

Landbruks-
kvartalet

Frokostmøte 21.11
Isak Oksvold
Miljøansvarlig



TRA NS
BORDER
STUDIO

Aspelin Ramm, Norges Bondelag, Vedal





Miljøambisjoner

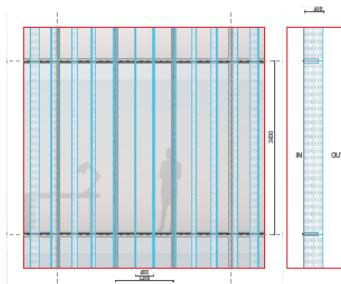
- Forbildeprosjekt – samarbeid med Futurebuilt i Oslo Kommune.
- Konseptutredning med støtte fra ENOVA pågår

Fasader med PV

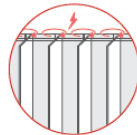
CASE 1: Office buildings

BIPV SURFACES (LOUVRES)

Glass louvres can be used as an aesthetic solution to create shade and integrate energy production in the facade. They can be horizontal or vertical, fixed or motorized (following the sun through the day and/or user needs).



Material : Glass + Silicon PV cells
Characteristics : Semi-transparent or non-transparent, optionally motorized
Colours : Neutral or color schemed

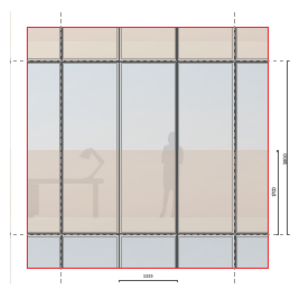


Solar cover = up to 95% of the facade

Aerodynamic principle for motorized option

BIPV SURFACES (TRANSPARENT/OPAQUE FIELDS)

In this option solar cells are integrated to the glass and has transparent or opaque, organic PV cells covering up to 40-60% of the facade, either partitioned with framing or not. In this case the PV cells also can provide solar protection, but should have a neutral coloring.

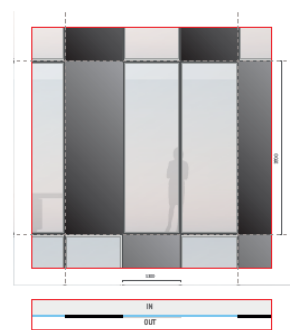


Material : Glass + organic PV cells
Characteristics : Semi-transparent/translucid
Colours : Neutral

Solar cover = up to 40-60% of the facade

BIPV SURFACES (DENSE FIELDS)

In this option parts of the facade are used as a integrated PV surface expressing an aesthetic partitioning of the facade. Multiple colors and finishes can be applied. PV covering can be up to 40-60% depending on the sunlight and viewing conditions of the site.

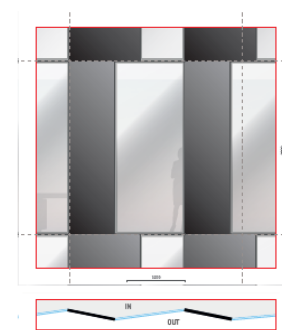


Material : Glass + PV panels
Characteristics : multiple
Colours : any possible

Solar cover = up to 40-60% of the facade

BIPV SURFACES (3D FIELDS)

This represent the same principle as the "Dense Fields" variant, but take advantage of a sculpting of the facade to give better orientation towards the sun, and more PV surface. This solution can also provide some sun protection.



