establish a new manufacturing set-up for the Fisker Nina car in the United States.

Early 2009 Valmet Automotive also closed a deal to produce a high-end electric golf car for a company called Garia. In August 2009 Valmet Automotive announced that it had reached agreement with the electric car company Think to produce its THINK City car in Uusikaupunki. Production of both Garia and THINK City started in December 2009. In a press release the president of Valmet Automotive stated that the production start of THINK City was a very important step for both Valmet Automotive and Think, as the companies aimed to increase their strategic cooperation also in engineering and process development.

Valmet Automotive was expected to take a much broader responsibility than just working as a pure contract manufacturer in its relationships with Fisker, Garia, and Think. To be able to clearly define the roles and responsibilities capability mapping tools[3] were used to enable a focused discussion within Valmet Automotive regarding what role the company should take in each customer relationship. Figure 1 illustrates the relationship Valmet Automotive has with a traditional OEM. As the figure shows, the large OEM basically has all the capabilities needed for the cooperation in-house. The contract manufacturing relationship is not so much about accessing complementary capabilities, but more about providing flexibility and cost efficiency for the production of niche products.

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[2] Forbes magazine had its cover story about Henrik Fisker in the June 2009 issue (Muller, 2009).

[3] The capability mapping tool is thoroughly described in *Business Orchestration* (Wallin, 2006).

The new entrants to the market for electric cars are different in respect of their capabilities. These companies are challenging existing OEMs and are aiming at rapidly building a network of like-minded organizations that together can provide the new types of products that the market is looking for.

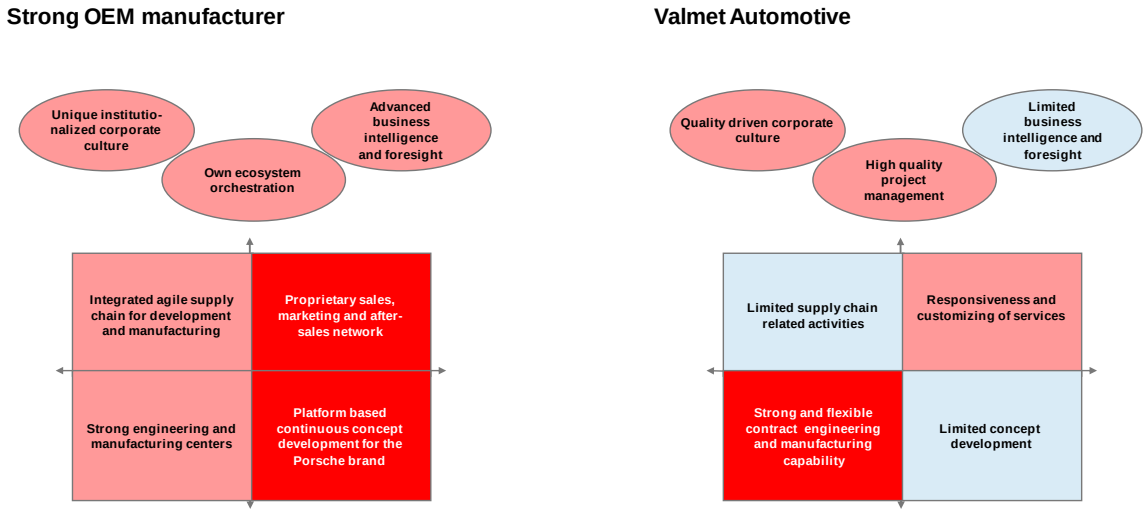

Figure 1. Capability mapping; OEM and Valmet Automotive (red: world class capability, pink: strong capability, blue: limited capability)

For Valmet Automotive this opens up new opportunities, as the total portfolio of capabilities to successfully compete in the automotive market remains unchanged. But now the customers do not have the same breadth of capabilities as can be found at the large OEMs. Therefore, Valmet Automotive can use its own capabilities more actively to support the new customers with new, expanded services. This different way of providing complementary capabilities is illustrated in Figure 2.

