

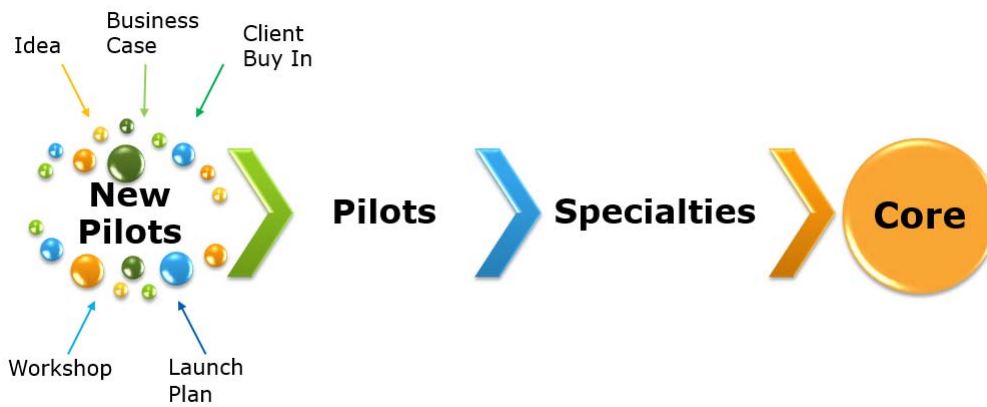
Clear Skies, Full Pockets, Can't Lose

Utility & Zero Energy - Consumers Energy ZNE Pilot Program

Celia Hoag, DNV GL
Benjamin Glendening, Consumers Energy



Culture of innovation



Success indicators

- ✓ Customer satisfaction
- ✓ Market transformation
- ✓ Public recognition
- ✓ Savings acquisition target
- ✓ Scalable & replicable

Target customers

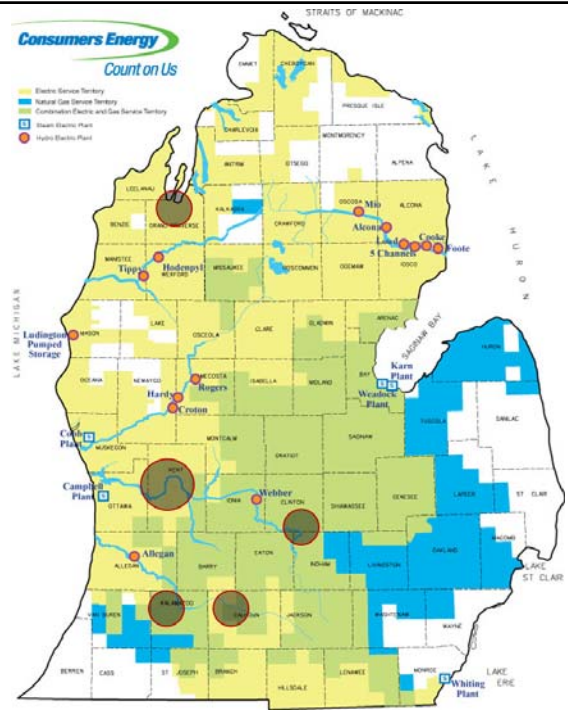
Number of storeys

Commitment from building owner

Construction timeline

Building floor area

Current EUI (if major renovation)

