



OPTIMIZED ROBUST STORAGE SOLUTIONS FOR SAWDUST, WOOD CHIPS AND PELLETS

C3C ENGINEERING AB

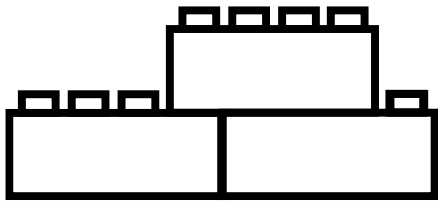
Erik Jansson



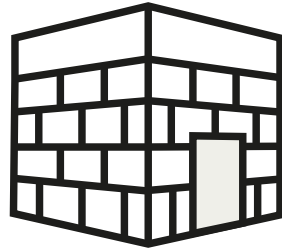
DESIGN & BUILD CONTRACTOR OVER 200
YEARS EXPERIENCE OF PREFABRICATED
BUILDING TECHNOLOGY PREDOMINANTLY
FOR THE ENERGY SECTOR



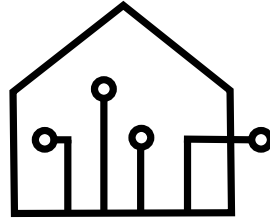
// BUILDING FOR THE RECYCLING, DEFENCE & ENERGY SECTOR



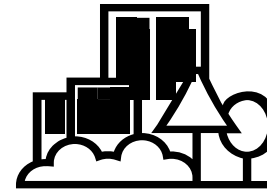
C3C BLOCKSYSTEM®



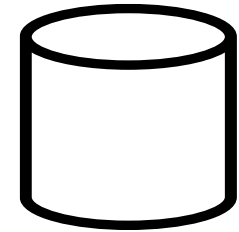
HALLS



TECHNICAL HOUSES



CITY & INFRASTRUCTURE



TANKSYSTEM



STRÅLNINGSSKYDD/ FORSKNING

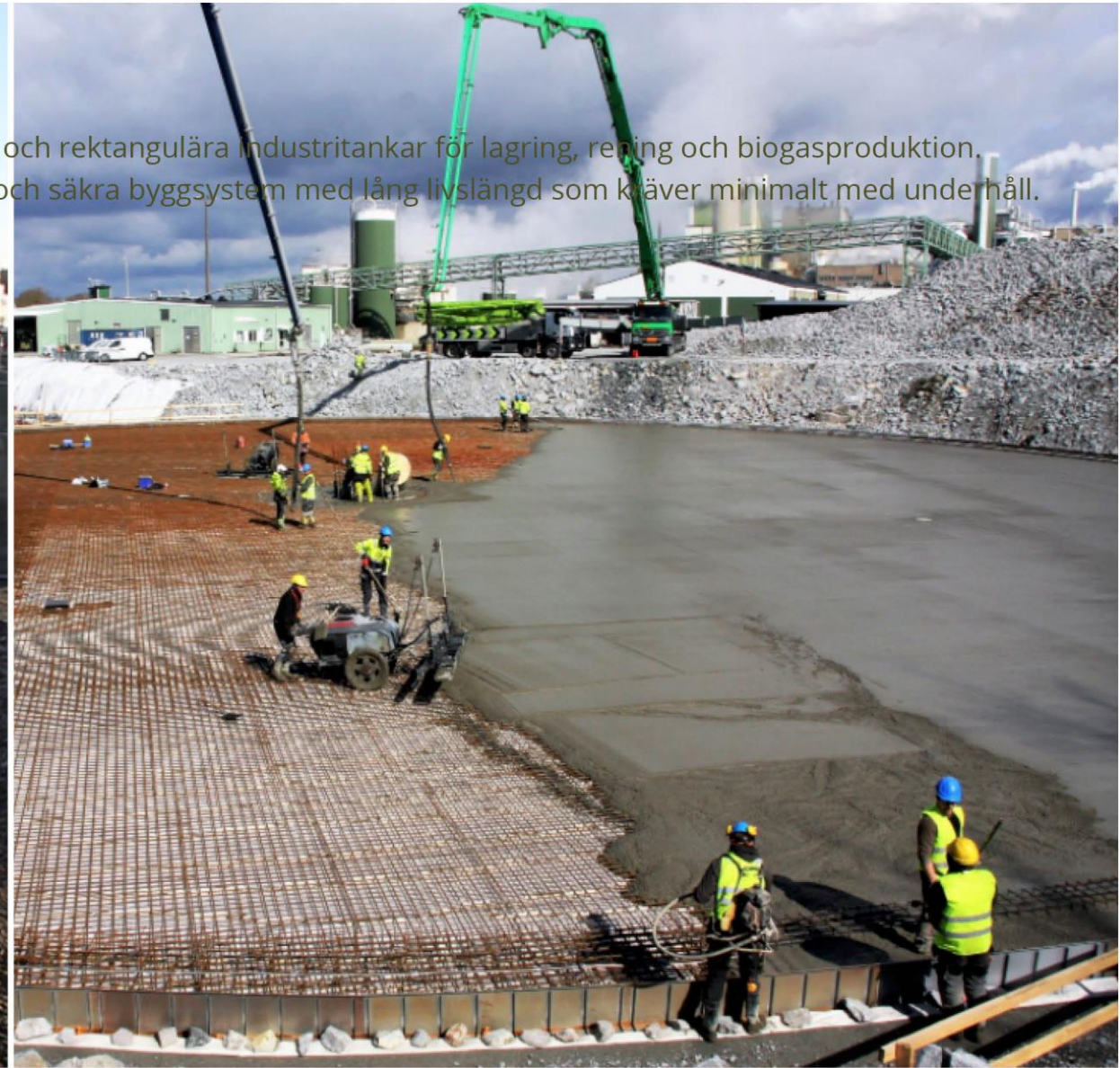
Ett intressant område vi börjar komma in mer och mer på
konstruktionsmetoder och forskningskammare.