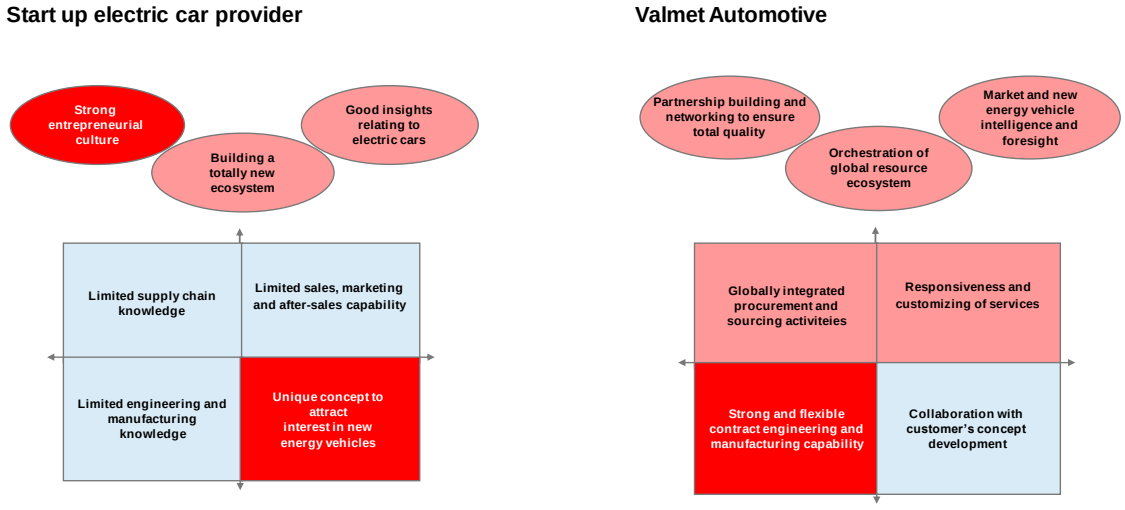

Figure 2. Capability mapping; electric vehicle startup and Valmet Automotive (red: world class capability, pink: strong capability, blue: limited capability)

As can be seen from Figure 2 Valmet Automotive can now take a much more active role towards its customers, and in this way also provide more value added to the customers compared to the set-up with traditional OEMs. Still the foundation for both categories of customers is the strong manufacturing capability, built up through the long experience as contract manufacturer with an inherent lean management philosophy.

By using the capability mapping tool, it is easier to facilitate the discussions with the customers and make sure that both parties fully understand what they expect from each other. This ambition to take a broader responsibility was also stated on the internet site of Valmet Automotive when entering the market for electric vehicles:

Globalization is reshaping the automotive industry. Valmet Automotive has been a forerunner in teaming up with new innovative players in the rapidly changing market. We have developed unique skills acting as the orchestrator of a network of partners in Europe, North America and Asia.

Accessing our key partners, we can provide all the necessary technologies and competences for a particular customer rapidly, flexibly and cost-efficiently. This ecosystem orchestration is possible thanks to the trust we have achieved working as a project manager and quality guarantor in the automotive industry for more than 40 years.

Phase 3; offering repositioning

Having identified the various needs of different customer segments implied that Valmet Automotive had to take a fresh look upon its own offering portfolio. The core offering of the company was still seen to be the manufacturing services that it so successfully had provided for more than 40 years. Relating to the manufacturing Valmet Automotive had also been actively collaborating with the engineering departments of its customers to design the tooling and the overall production process, including the integration of the components and subassemblies. Such manufacturing and serial engineering services had traditionally formed an integral part of the service package that Valmet Automotive offered to its customers.

Now working with start-up companies, the span of issues that Valmet Automotive had to address was considerably larger. It was seen that the manufacturing services still provided the core of the service package, but much more was now also needed in respect of engineering services. As the discussions with the new entrants deepened it became evident that they wanted to limit the numbers of key partners. Subsequently they invited Valmet Automotive to support their business activities, for example relating to concept development and sales and distribution of their product in Northern Europe. During autumn 2009 Valmet Automotive put significant efforts into the mapping of its new range of services, which was publicly launched at the Geneva Motor Show in March 2010.

However, just making the service range explicit and showing it in sales and marketing materials was not felt to be enough to position Valmet Automotive firmly into the center of the emergent market for new energy vehicles. Valmet Automotive therefore decided to also demonstrate its capability by designing and building a new concept car, the EVA car, launched at the Geneva Motor Show in March 2010. This made it very tangible that Valmet Automotive was aiming for a real transformation of its business model.

F*igure 3. The EVA-concept car of Valmet Automotive*

The EVA-concept car was a deliberate move by Valmet Automotive to underline its commitment to electric vehicles. In addition, it served as a catalyst for the whole organization of Valmet Automotive to join forces to put all the pieces together for the concept car to be ready in Geneva. It was also a way to make key technology suppliers, such as battery and control system manufacturers interested in Valmet Automotive as a strategic partner.

