



NEW ROADS

- WITH RECYCLED ASPHALT

> [ARKIL.DK/BSM](https://arkil.dk/bsm)

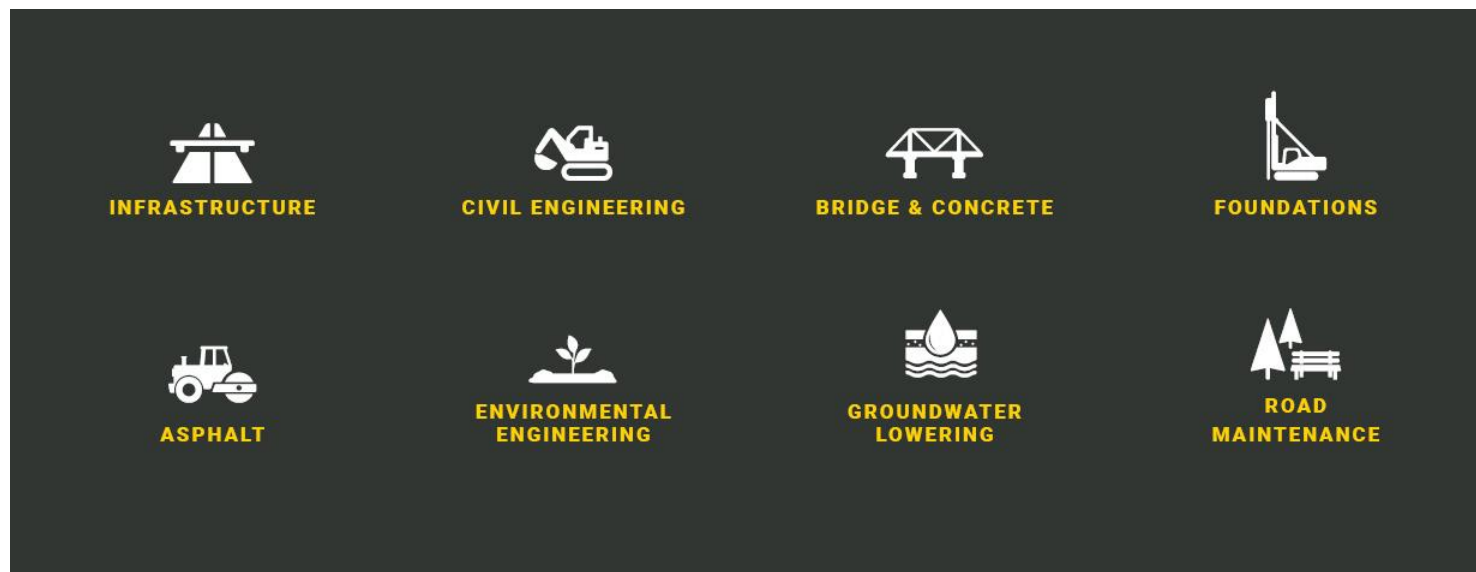
ARKIL



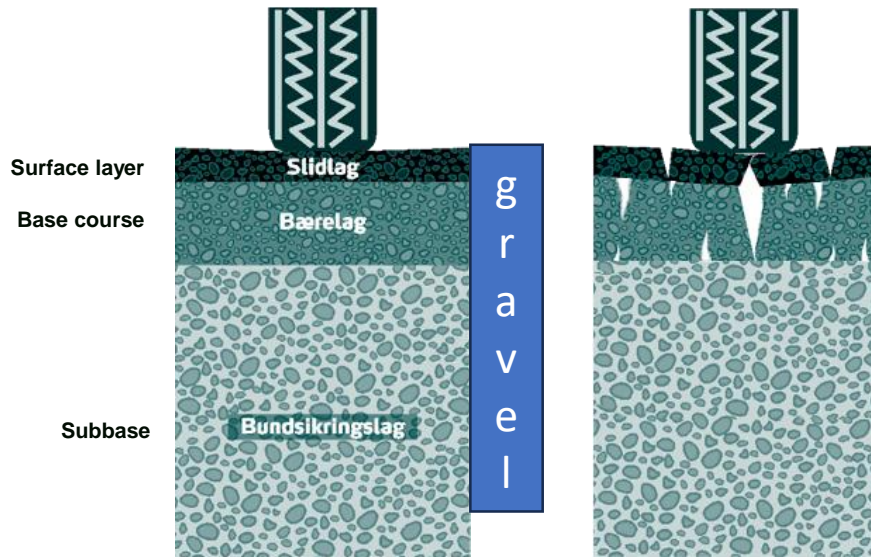
Arkil is one of Denmark's largest contractors with 2100 employees. We have a turnover at approx. 3,8 billions dkr. in Denmark and Europe.

