

Case studies: Employee cooperatives for renewable energy at Unilever Heilbronn and the Volkswagen plant in Emden. Sustainability at the company site and profits for employees?

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Photovoltaic systems have been producing environmentally friendly electricity on the roofs of Unilever's warehouse at its Heilbronn site and Volkswagen's Emden plant for more than 10 years. A special feature is that these systems do not belong to the companies, but rather to employees who have joined together to form energy cooperatives. In both cases, members of the works council were the driving force behind the establishment of the employee cooperatives. These two examples are used to explain the background to employee cooperatives, their benefits for employees, hurdles and challenges in setting them up, and the role of the works council.

With the Paris Climate Agreement, the international community has agreed to work towards a greenhouse gas-neutral global economy after 2050. The European Union has committed itself to an interim target of reducing CO₂ emissions by 40 percent by 2030, measured against 1990 levels (German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety 2020:14). A key component of this is the use of renewable energy. Governments throughout Europe have taken measures in varying degrees to expand this. In Germany, this has been happening since 2000 with the Renewable Energy Sources Act (EEG). The guaranteed feed-in tariff has made investments in photovoltaic systems more attractive, due to higher EEG subsidies for small systems, especially for private households. By 2019, more than 1.7 million photovoltaic systems with a total output of around 46.5 terrawatt hours had thus been created in Germany. This corresponds to around 9 percent of electricity consumption in Germany. In 2019, around 30 million tons of CO₂ emissions were saved in this way (Strom-Report 2020). The energy turnaround has thus also become a tangible issue for a broader part of society. Companies whose core business does not include energy generation, on the other hand, continue to find it difficult to invest in renewable energy themselves. Yet large production facilities and warehouses in particular offer enormous potential in terms of space that could be used for this purpose. One reason for this is that, although the returns are quite respectable at an average of 5 percent, they are often below the internal company profit targets. For employees, on the other hand, a return of this magnitude appears quite attractive when compared with other financial investments that are characterized by a similar level of risk.

In 2010, the British group Unilever looked for possible model projects for more sustainability in the company as part of its Sustainable Living Plan. It was communicated via the European Works Council that employees should be supported if they wanted to get involved. Subsequently, the Group Works Council in Germany also addressed the issue and asked the question: could we perhaps raise the issue of photovoltaic systems? Thilo Fischer and Bernd Mager at the Heilbronn site took notice. The chairman of the works council and the distribution manager at the time already had photovoltaic systems installed on the roofs of their homes and were very satisfied with the results. So why not transfer the model, which had been successful in the private sector, to the company's own operations? After all, there was plenty of roof space. After it became clear that Unilever would not operate the system itself due to the low returns, the idea to involve the employees came up. From that point on, the local works council stepped into the picture. "That would be a good offer. The employees could participate, do something good for the environment and at the same time get a good return on their investment," Fischer recalls.

While the management at Unilever had its own interest in supporting the model project due to the internal strategy for more sustainability, the situation at Volkswagen in Emden was somewhat different. Ultimately, it was the initiative of Martin Refle, a member of the IG Metall works council, that brought about the breakthrough. Refle took the first steps in 2007. He was also already very

familiar with the topic through his private involvement in the field of regenerative energy and was therefore aware of the potential. The local IG Metall union had also some time ago declared renewable energies to be one of its key issues. It therefore made sense for the works council to initiate something on the plant premises together with Volkswagen. A change in the cooperative law in 2006, which made it much easier to set up and operate a cooperative, meant that the legal form was quickly decided on, and with it the idea of offering employees at the site the opportunity to participate in the form of an employee cooperative.

What is an employee cooperative?

Cooperatives in general are widespread in Germany. But the special form of the employee cooperative, on the other hand, is less well known. By purchasing shares, people join together in cooperatives for a specific purpose. In earlier times, this often involved the secure supply of food or energy. Cooperatives follow four basic principles: promotion, identity, democracy and solidarity. The primary purpose of cooperatives is not to make a profit, but rather to promote the interests of their members. They give the participants a common identity that frees them from competition with one another. Regardless of the size of each member's stake, each have exactly one vote, creating a grassroots democratic basis for decision-making. Cooperatives are based on long-term values and thus guarantee the stability for a solidaristic co-existence. In Germany, the founding of a cooperative is governed by the Cooperatives Act, and the concrete form of an individual cooperative is determined by the articles of association adopted by the members. One of the mandatory principles of cooperative organization is transparency, which is ensured, among other things, by a management board, supervisory board and general meeting.

Employee cooperatives transfer these principles to the world of work. Like citizens, employees of a company join together. However, it is also possible to open up employee cooperatives to those outside of the company through their articles of association.