Phase 4; institutionalizing collaboration

Two main scenarios exist regarding the formation of the market for hybrid and electric cars. One is that the design, manufacturing and sales of these cars will be handled by the traditional OEMs, without any major new entrants being able to carve out a significant position of the market. The other scenario is that start-up companies, due to their agility and focus, will be able to build some significant market niches for themselves, and in these segments actually drive the development.

Valmet Automotive with its foundation as a contract manufacturer is well positioned in this new situation. As the company has the experience of serving both traditional OEMs and new start-ups, it can easily accommodate to both scenarios. However, in order to be successful, it must make sure that its capabilities are world class in serving all the aspects needed by existing and future customers, not just relating to manufacturing. This means that Valmet Automotive also must understand how the consumers relate to the future of cars and how it can incorporate such needs into its own planning, and in the building of future concepts around new energy vehicles. This is where collaborating closely with the public sector becomes important, as the first test fleets of electric cars are expected to be

subsidized by national governments and cities. Therefore, the first in-depth feedback from larger groups of users will be available from these demonstration initiatives.

The EVA-concept car was one element of the strategy of Valmet Automotive to institutionalize a network of key partners together with whom it will be able to provide a broad range of high-quality services in the field of new energy vehicles. This will however not take place without establishing some strong demonstration area of cars built by Valmet Automotive. Here Valmet Automotive, Fortum and Nokia started to look for potential public sector partners together with whom they could set up demonstration initiatives. On June 7th, 2010, it was announced that the City of Espoo, Valmet Automotive, Fortum and Nokia together with Synocus would establish a demonstration initiative for electric cars in Espoo. The initiative, called Eco Urban Living, would build a better understanding for how new more eco-conscious requirements must be taken into consideration in city planning. The initiative would also work closely with Aalto University and VTT Technical Research Center of Finland to become a leading competence center for electric vehicles.

Phase 5; ecosystem orchestration

The user-centric approach meant that Valmet Automotive had to actively orchestrate its own ecosystem. This was not excluding another perspective, which was that Valmet Automotive was a member of the orchestrated ecosystem of its respective customers when producing a certain car model. One way to portray the ecosystem of Valmet Automotive is illustrated in Figure 4.