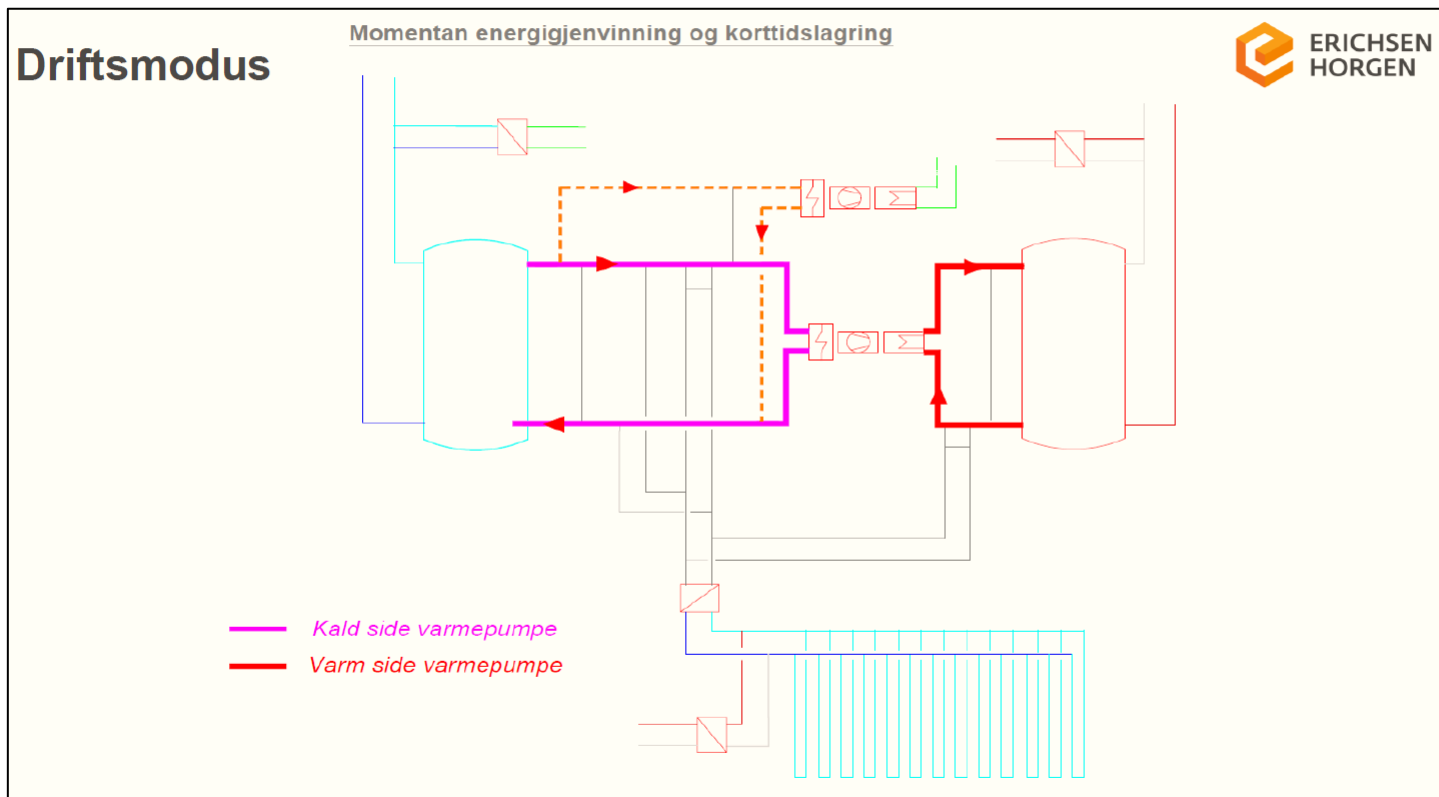
Material : Glass + PV panels
Characteristics : Multiple
Colours : any possible