Arkil offers a vast pallet of solutions to help our customers. For example: constructing bridges to tie together what was divided, laying cables which creates connections. We remediate contaminated soil, build sewers and help create a cleaner environment. We build from the ground up, lay foundations, produce asphalt and pave the way forward. We care for the road when it has been built and maintain its high level of quality. Arkil builds the future, and our motto is "Quality on time".

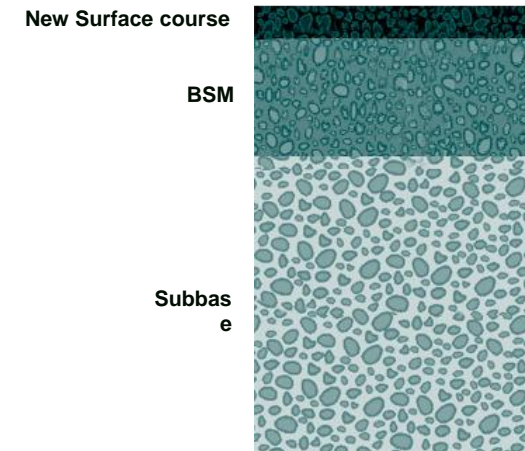
Arkil started with CIR (Cold In-place Recycling) in 2019 and approx. 40 roads in DK have been improved with CIR.



Where BSM makes sense



Bitumen Stabilized Materiel
Existing asphalt is milled and mixed with foam bitumen, water, and a bit of cement. Whereafter it's built back in the road.
All in just one process.



100%
RECYCLING OF
ASPHALT

1

OVERALL
PROCESS



BSM

– The process

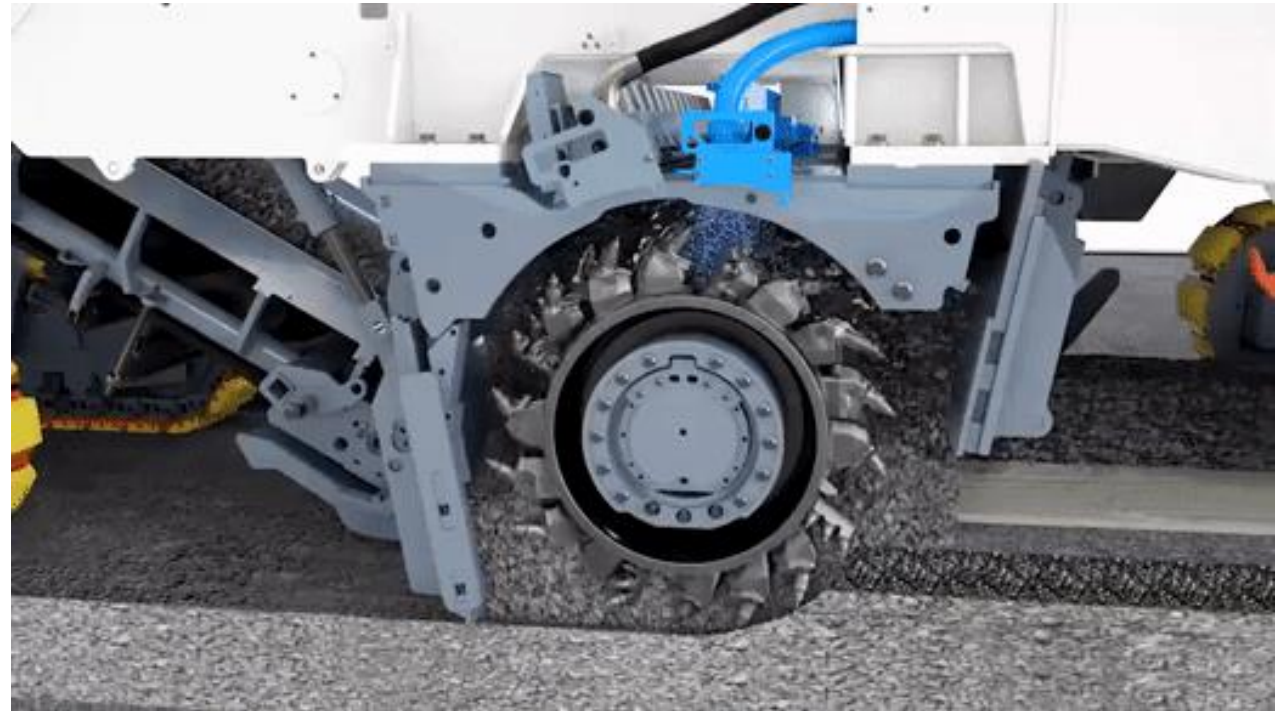


1. Cement truck
2. Water tank
3. Bitumen tank
4. CRi Machine
5. BSM paver with high compaction
6. Steel drum roller 16ton
7. Rubber tire roller 28ton