INDUSTRITANKAR / RESERVOARER

Cirkulära och rektangulära industritankar för lagring, rening och biogasproduktion. Robusta och säkra byggsystem med lång livslängd som kräver minimalt underhåll.





RECYCLING





STÖDMURAR

Robust och flexibel utformning som kan ta mycket stora laster. Kan kompletteras med växtlighet, solpaneler, IoT lösningar, strukturer etc i oändliga variationer och möjligheter!





SWEROCK

Thomas
BETONG

SKANSKA

Betongindustri
HEIDELBERGCEMENT Group



Här finns vi
VI HAR PRODUKTION
OCH LAGER PÅ 130
PLATSER I SVERIGE,
NORGE OCH FINLAND.

- // -LONGTERM COLLABORATIONS
- LARGE NETWORK
- SUSTAINABLE CONSTRUCTIONS

SÖDRA

pre
zero

RAGN  SELLS

STENA
RECYCLING



V O L V O

NCC

CEMENTA
HEIDELBERGCEMENT Group

// RECYCLE, REUSEABLE AND LOCAL MANUFACTURE



// BIOMASS STORAGE WHY?





BIOMASS STORAGE UNWANTED PROCESSES !



Biomass
+ H₂O

Mikroorganismen
(O₂ + temperature > 0°C)

Mikrobiologische Aktivitäten

Health risks

Heat development

Risky occupational environment

Material loss

Chemical processes

Energy loss

Risk of self ignition





Yearly cost estimated in Sweden 150 – 350 miljoner kr

H. Persson, A. Claesson, M. Piku Amen, A. Lönnermark, Lagring av biobränsle och avfall: Statistik och erfarenheter från incidenter och bränder, 2014.