Solar cover = up to 45-65% of the facade

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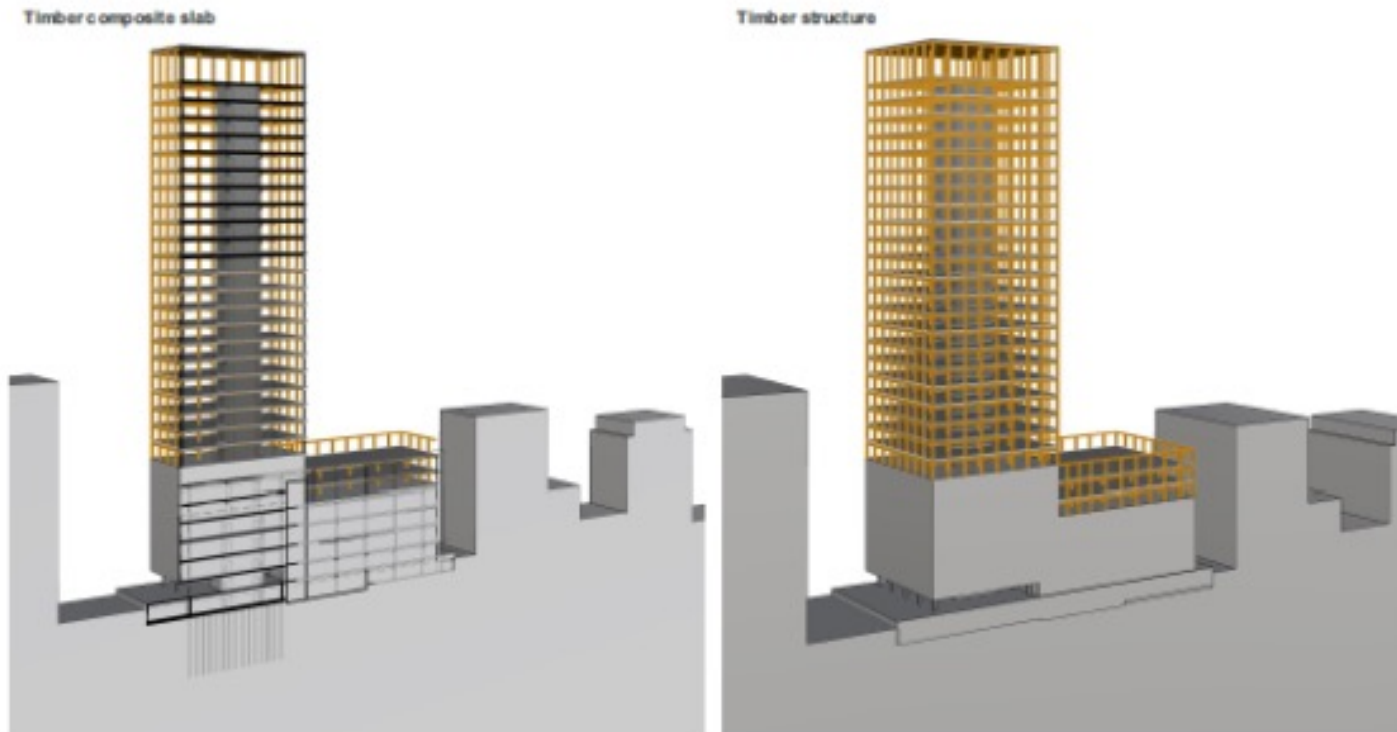
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Energisentral