Foundation phase and challenges

In the beginning, both Unilever and Volkswagen were faced with the question of how best to organize joint investment and ongoing employee participation; after all, the actors at both sites were entering new territory in the field of cooperatives. In the start-up phase, advice and assistance from the cooperative associations was therefore of central importance, especially in dealing with formalities. There were many of these in the case of the internationally active companies, and practical solutions therefore had to be found.

At Unilever, it started with the rights to the name of the cooperative. The use of the brand name within the energy cooperative Employees Unilever e. G. (EMU) first had to be cleared with the headquarters in London. Other issues included liability and insurance, for which Unilever also had to assume certain risks. The questions of what a sale of facilities or leaving the company would mean for shareholders also had to be negotiated. Finally, an entry in the property register was necessary, giving members the right to access the roof and their facility. Another issue was the rent for roof space. Legally, Unilever had to obtain a roof rental, even though it was not at all in the interest of the management. In the end, the solution was to sign a sponsorship agreement for the same amount as the rental agreement. Through this, the roof rent was reimbursed, and at the same time Unilever acquired the advertising rights to the facility. This is a good example of how creative solutions can be found to bureaucratic challenges.

The plant was financed by a KfW Bank loan with full repayment over ten years. The available shares at the Heilbronn site were quickly sold out. Employees were able to purchase shares of between € 300 and 3,000, although there were requests for larger participation sums. In the end, however, the shares were deliberately kept smaller to enable as many interested parties as possible to participate.

In addition to the strong commitment of the works council in the founding process, it was also crucial that the management stood behind the idea. "Without the Sustainable Living Plan, exactly such political issues would have been very difficult, if not perhaps impossible. The name Unilever, for example, might not have been granted then!" admits Mager. So timing in the context of current corporate strategy may well play an important role.

Against this backdrop, however, the start for Martin Refle in Emden was somewhat more arduous. The thirty-seven-member works council quickly backed the idea, but then the company had to be convinced. There, the project initially met with great reservations. Volkswagen itself operates Volkswagen Kraftwerke GmbH, which is based in Wolfsburg. This company-owned subsidiary is responsible for purchasing and producing energy for the entire group and can offer the Volkswagen sites electricity at a price that renewable energies could not compete with. Accordingly, it was difficult to explain to a listed company, which is looking at returns, that they were planning to initiate a solar plant with employee participation through a 20-year subsidy via the EEG. It therefore took some convincing by Martin Refle and Egon Hinrichs, the specialist advisor to the works council at the time, with the plant management, the planning management at the Emden plant and also in coordination with Volkswagen Kraftwerke GmbH, to obtain a positive outcome.

After the two had calculated that the economic viability of the plant was in principle feasible, everything went very quickly and the Employee Cooperative for Regenerative Energies at the Emden Site e.G. developed into a success story.

A call for participation was launched via the IG Metall shop stewards. The minimum investment was € 250. The maximum investment was € 10,000. Within 14 days, demand was so overwhelming that over 50 percent of the financing sum was raised through equity. A stop was then made at this point, because with a cooperative it is important to remember: the lower the equity ratio, the higher the return. The initiators were nevertheless satisfied, since they had succeeded in getting as many employees as possible involved. Since there was still more space available on the roof of the hall, a new call soon followed, and in 2009 an extension was already underway. There was also interest on the part of the management in the participation of individual employees. The biggest challenge for the shop stewards and the local IG Metall group was to bundle the high level of interest. "Enough equity could have been gathered to build a plant twice as large. If the plant management had been more actively involved at the time, that would certainly have been possible," the IG Metall shop steward sums up today. Decisively, however, there was not enough land available at the time.

Participation and earnings

Since 2000, the Renewable Energy Sources Act (EEG) has regulated the preferential feeding of electricity from renewable sources into the power grid. It guarantees operators of plants that generate renewable electricity a fixed feed-in tariff for every kilowatt hour of electricity fed into the grid. The feed-in tariff is guaranteed at its level for 20 years from the start of operation of the plant. This makes it easier to calculate the profitability at the beginning and minimizes the risk of not being able to sell the product at all or only at too low a price. Both the plants in Emden and Heilbronn are financed by the feed-in tariff of the EEG, i.e. the members make a profit.