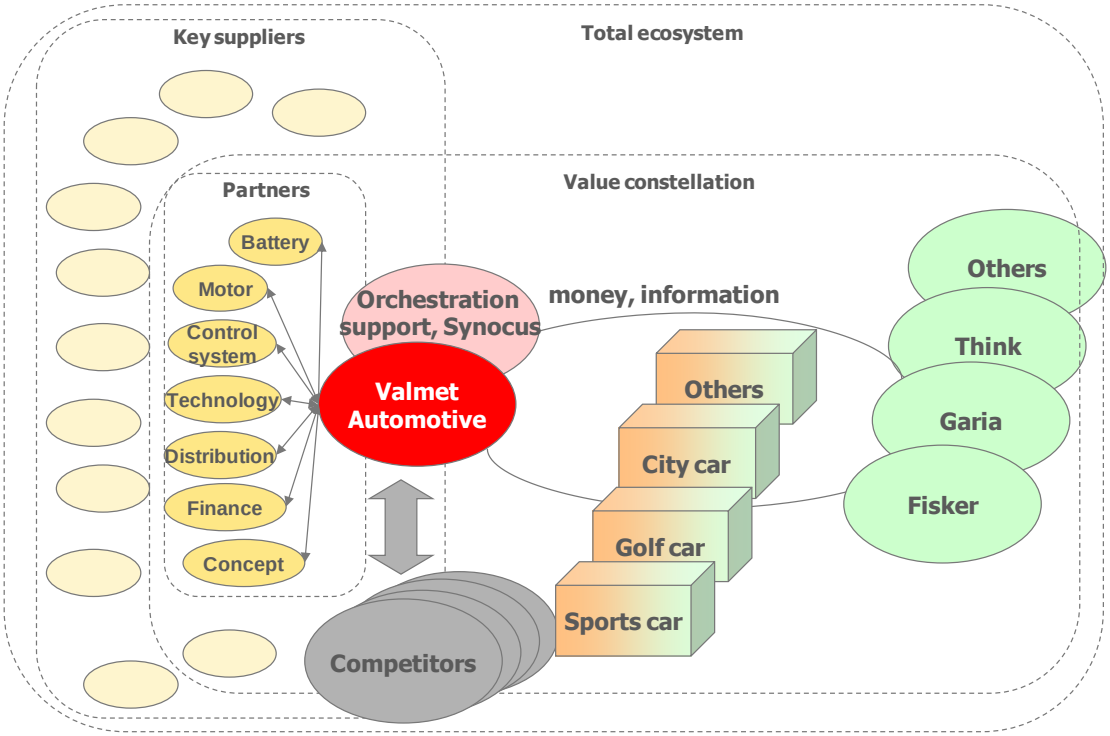

Figure 4. The ecosystem of Valmet Automotive related to new energy vehicles

The way Valmet Automotive in turn appeared as a member of the ecosystem of its key customers was in the case of Fisker illustrated in Figure 5.

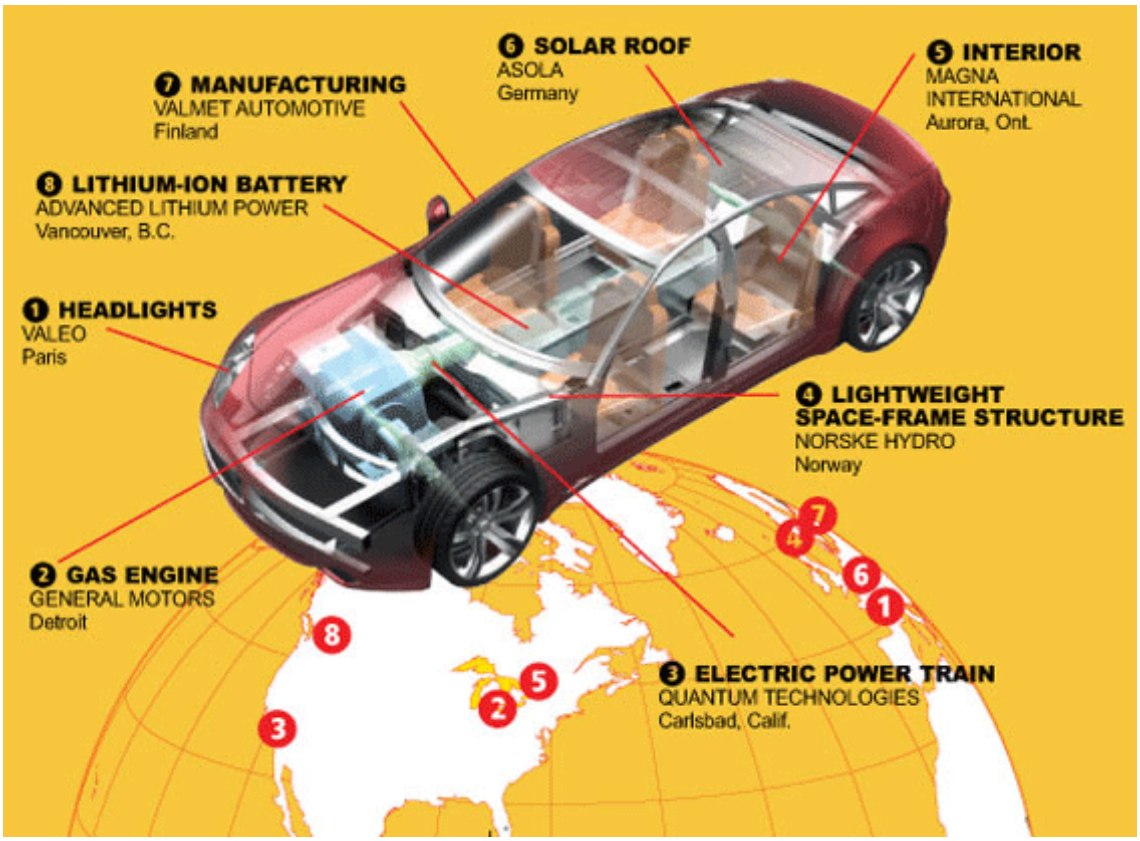

Figure 5. Valmet Automotive as a member of the ecosystem of Fisker Automotive (Source: Forbes magazine, June 2009)

The network of Valmet Automotive had to be global in respect of accessing resources and capabilities, but local when decisions on actual purchases of the vehicles were made. Therefore, there was a need for cultural sensitivity to be able to engage and inspire partners irrespectively if they were in Europe, America, or Asia. Because of this a key challenge for Valmet Automotive was how to show the big picture to its customers, and then portray the role of the customer in this picture to explain how the collaboration would provide business benefits both for the customer and Valmet Automotive.