BSM

– Mixing

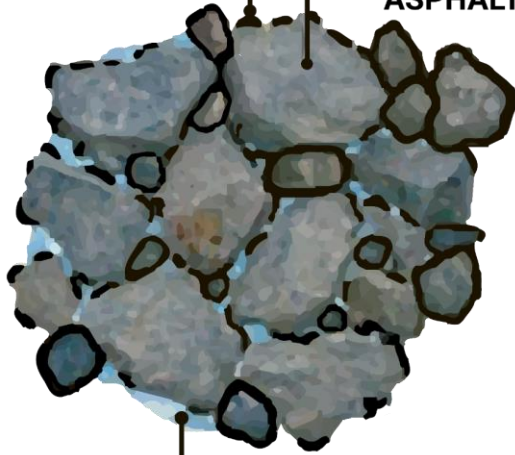


BSM

- Product

BITUMEN "WELDING SPOT"

ASPHALT RECYCLING



Process water

- Thousands of bitumen drops => welding points
- Strong and flexible composition
- Eliminates existing cracks and prevents new from forming.
- Great rutting resistance
- Volume increase 20%



TEKNOLOGISK
INSTITUT

A wheel-tracking test done by the Technological institute shows merely 0,6mm rutting after 10.000 double passages, which is better than any types of warmmix asphalt.