The energy cooperative Mitarbeiter Unilever e. G. has around 60 members who hold shares worth between € 300 and 3,000. The average return in the years 2011 - 2020 was 6.6 percent. In 2020, members were even able to enjoy a return of 8.3 percent. "I think we're more likely to get double digits in the future - yes, it can't be avoided" jokes Mager. This development is all the more gratifying because 10 years ago it was assumed that sales would decline by one to two percent per year due to the declining performance of solar modules over time. However, due to climate change, sales tend to increase because the decreasing effectiveness has been more than compensated for by the duration and intensity of solar radiation. In the period 2011 - 2020, 1,175,239 kWh of electricity were produced in this way, generating an average net revenue of € 37,223.90. For the environment, this means a total saving of 570.00 tons of CO2 since the plant was commissioned.

Interested members can see at any time what is earned, and once a year the figures are officially presented at the general meeting. The return is also so stable because major repairs have not been necessary so far. The cleaning of the modules is done together by the members. For example, there are always volunteers who go up on the roof and lend a hand, and even after leaving the company, people remain members of the cooperative and look forward to the annual general meeting. Of course, such occasions are also good for the sense of community. That all members continue to support the project is also proven by the fact that there has been no major personnel fluctuation in the 10 years, not even in the responsible bodies of the Board of Management and the Supervisory Board.

The extent to which the double location advantage - plenty of sunlight and little weather-related damage - positively favors the returns at Unilever becomes clear when compared with Volkswagen in Emden. Although the annual return for 2020 is also over 5.0 percent for the first time here, the members of the Employee Cooperative for Regenerative Energies at the Emden Site e.G. had to exercise patience in the early years. The location on the coast makes the plant much more susceptible to wind and weather, so that the replacement of defective modules is a more frequent occurrence. Many a hurricane has caused insurance claims in the high five-digit range. Added to this are natural efficiency losses of two to three percent annually, which are not compensated for in the far north by increased solar radiation. "Blind" modules must be replaced regularly and the system subjected to an annual cleaning to prevent further impairment of efficiency. Fortunately, there have been no inverter failures so far in the past 13 years.

As the company was aware of these risks from the very beginning, provisions were made at an early stage. Instead of a return, members were also repaid a small portion of their investments between 2008 and 2012. Dividends have been distributed since 2012 and amount to an average of three to four percent, with an upward trend as well. Of the total of 344 members in 2020, the majority hold shares of between € 1,000 and € 2,500. 26 members have put in shares of between €9-10,000 euros. Even if someone leaves the company, they keep their membership. Major fluctuations are therefore not to be found here either.

According to its own website (www.vw-solargenossenschaft.de), the solar power plant, which had two expansions in 2009 and 2017 and has a capacity of 1.1 MWp, is the largest solar plant of an employee cooperative in Europe. Since its commission in 2008, around 5,293,363 kWh of electricity had been generated by the end of 2019. This corresponds to a saving of CO2 of about 3,176 tons. In 2019, enough electricity was generated to cover the annual electricity consumption of 243 four-person households.

Impact and effects

In 2010, the cooperative at the Emden site received the German Solar Prize from the German Solar Industry Association. At the latest with the introduction of the group-wide Volkswagen strategy

ThinkBlue.Factory, a first holistic environmental program to reduce emissions and use resources more efficiently, even the last skeptics were convinced. The Emden plant quickly took on a pioneering role and won the first ThinkBlue.Factory award in 2012, thanks in part to the employee cooperative. The environmental officer at the site gratefully supported the cooperative's activities and tried to promote the issue further. Overall, the entire issue of sustainability gained significant importance internally.

Works council chairpersons at other sites considered transferring the model to their plants and requested information. In addition to Volkswagen employees and their families, a number of important political multipliers were also recruited as members, for example a representative of the Lower Saxony Economic Development Agency. After the first positive reports in the national press, the inquiries also increased beyond the Volkswagen world. For example, the founding of the Uni Bremen Solar e.G. employee cooperative in August 2011 can be traced back to a visit by colleagues in Emden. Finally, even the photovoltaic system at Volkswagen's main plant in Wolfsburg can be directly traced back to the Emden initiative. When the Emden plant manager was transferred to Wolfsburg, he took the idea with him and had a similar system built on the plant premises in Wolfsburg.

After this progress, however, Volkswagen Kraftwerke GmbH had the Volkswagen board of management prohibit the installation of photovoltaic systems on all Volkswagen real estate worldwide without its explicit consent, putting an end to the initiative for the time being.

In 2017, however, an opportunity for further expansion presented itself in Emden with the construction of new factory buildings. At the request of the works council and with the agreement of Volkswagen Kraftwerke GmbH, the construction of the facilities was put out to tender from the outset with the added condition that they should be suitable for the installation of photovoltaic systems. As a result, it was possible to erect a system that was twice as powerful as the first installation, which enabled the employee cooperative to offer its existing members further shares and at the same time to expand the cooperative by 130 new members. Another special feature was that part of the electricity produced by the new plant was fed into two new e-charging stations in the Volkswagen employee parking lot via direct sales. The majority will continue to be fed into the energy grid to finance the plant via EGG compensation.