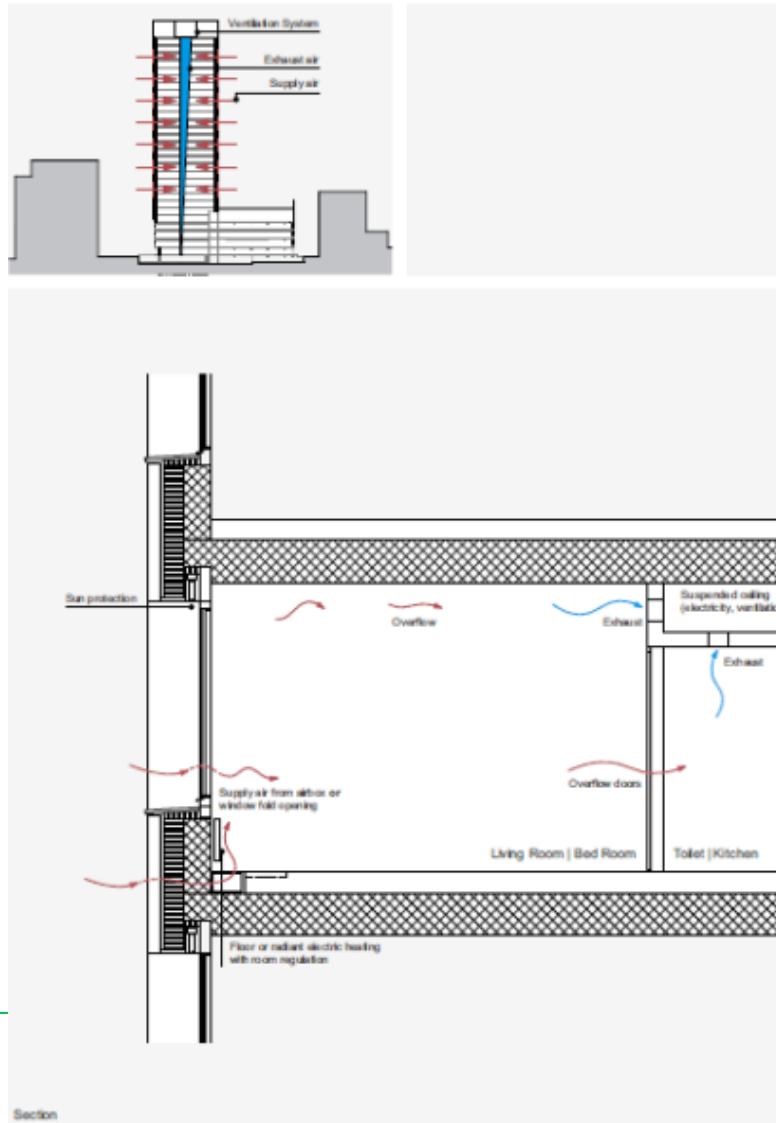


- Faseendringmateriale
- Brønner
- Samarbeid med Fortum Oslo Varme – fjernkjøling?

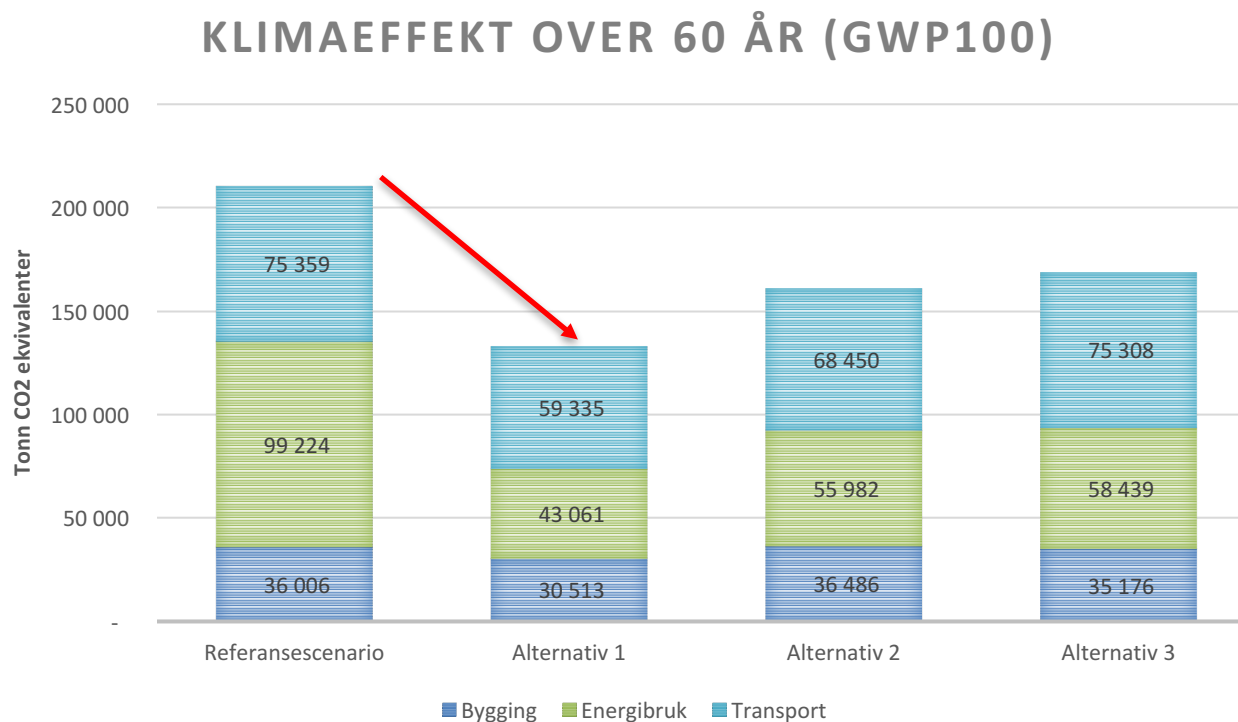
Materialer med lav klimabelastning



Naturlig ventilasjon



Resultater klimagassvurdering for ulike alternativer (foreløpig)



- Referanse – slik det er i dag

Takk for oppmerksomheten