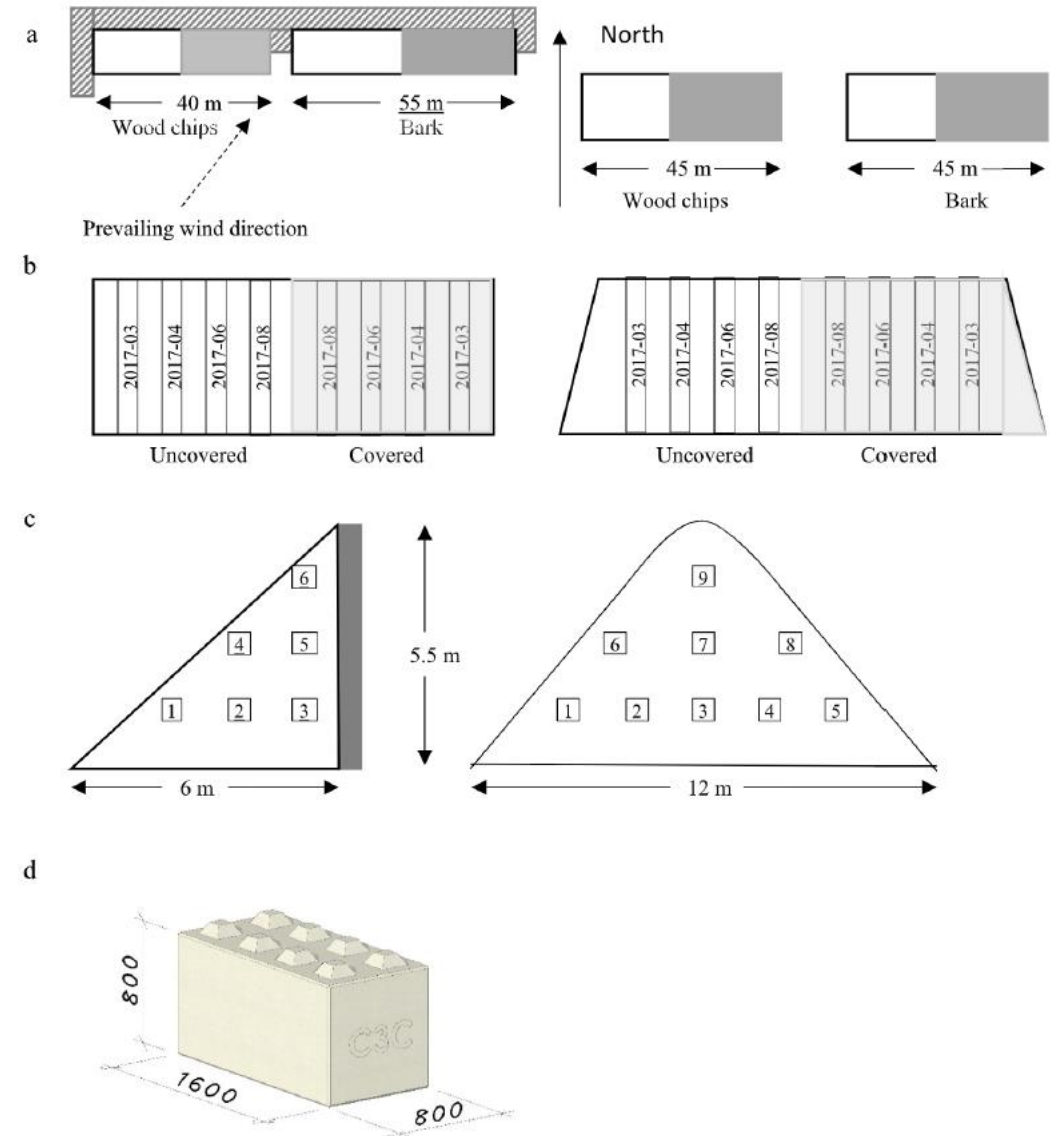
R & D projects for in depth knowledge

-SLU, Swedish University of Agricultural Sciences

-Skogsforsk, The Forestry Research Institute of Sweden

-Evaluation of an improved design for large-scale storage of wood chips and bark

(Biomass and Bioenergy 154(2021) 106255)



// Upcoming R & D project; "Efficient biofuel production and logistics at terminals and industry"

-**SLU**, Swedish University of Agricultural Sciences (Erik Anerud, lead Scientist)

-Participants;