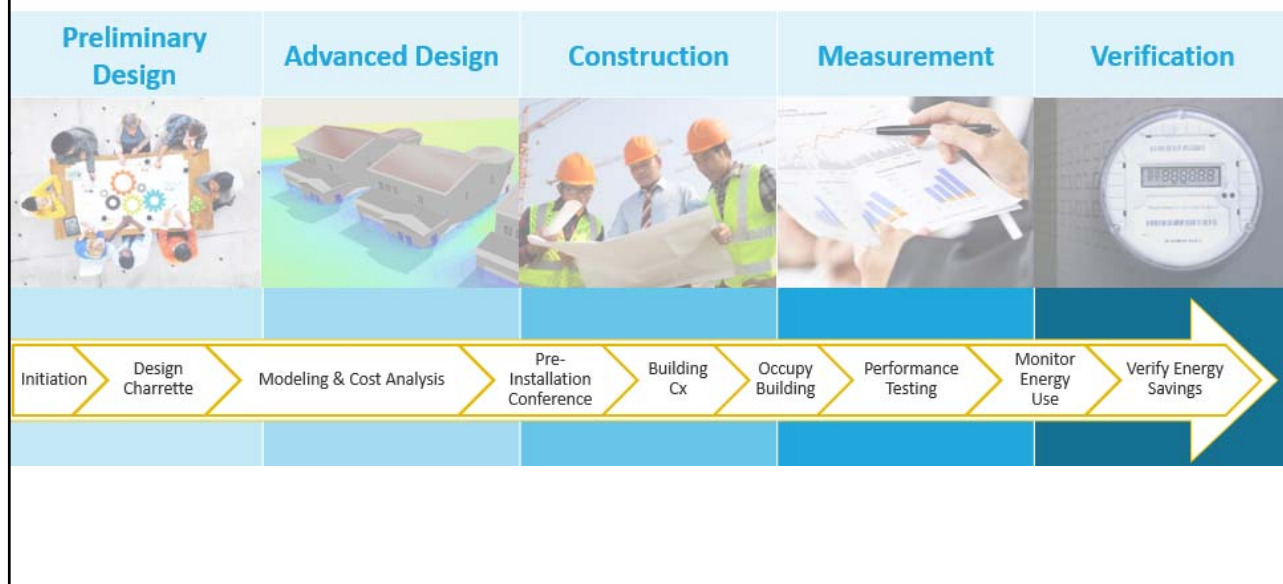


End-to-end process

5 DNV GL ©

DNV-GL

Commitment from design through to verification



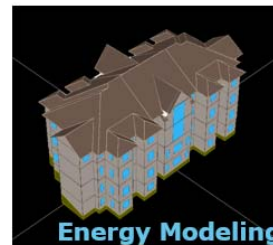
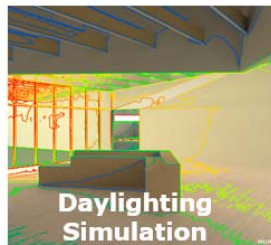
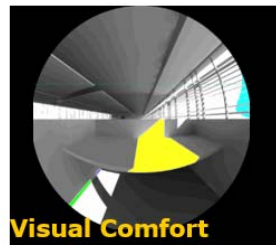
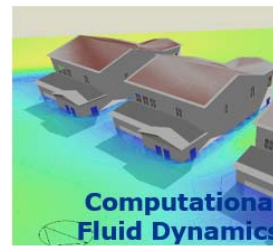
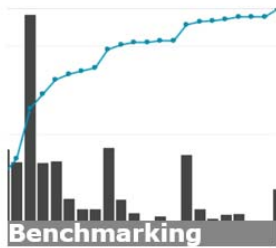
Incentivizing deliverables

Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Deliverables: 1.1 Simple box model 1.21 Charrette agenda 1.22 List of attendees 1.23 List of EEMs 1.3 Signed OPR	Deliverables: 2.1 Energy model 2.2 Basis of design 2.3 Cost-benefit analysis 2.4 Circuiting plan	Deliverables: 3.1 Meeting agenda 3.2 M&V plan 3.3 Envelope Cx 3.4 System-level Cx 3.5 Circuiting inspection	Deliverables: 4.1 Install monitoring equipment 4.2 Performance testing data	Deliverables: 5. Submit 12 months of energy use data and calibrated energy model



