BASE

INTRODUCTION

- We are BASE (Bouwplaats Architectuur voor Schone Energie), a group of 11 students from different specialties coming together to tackle the challenge of making a blueprint for zero emission building sites, with help from Elaad at Connectr.
- The main challenges of creating a zero-emission building site blueprint are among others, the interoperability of the machines, the availability of charging and battery systems to assure the machines can work a whole working day and the high costs of these electric machines upfront, even with current government subsidies.

JOURNEY & LEARNINGS

- At first, we weren't too sure what was expected of us as most of our members had never done something in this field before but after a few weeks we got the hang of it have built a great team bond and have worked hard towards our zero-emission building site.

- Changing from diesel to electric isn't as simple as swapping machines, you have to rethink how construction is to be done, and it requires at times a lot more logistics for power sourcing as we saw at the Rijnkade in Arnhem, which also had electric equipment used where possible.

OUTCOME & IMPACT

- We devolved a framework for zero emission construction sites, tackling one of the construction industry's biggest challenges: greenhouse gas emission, and seeing as roughly 40% of global emissions are due to construction, it is becoming an ever more present problem. Our solution will help by integrating electric machinery, renewable energy and research into furthering communication systems.

- The potential ripple effect is significant. Our work can directly benefit construction companies, equipment manufacturers, government agencies, and

urban developers looking to meet climate targets that have been set for 2030.In the long term, this project could further push policy and subsidies for cleaner construction, Standards for interoperability across electric machinery and educational tools for engineering students and sustainability professionals.

- We’re excited to show the load simulations, a Total cost of ownership for diesel versus electric building sites, and a prototype for communication— things we know can aid in the transition to zero emission construction sites.

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