C3C Engineering AB

E.ON Energilösningar AB

Stockholm Exergi AB

Umeå Energi AB

Älvsbyn Energi AB

Budget: 16 642 000 SEK

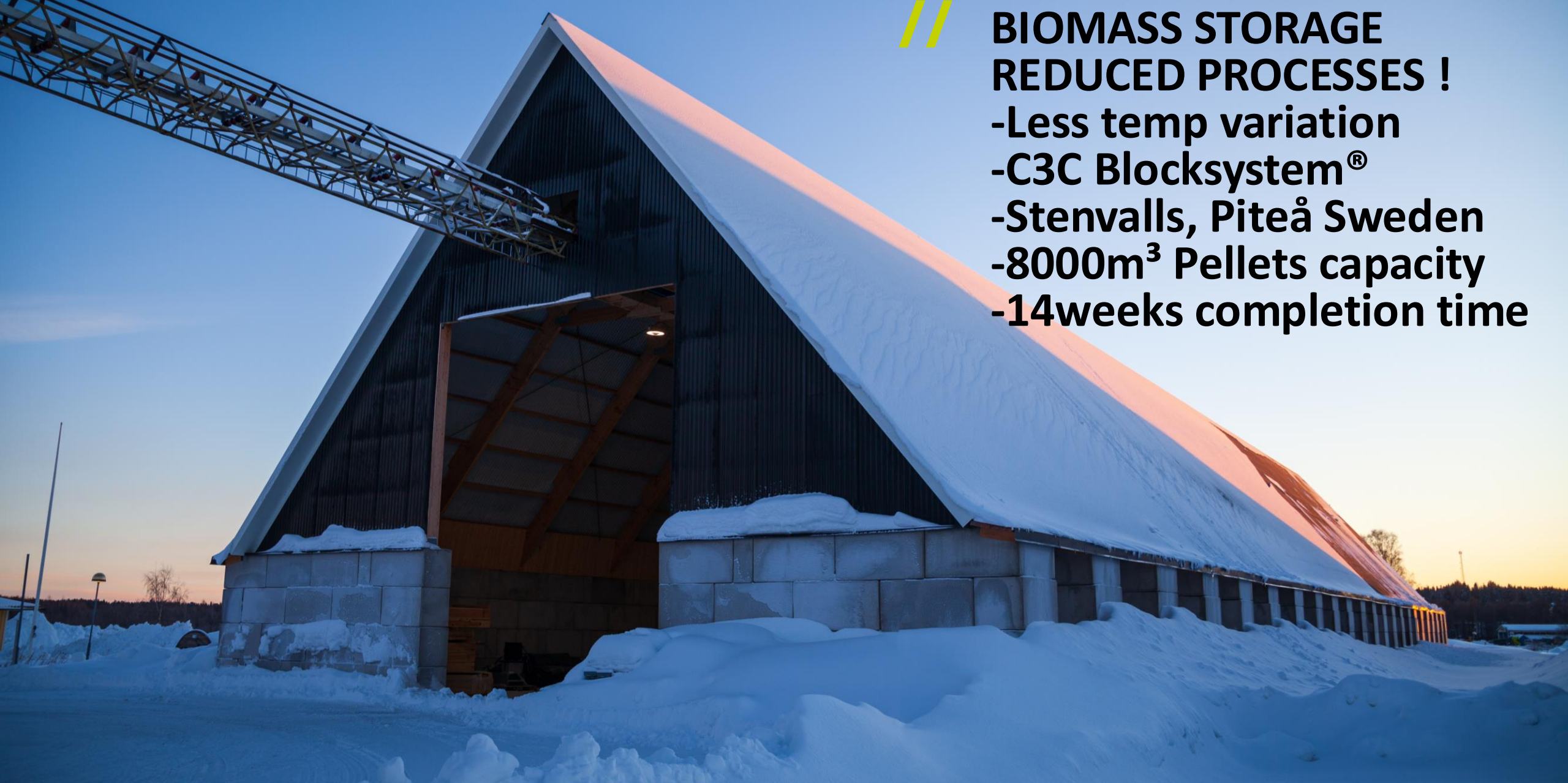
Duration: 2023- 2025

<https://bioplusportalen.se/en/project/efficient-biofuel-production-and-logistics-at-terminals-and-industry/>