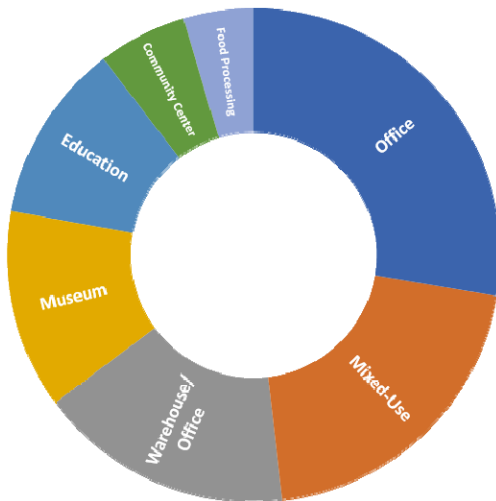
Based on building area or lump sum

On-call design assistance



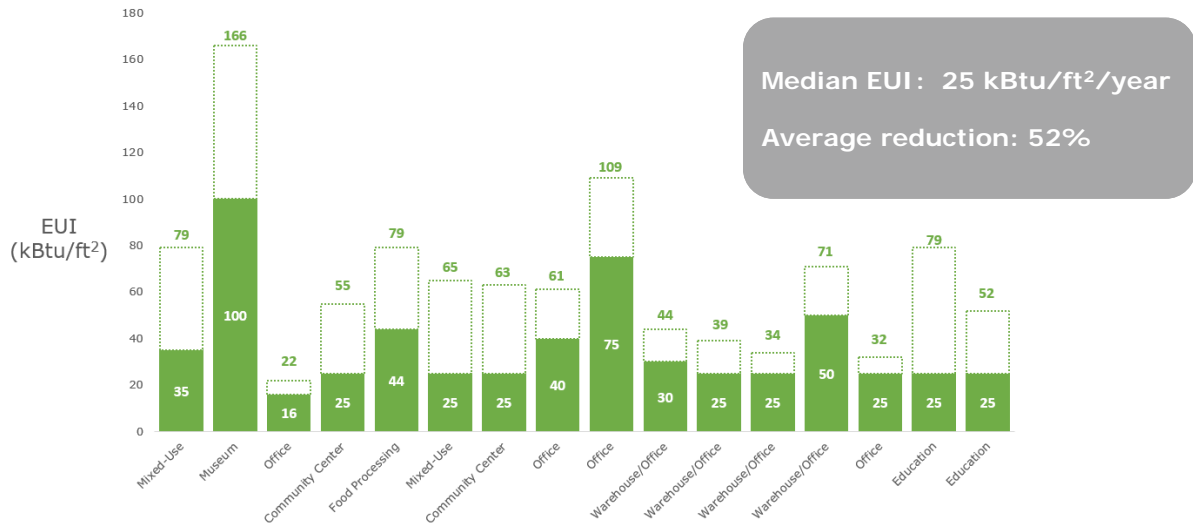
How we are doing

Buildings of all shapes and sizes

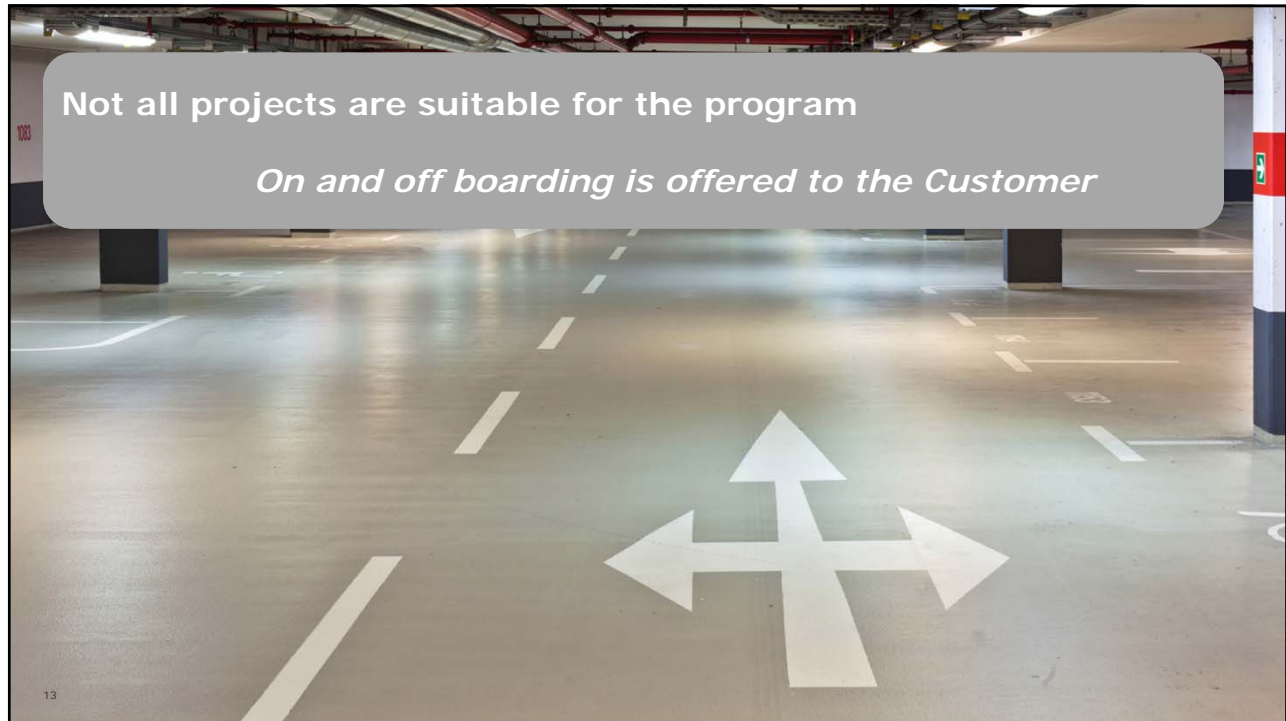


	Total	Count	Average Size
Office	265,340 sf	4 bldgs	66,335 sf
Mixed-Use	195,858 sf	2 bldgs	97,929 sf
Warehouse/ Office	159,840 sf	4 bldgs	39,960 sf
Museum	125,000 sf	1 bldgs	125,000 sf
Education	112,800 sf	2 bldgs	56,400 sf
Community Center	55,718 sf	2 bldgs	27,859 sf
Food Processing	44,000 sf	1 bldgs	44,000 sf

Reducing the footprint



Lessons learned

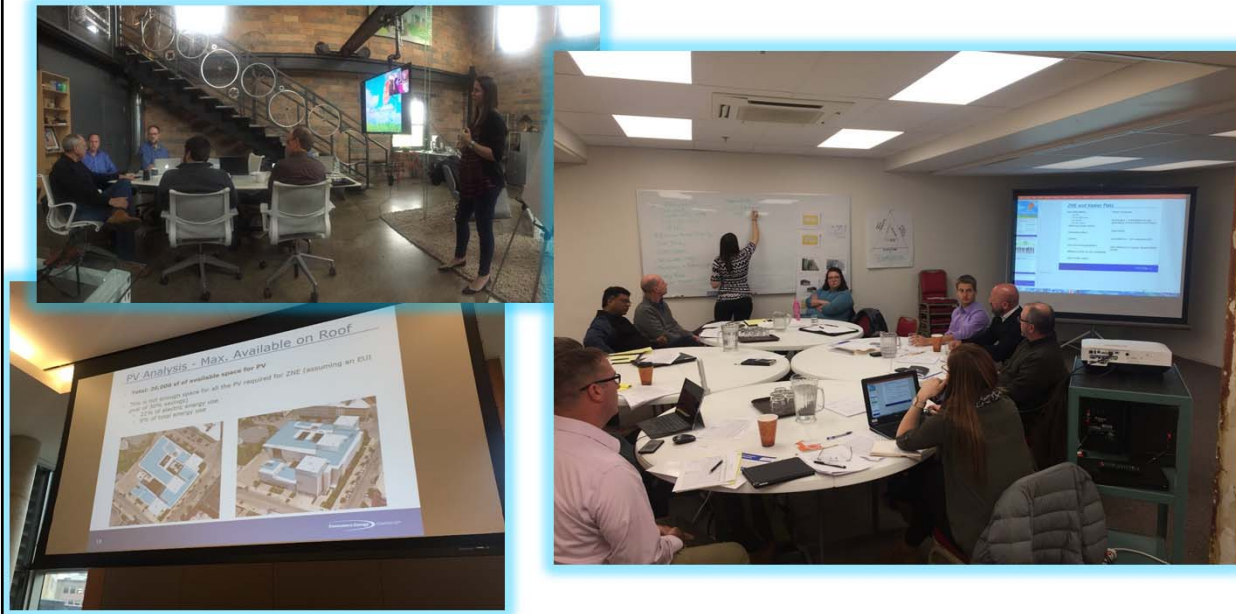


Is it really ZNE?

Due to regulatory structure two different funding sources for RE and EE
Cannot incentivize renewables as part of ZNE program



Shifting the thinking



Transforming the market



'The ZNE Program has taken us to the next step by providing us partnerships, education and opportunities that we didn't have in the past'

'It's imperative that our project uses a tool like the ZNE Program to achieve sustainability for our benefit and the benefit to the community and the tenants'

'This pilot program is really going to launch ZNE buildings in the region'

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