Side 11 | 943250 Lab.prøvning BSM M80 Hjallerup

TEKNOLOGISK INSTITUT



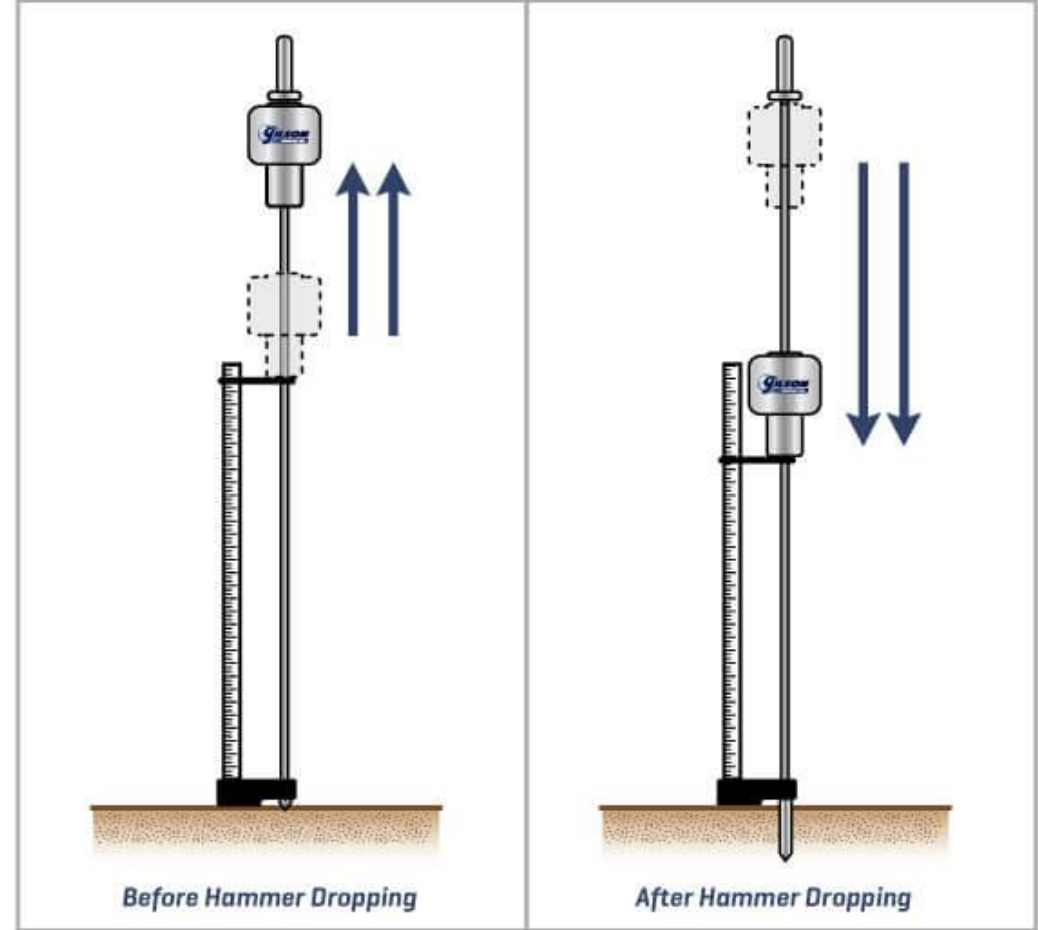
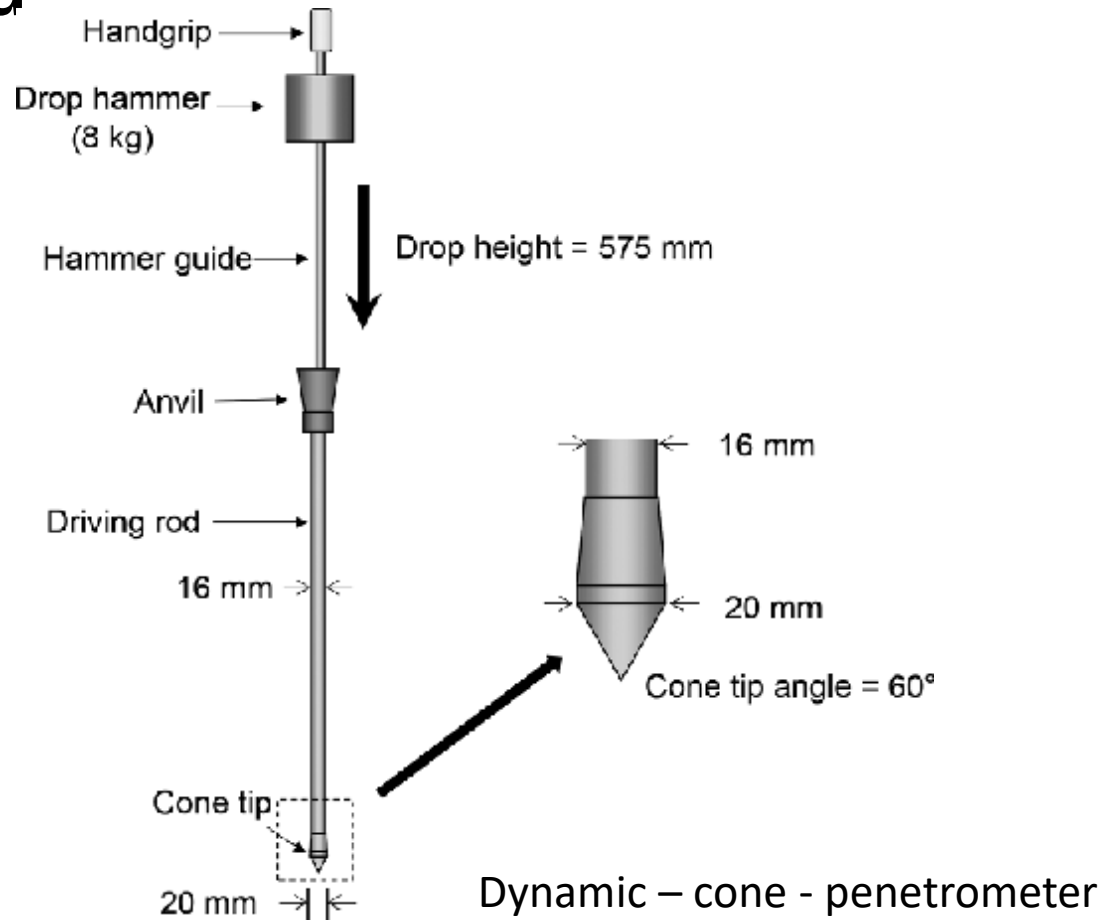


Fact:

- 70m "train"
- Approx. 1.500m refurbished daily
- Minimum length 500m
- Width of milling CRI:
2,40m / 3,20m / 3,80m
- Paver width 2,70m - 5,50m
- Standstill before new surface layer 3-7 days depending on weather conditions