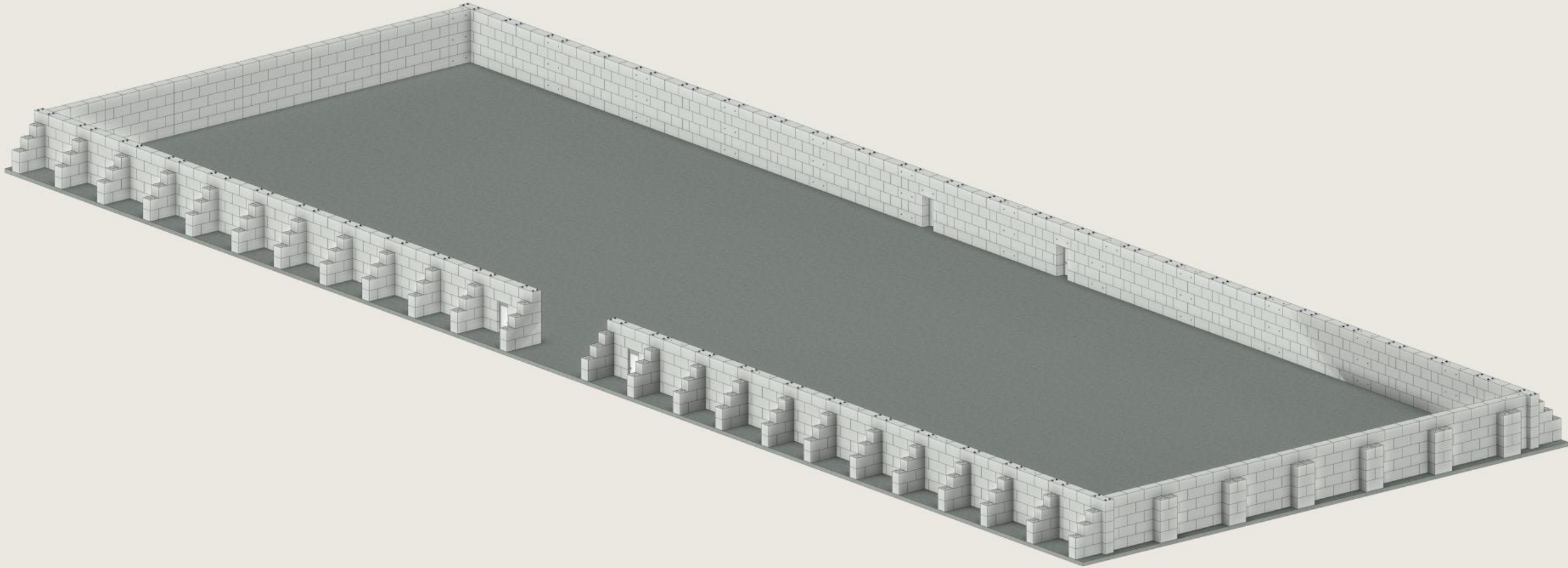


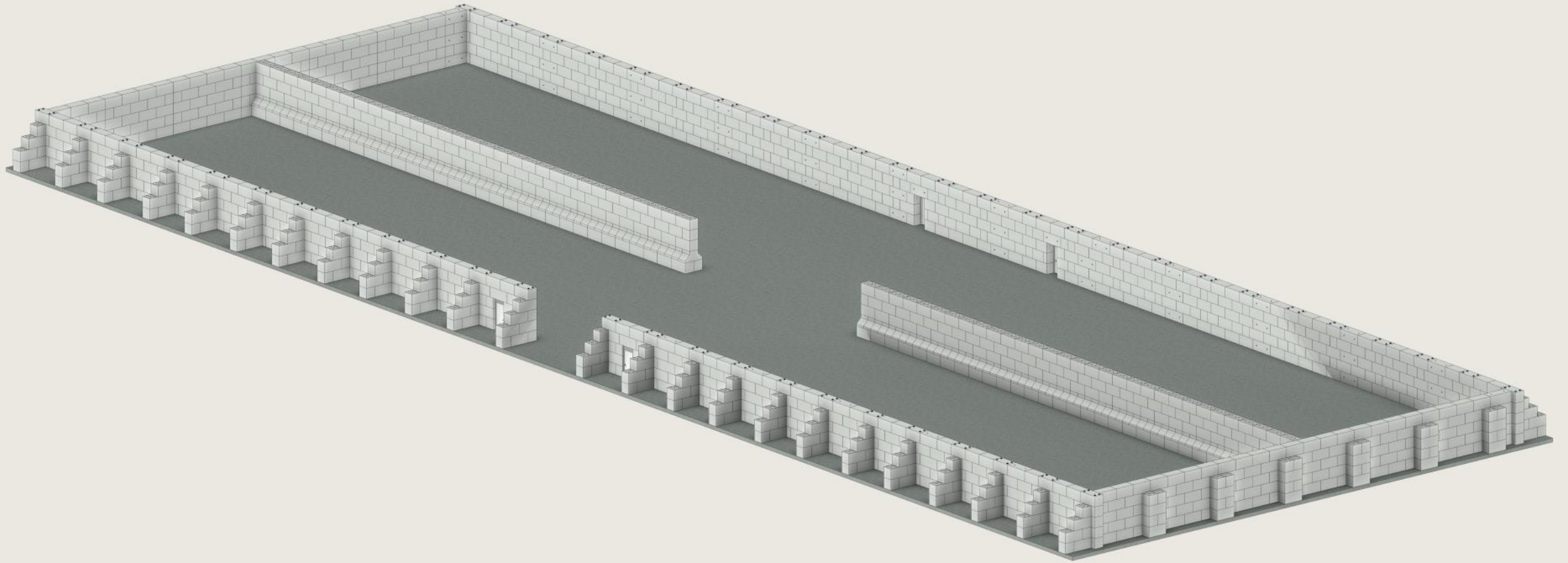


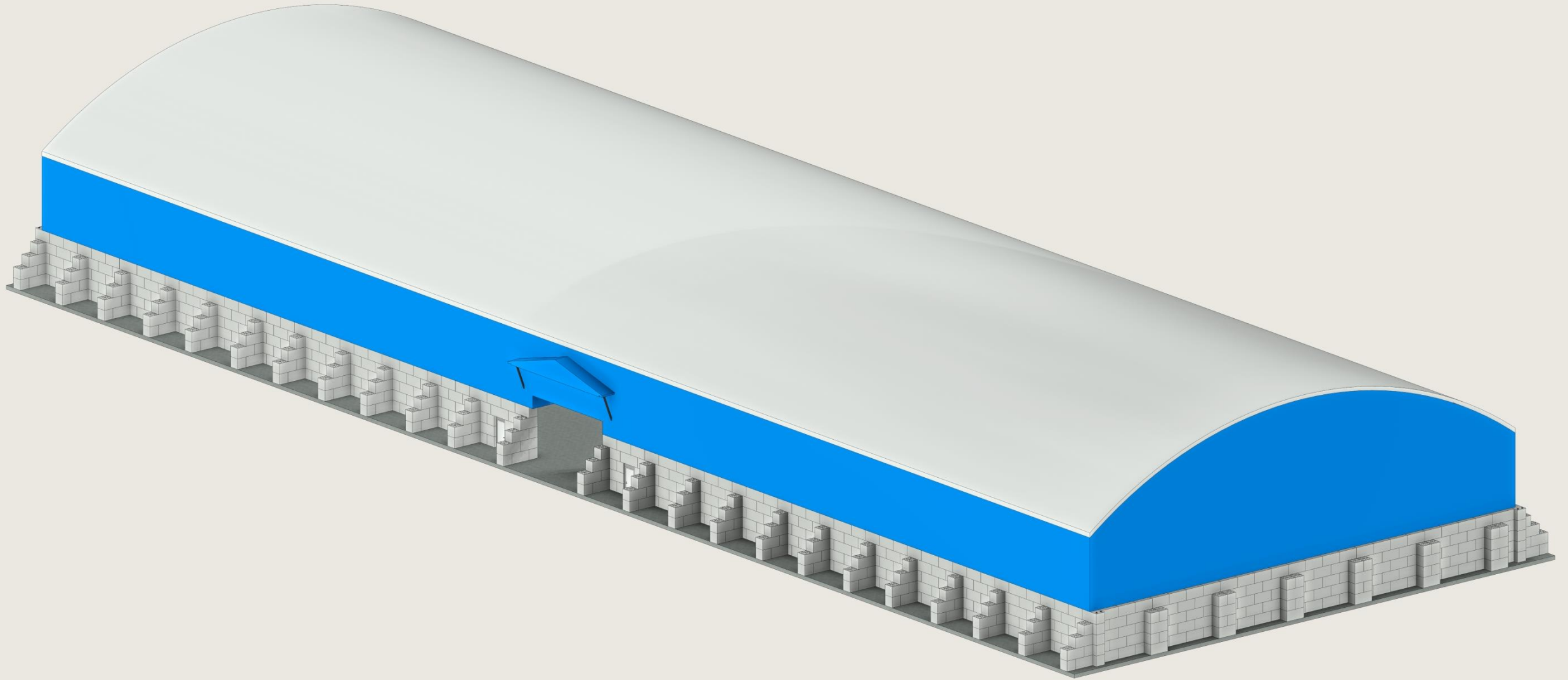
**BIOMASS STORAGE
REDUCED PROCESSES !**

- Less temp variation
- C3C Blocksystem®
- Stenvalls, Piteå Sweden
- 8000m³ Pellets capacity
- 14weeks completion time









// **BIOMASS STORAGE REDUCED PROCESSES !**
-biomasstorage semi-containment structure



// BIOMASS STORAGE REDUCED PROCESSES !

- less energy losses over time
- moisture content
- snow and rain protection
- noise and dust spread reduction