Valmet Automotive was through its new strategy penetrating a market which was undergoing fast transformation. In this initial stage the market asked for investments and commitments. In many ways Valmet Automotive resembled a start-up company, when considering its role in the new energy vehicle segment. The manufacturing of new energy vehicles was a very different business compared to traditional contract manufacturing for large OEMs. This also put new requirements on the board of Valmet Automotive when considering partnership arrangements, investments and long-term ownership of the company. How the collaboration of Valmet Automotive and its partners gradually was strengthened is illustrated in Figure 6.

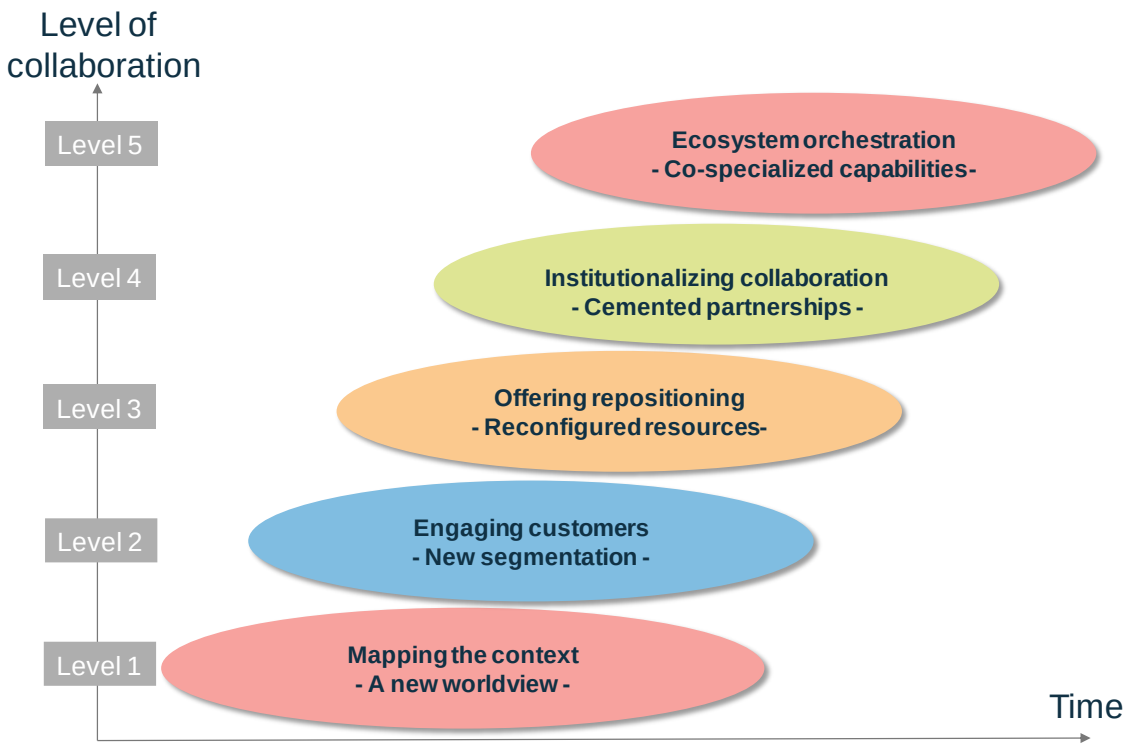

Figure 6. The gradual formation of the ecosystem of Valmet Automotive

Valmet Automotive must pursue innovations on different frontiers to succeed with its electric vehicle strategy. It must provide cost competitive manufacturing services as the core of its business (cost innovation). Some of the critical components are sourced from China. This asks for building a global ecosystem, wherein the Chinese partnerships e.g. related to batteries becomes extremely important (ecosystem innovation). This way Valmet Automotive can continue to provide the market with new innovative offerings, as demonstrated with the EVA concept car (offering innovation).

In the early phase of the introduction of such a systemic disruptive technology as electric vehicles there must be physical demonstrations. Valmet Automotive built a joint demonstration initiative with the City of Espoo. Organizing such demonstrations must take place in collaboration between the technology providers and the city authorities.

The introduction of electric vehicles will not succeed if there is not a smart grid solution available. As well, the battery technology must be competitive and the traffic system and integration of the vehicle into the larger information infrastructure must be in place. However, this requires support from the public sector in the form of incentives for the formation of the comprehensive ecosystem needed to accomplish the required transformation. This will then provide the possibilities to reduce the dependency on fossil fuel and reduce CO2 emissions.