

BAM Infra has a lot of confidence in emission-free asphalt set

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"It's half past eleven and I only have 50% left." Manager Iwan Trompert of BAM Infra Nederland regularly received such calls from operators who were working on the emission-free asphalt sets for the first time. **"But confidence has now grown and they make it a sport to put the machines on the low-loader at the end of the day with 25% battery capacity remaining."**

BAM recently reported with satisfaction that the company used the emission-free large asphalt set for more than 150 days in 2023. "When using traditional equipment, we assume 180 operating days per year. With the new emission-free asphalt set we expected 150 days of 8 hours. "We have far exceeded that." This was 80% for jobs where emission-free working was required. "We have also used the equipment for 'regular' work where it was not requested," explains Iwan Trompert, "including maintenance work based on long-term contracts. It is nice that you see that the client is very interested and there is room arises to enter into discussions, even though that was not in the contract."

Roadmap: 2026 emission-free

It actually has to go in that direction, because emission-free asphalt paving is increasingly becoming the new normal for BAM. At the end of this year, the company will complete a second large emission-free asphalt set. The Vögele 1900-H2 is already here; To complete the set, a second tandem roller HX90-e will be available via **New Electric**. A smaller set is also already running. This development continued in subsequent years. There are currently five regular sets running at HVO, but there will be fewer and fewer. "We are heading in that direction anyway; the only question is at what pace. We already see that there is sufficient demand for the deployment of the first and second sets. Our goal is to work completely emission-free by the end of

2026. There is still a challenge, partly because of the investment it requires. But that tension also ensures that we maintain focus and drive to accelerate the chain," Trompert outlines.

Vögele and Hamm

BAM works with regular parties for electrical equipment. New machines are supplied by Wirtgen. "They supply us with Vögele asphalt spreading machines and Hamm rollers. An advantage of the asphalt spreading machines is that Wirtgen can also supply them from the factory with an emulsion tank on it. There is room for that and we can therefore use it for a battery pack or for hydrogen tanks. The Wirtgen hydraulics are very efficient, which is beneficial for energy consumption. We work with **New Electric**, Koninklijke Van Twist, Wierda and Green Road Equipment to convert existing machines. Conversion remains necessary for the time being, although we had estimated differently when purchasing our first electric asphalt spreading machine."



Learning by doing

This vision for a rapid transition to emission-free working is already a reason in practice for all BAM operators to work with such sets. So there is no fixed team that works on one set. "We are now a leader - or at least one of the leaders - in zero-emission working. That gives our people time to learn. If it becomes the standard, it will be normal for all our people instead of just a few. once done."

Which for Trompert himself meant that he had to explain things a lot and often and answer the same questions. "The operation is the same; we consciously chose that. The questions mainly had to do with trust. That has to grow. Operators were afraid that the battery would run out. But we always say that if you work from 7 a.m. to 4 p.m. you have already completed half the working day at eleven o'clock. If you are at 50% at half past eleven, we don't panic. And neither do drivers anymore."

More consultation

"In that respect, asphalt work is different from working with an electric crane. With a crane you know what work you are doing and when you can stop. With asphalt paving you do not always know that. Do you have many intersections and entrances, or are you working the entire day at full speed? You continue until the work is finished: that can also be later than expected. You now see that operators consult much more with the contractor about those kinds of things at the start of the day. This gives them more insight in work and in planning."

"They now also make it a sport to have as much capacity as possible left at the end of the day. For example, they consciously choose a certain work mode and the 'screed man' pays attention to the temperature of the screed. Our own LEAB (low energy asphalt concrete) only needs 110 to 120 °C instead of 170 and that saves a lot of energy. And where they wanted to keep the cabin and engine warm with a diesel, they are now really looking at whether it is necessary to keep the machine on. We have been working on new protocols for running with diesels for a long time, but this makes them even more aware. An operator feels that he prefers to put a machine on the low loader at the end of the day with 25% rather than 5% remaining battery capacity.."

32 amps

BAM has chosen the electrical equipment in such a way that it can run for a day without any problems. This also applies to the electric asphalt spreading machine. 'We have a fixed package of 220 kWh on this Vögele 1800-NE and an interchangeable package of another 270 kWh. We change the latter on the day. If you used it all up, you could work for about 12 to 13 hours. But we would prefer to bring all three packages to the loading location with approximately 25%. We now know that we can charge them without any problems with a 32 amp connection. This is a connection that is also available on a construction site or at a (farming) company. If the packs were to be empty to, for example 5%, we would just be short of power.'

Fixed charging locations

In many cases, the electrical equipment is charged at fixed locations in the country, both at BAM's own locations and at transporters. So it does mean that they have to be transported there. "But the practice nowadays is that most jobs only last one or two days. Four-day jobs almost no longer happen." BAM also wants to store the equipment safely behind a fence because it is susceptible to theft. The safety of charging is also an issue. "The machines themselves are simply safe. That is not an issue. The high-voltage parts are also completely shielded; you cannot easily access them. The charging cables and charging points are sensitive. This is not a problem at our own locations and transporters, but on a construction site a lot of people come."

Where the equipment often does remain is on large emission-free works. "But the loading facilities there are also well organized and the construction sites are well secured."

Regular drivers

Of course, the drivers often do not go to the charging stations. That is why BAM has made the drivers of the low-loaders responsible for charging. "While we have all different operators work with the equipment, we have opted for a permanent team of people for transport, so that we can be sure that charging goes well. We have learned that you cannot just plug in a plug, especially not on a construction site. If there is anything else connected in that group, things will go wrong and you will be without

power the next day. Think of a heater in the shack that switches on at night when it gets cold. That's why they mainly go out. At a construction site we always go in first for consultation. And in the evening around 7 p.m. we can still log in remotely to see whether charging is going well. Then you can intervene if necessary."

BAM is currently doing well with the current charging location. "If there are more sets, we will have to look at this again. But what our asphalt set needs is peanuts compared to what a transporter needs. That corresponds to loading two trucks, while trucks often also require another fast charger in between. If you have 20 electric trucks, well, our demand is not too bad."

Additional maintenance visits

The large asphalt set has now been running since the end of 2022. BAM initially planned extra maintenance and inspections for this equipment. "That is not prescribed, but if you do not use them for a day, you should have them checked again. This is mainly to gain confidence. In the beginning we had some teething problems, but they were always quickly resolved by the supplier or converter or our own equipment service. Fortunately, we never had to tow the machines from the work site!

Those teething problems have now been resolved and there is plenty of confidence. Even fewer maintenance visits are required than with diesel. The control is now mainly on the plugs and charging cables and the like because they are located outside and are sensitive."



BAM has calculated that by using the emission-free asphalt set it will have saved 60,000 liters of diesel/HVO in 2023. The asphalt set therefore contributes to the climate objectives of both BAM itself and its clients.