Since the issue of sustainability had already been addressed at Unilever's Heilbronn site before the Sustainable Living Plan was introduced, the employee cooperative did not trigger any entirely new thinking in this area. Nonetheless, the positive effects were clearly evident here as well. Inquiries from other sites quickly accumulated as to whether it would also be possible for external Unilever employees to participate. Attempts were therefore made to expand the project and roof tests were carried out at the Unilever logistics sites in Mannheim and Wittenberg. In the end, however, the plans failed due to deviating federal fire protection requirements. The installation of a wind turbine was also considered. Financing for this would have come about without any problems. However, the lengthy and complicated permitting procedures for the installation and operation of a wind turbine were the reason why such a project was ultimately decided against. "Volunteers reach their limits at some point, and wind power is another level of difficulty in terms of organization," admits Mager. This shows that one aspect should not be underestimated: all cooperative bodies, i.e. the executive board, supervisory board and general meeting of the employee cooperatives in Heilbronn and Emden, are organized and managed exclusively on a voluntary basis, and voluntary work requires sustained personal commitment.

With committed employees, employee energy cooperatives can make important contributions to the energy transition in companies. With the solar power they produce, they indirectly contribute to reducing the CO₂ emissions of their own company, since electricity seeks the shortest route.

Unfortunately, in the two cases described, the solar plants do not contribute directly to achieving the company's prescribed climate targets, since the electricity is fed into the general power grid for economic reasons in order to benefit from the high EEG subsidies, and the companies are not allowed to take credit for the plant's contribution.

However, employee cooperatives offer employees the opportunity to get involved beyond their workplace and take responsibility in a project they initiated themselves. The newly created opportunities for participation thus strengthen not only dialogue with the employer, but above all the sense of solidarity and the bond with one's own company. In this model, both sides benefit. Employees receive a guaranteed return on their investment and at the same time do something good for the environment. For the company, an employee cooperative means a double image gain as a climate-friendly company with strong employee loyalty.

Role of the works council

In order for well-intentioned ideas to be successfully implemented despite bureaucratic hurdles and initial resistance within the company, drivers and multipliers are needed. These can be provided through the works council, which promotes environmental awareness within the company, enters into the negotiation process with the employer and involves the employees in all steps of the participation process. All this was crucial to the success of the projects at Unilever Heilbronn and Volkswagen Emden. At other Volkswagen sites, for example, there were serious considerations and discussions about implementing a comparable project. But in the end there was a lack of an assertive initiator like Refle, who, as in Emden, took responsibility and invested time and energy in the project.

When asked how Unilever Works Council member Fischer defines his role in the process, he responds cautiously, but also with a certain pride. "My motivation was not the external publicity, but simply the cause itself, because I am convinced of it. Of course, it is additionally an advantage for the perception in the company if we as a works council can convey that we are committed to the interests of the employees in many different ways." The IG Metall works council in Emden takes a similar view. Just as at Unilever Heilbronn, the chairman of the works council and his deputy on the supervisory board participate in the Volkswagen Emden employee cooperative. The cooperative is strictly separated from the work of the works council. All work for the cooperative is basically voluntary and takes place outside working hours. In the opinion of the IG Metall works council, however, political power is needed at least on the supervisory board of the cooperative in order to be able to work effectively and discuss matters with plant management at an equal level. "It is a project initiated by the works council, is kept running by the works council and we would also like to expand it," says the IG Metall works council at VW Emden. The establishment of employee cooperatives also requires trust and responsibility; after all, employees entrust their private money to the cooperative. For this reason alone, the works council should be involved in the project and create the necessary basis of trust. At the beginning, the experience already gained from organizing the work of the works council and chairing meetings also helps to familiarize oneself more quickly with the formal processes and procedures of the cooperative bodies.

Even before the establishment of the employee cooperative, the works council at the Volkswagen plant in Emden had initiated a wide range of innovations. With the cooperative, the innovative image of the works council also extended to the areas of ecology and sustainability. For the works council, it can therefore be additionally interesting to be able to help shape a project for the benefit of the employees, beyond traditional operational issues. In this respect, an employee cooperative also has the potential to expand the dialogue between the social partners to new areas and improve the culture of co-determination in the company. This is an image gain for both sides and a development that does not go unnoticed among the employees.

