House in a House

The idea presented here is to externally refurbish existing dwellings: Making already constructed houses climate responsive, with passive heating and passive cooling. The question is how this is done in a cost efficient way for winter as well as summer.
Technical Track: Systems and Buildings

MODERATOR:
Henry Vandermark

SESSION DESCRIPTION:
Getting to a 100% Renewable economy requires evidence based deployment and management of renewable technologies. Improvements in data acquisition and algorithms allow for better and more predictable performance of solar and wind resources. The session will include current available data, predictive models, a wind-farm’s life-cycle impact on carbon emissions and a strategy for a resilient solar-Integrated Grid.
Ventilation between existing dwelling and the new structure surrounding it.
Ventilation between new rain screen and the new sub-facade / osb-board and new insulation
Ventilation between new rain screen and the sub-roof has been made possible by floating a layer of 2x4 above the insulation and connect to a massive ventilation box on ridge.
Cloud House

to Meghan Duda
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scale: 1/4" = 1'

section BB
existing house with cloud
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section AA
existing house with new structure
905'

insulation foam 1 1/2"

new rafter 6” following existing rafters
galvanized corrugated metal 3/4”
foot for rafters 2” x 6“ and 2” x 10“ top
plywood and wind barrier
columns 2” x 4” shifted in plan
insulation inside new 6“ wall
water vapor barrier
primary ventilation
secondary ventilation
existing wall 7“ thick
905'

- insulation foam 1 1/2"
- new rafter 6" following existing rafters
- galvanized corrugated metal 3/4"
- foot for rafters 2" x 6" and 2" x 10" top
- plywood and wind barrier
- columns 2" x 4" shifted in plan
- insulation inside new 6" wall
- water vapor barrier
- primary ventilation
- secondary ventilation
- existing wall 7" thick
Ventilation between new rain screen and the sub-facade / osb-board and the insulation behind it has been made possible within the crisscrossing 2x4
2012

A place in the Clouds. Print: The Forum. A local newspaper in Fargo. The publication was a non-refereed publication/interview. The text by reporter Tammy Swift. Title: A place in the Clouds. Inclusive pages: Front page section B and page B3.

2014


2019


2019


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SOLAR 20/20 – ASES National Solar Conference
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