Pretest with DCP before expansion of road



Premilling road for BSM in one go



Expansion of width



KVALITET TIL TIDEN > ARKIL.DK/BSM

In depth renovation



Expansion of width



Expansion of width



KVALITET TIL TIDEN > [ARKIL.DK/BSM](https://arkil.dk/b-sm)



Expansion of width and removal of elongated cracks



In depth renovation in a city area



Waste handling facility = a lot of heavy vehicles



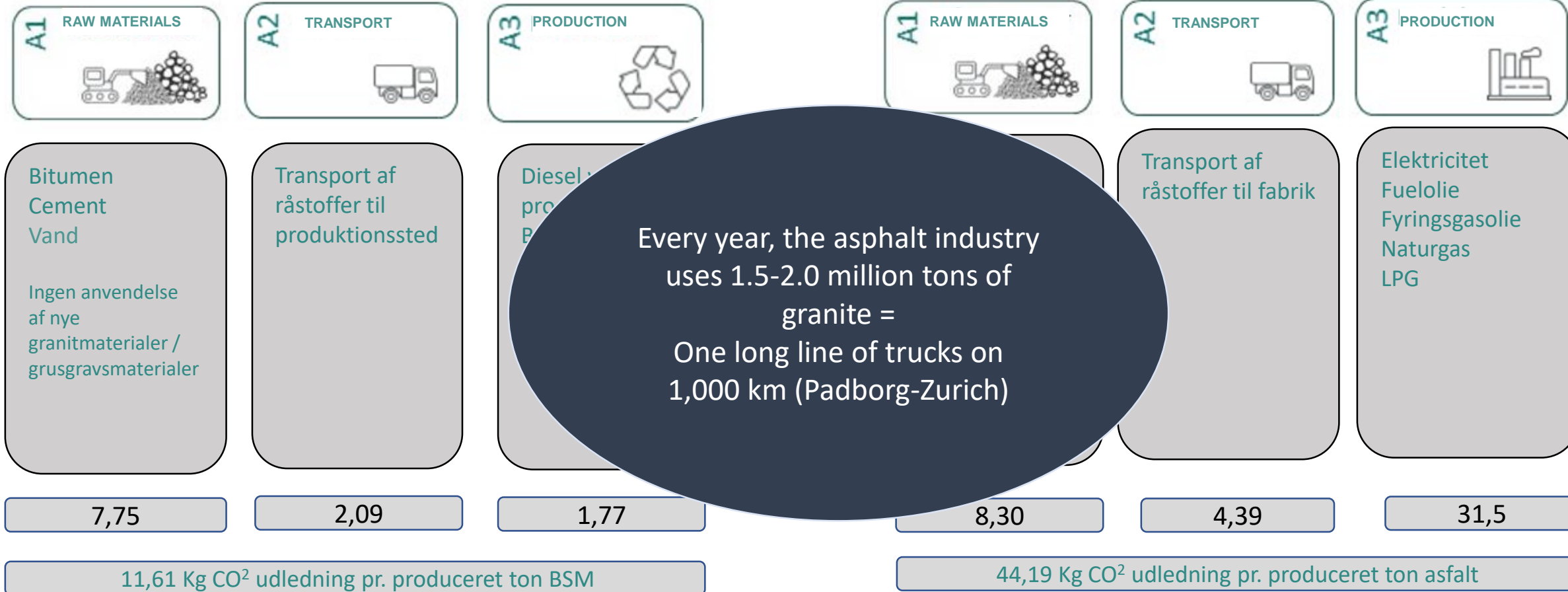
Waste handling facility



BSM in-situ

EPD - Environmental product declaration

GAB I 40% GMA



Every year, the asphalt industry uses 1.5-2.0 million tons of granite =
One long line of trucks on 1,000 km (Padborg-Zurich)

Reduction of 74% CO²



BSM

– Climate benefits

- 100% recycling of road materials
- CO2 reduction of approx. 74% compared to warm mix asphalt
- No transport to and from asphalt plant
- No transport of imported aggregate
- Minimal use of new raw materials
- Raw material extraction - any surplus road material on one road can be recycled on other roads
- Sustainable Development Goal - no. 12 - Responsible consumption and production



Sustainability

- Climate footprint
- CSR political social responsibility, apprentices 10%
- The UN's Sustainable Development Goals 2030 are approaching
- Partnering
- OPS Public-Private Cooperation
- Raw materials shortages, security of supply
- Labor force
- Price vs. Requirements
- Emphasis on sustainability



Thank you.
Any Questions?



**100% RECYCLING
OF ASPHALT**

CO₂

REDUCTION



**RAW
MATERIALS**

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ARKIL