Mager and Fischer still feel that they have achieved something good. With this in mind, they are happy to accept the effort that is undoubtedly required on a voluntary basis. The voluntary structure also allows running costs to be kept to a minimum, which increases the return on investment for members. But as democratic as the cooperative model is, with equal voting rights and equal returns for all, the organization and administration are shouldered by a few volunteers. In Emden, too, the board of directors and the supervisory board of the solar cooperative are happy to do the work, but at the same time they note that the administrative burden has increased noticeably with each expansion. In addition, the founding members are getting older; those who did not grow up with the idea are identifying less strongly with the project and their commitment is unfortunately decreasing. One has to be aware of this from the beginning. Due to the EEG remuneration, one commits oneself for at least 20 years.

Are employee cooperatives still attractive?

The annual operating costs of a PV power plant are about 1% of the investment costs, i.e. comparatively low, and financing costs are also favorable due to the current low interest rate level. In addition, investment costs have fallen by about 75% since 2008 thanks to technological advances (Fraunhofer ISE 2020:8). Conversely, the feed-in tariff is always based on the cost of generating one kilowatt hour of photovoltaic electricity, the so-called electricity production costs. As these have also fallen, the feed-in tariff has gradually decreased over the past 15 years by about 80% for very small systems and 90% for medium-sized systems. Small plants that went into operation in January 2021 received a feed-in tariff of up to 8.16 ct/kWh for 20 years, depending on the size of the plant. The feed-in tariff for medium-sized plants of 750 to 20 MW was still significantly lower at 4.33 ct/kWh in 2018 and is also set via tenders by the Federal Network Agency (Fraunhofer ISE 2020:11). In principle, however, the level of the feed-in tariff is selected so that all costs for generating the solar electricity can be covered.

The aim of an employee cooperative is not just to make a profit, but Mager is convinced that even today there is still the possibility of operating employee cooperatives profitably for the production of regenerative energies; this is especially the case if it is possible to feed the electricity produced into the power grid of one's own company instead of into the general power grid.

According to Christian Sprute, the current technical advisor to the works council in Emden, the organizational principle of an employee cooperative, which is based on voluntary work, poses challenges that grow with the size of the plant and the number of members, and which should not be underestimated. But if a company gives you the freedom to implement such a project and assigns people responsible for it together with the works council, so that the works council does not have to do the work alone, the Volkswagen works council remains convinced of the model. Sprute believes that an employee cooperative could be particularly attractive for small and medium-sized companies, because he suspects fewer formal hurdles there than in a global corporation the size of Volkswagen. In addition, many small and medium-sized companies are likely to pay higher electricity costs than a DAX-listed corporation. With a solar cooperative, they could both reduce their electricity costs and increase employee loyalty.

Ultimately, of course, this requires the involvement of both social partners. It becomes easier when they pull together, as they did at Unilever. As the societal perspective and also the perspective of investors on the topic of sustainability and sustainable business is changing, companies today are increasingly under pressure to tackle change. Volkswagen itself offers an indication of the change processes taking place with its Kraftwerke GmbH. In order to make a contribution to achieving the CO2 targets, the Board of Management gave the order to expand regenerative energy sources and to

equip available plant areas with photovoltaic systems as far as possible. For the Emden plant, this means that the next expansion may be imminent.

The examples at Unilever Heilbronn and Volkswagen Emden show that an employee cooperative initiated by the works council to generate solar power can have a positive effect on the works council, the company and the workforce in several ways. Employee cooperatives in their long-term form offer an attractive and sustainable model for organizing joint investments, with low risk and a guaranteed return for the members. At the same time, they make a direct contribution to the long-term goal of CO₂-free business operations and indirectly help to secure the long-term future of the site and maintain employment. They further strengthen employee loyalty and a sense of belonging by fostering a community identity.

For the works council, employee cooperatives can open up new areas of interest and lead to an improvement in the culture of co-determination. In an employee cooperative, it is precisely those projects that might otherwise have received less attention that can be implemented. In this sense, they have the potential to provide impetus and drive for the entire topic of sustainability in the company. Particularly against the backdrop of increasing pressure on companies to seriously address the issue of sustainability, the commitment of the works council in this matter could fall on open ears and be seen as quite welcome.

The examples also show that strong personal commitment is crucial to the success of such an undertaking. The voluntary effort involved should not be underestimated. In the run-up, it is therefore important to realistically weigh up which challenges are lurking in detail, and then find practical solutions in dialogue. The cooperative associations can already provide good assistance with many questions. The works councils at Unilever and Volkswagen that were interviewed would be pleased if more colleagues were to get involved in this matter; they recommend simply making contact with people who have already gained experience in this area. After all, there are more than 800 energy cooperatives in Germany in a wide variety of configurations (Bundesgeschäftsstelle Energiegenossenschaften 2021).

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