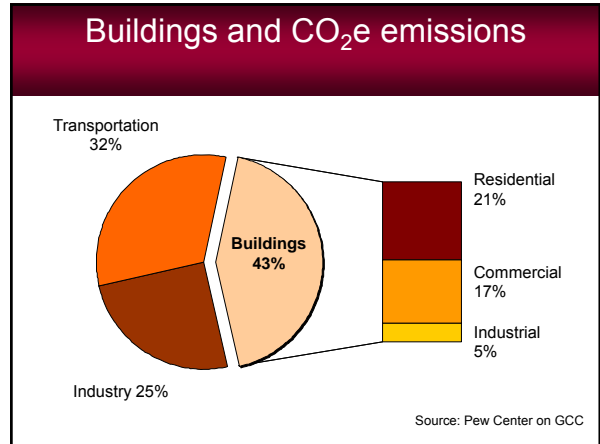
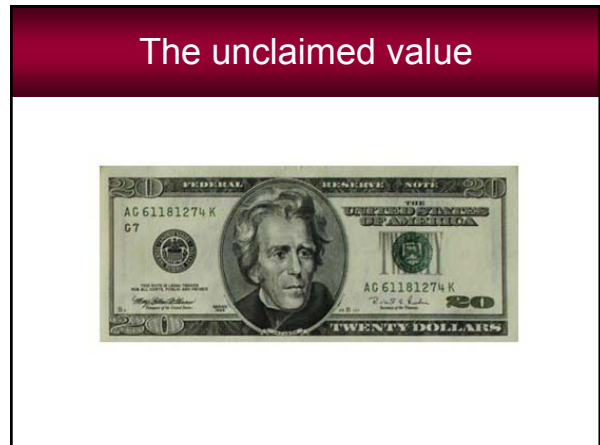


Retrofitting your state



- ### Benefits of building retrofits
- Climate and public health
 - Income to tenants and owners
 - Higher property values
 - Extended building life
 - Tenant/occupant health and productivity
 - Jobs



- ### RRIDLLS
- Regulatory surround is bad
 - Risk aversion among tenants and owners, especially given uncertain duration of tenancy/ownership
 - Information problems on everything (benefits, cost, reliable service)
 - Disaggregated savings
 - Disruption
 - Lack of capital
 - Lack of interest
 - Split incentives (tenants vs. owners)

Me2 example

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Goal of Me2

Comprehensive application of cost-effective retrofit measures to Milwaukee's building stock with maximum community capture of the benefits of doing so.

Investment and return

Building class	Total cost of measures	Total annual savings
Residential	\$243.1M	\$83.3M
Commercial	\$184.6M	\$38.0M
Total	\$427.7M	\$121.3M

Value proposition

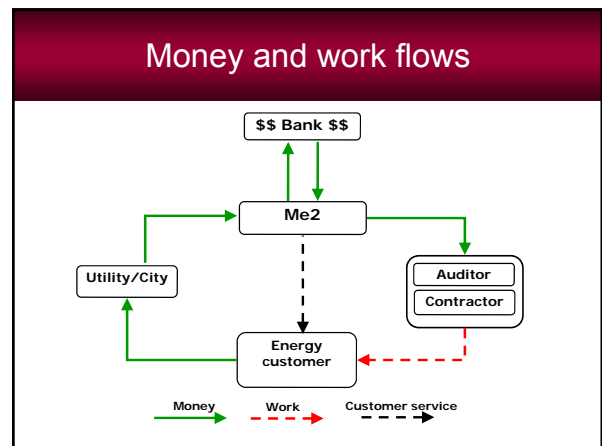
- For an investment of ~ \$428M, Milwaukee can realize ~\$121M annually, a 28% return that it can borrow on and pay out of savings at no cost to its operating budget
- That's a lot of jobs. \$1M invested ≈ 12.5 job years (most in installation, some in production of materials installed), so about 428X 12.5 = 5350 ≈ 5.5K job years. With low local multipliers at least twice that, or 11K job years.
- After full installation and payment of loaned capital, that will mean \$1.2B per decade in money that would otherwise have left Milwaukee, with ongoing gains to public health and wealth, quality of life, and productivity.
- Expected improvements in technology and higher energy prices only make this look better.

An offer they can't refuse?

The Me2 energy efficiency service will buy and install cost-effective energy-efficiency measures in your home or business with no up-front payment from you and no new debt obligation. Costs of the service will appear as a new item on your monthly (energy/municipal services) bill. Even with these costs included, your energy costs will be lower than they otherwise would have been and you should start saving money immediately. Your payment obligation ends when you quit this property. It is also suspended during any period of measure malfunction, which we will repair at no cost to you.

Elements of design

- Measures installed at no cost to customer and limited to those (a) with full payback ≤ 75 percent of useful life and (b) with annual costs (less rebates) ≤ 75 percent of annual savings. This ensures general cost-effectiveness and immediate benefit.
- Customer pays fuel-blind tariff on utility (or property services) bill, with standard penalties for non-payment. This lowers the cost of capital.
- Payment obligation for permanent measures assigned to property, not person ("runs with the meter"). This eliminates the transience problem.
- Lots of social marketing. This, we hope, builds community interest.
- Run like a business (with soul), to reassure both creditors and the community that their money's both safe and well invested.



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Sample utility bill

Your pre-Me2 average energy bill	\$170
Your energy consumption this month	\$135
Me2 service charge	\$ 25
You owe	\$160

Effective Leveraging

Energy costs for 2,252,800 Wisconsin households	20% savings	
Total cost of residential energy (gas, electricity, fuel oil, propane) consumption	\$4,572,463,104	\$914,492,621
Average <i>monthly</i> cost per household	\$169.14	\$33.83
Available capital under Me2-styled program		
Average available capital per household if amortized over 10 yrs at 6% interest and \$33.83/month	\$3,047	
Total available capital (2,252,800 X \$3,047)	\$6,864,281,600	
Current direct WI public spending on residential energy efficiency	~ \$70M	
Ratio of available capital under Me2-styled program to current WI public spending	~ 100/1	

Future utility bill 😊

Your pre-Me2 average energy bill	\$170
This month's gross energy consumption	\$135
Energy sold back to grid	(\$ 30)
Demand response savings credit	(\$ 30)
Megawatts credit for forward capacity	(\$ 30)
Climate exchange credit	(\$ 30)
Your net energy bill this month	\$ 15
Me2 service charge	\$ 25
You owe	\$ 40

- ### What you need to get started
- Some political leadership and regulatory cooperation
 - A partner (utility or other service provider) with a bill running to property
 - Some people looking for work
 - A training provider willing to train those who need it, ideally integrated with social services
 - Competent and experienced management
 - A bank willing to loan, or somebody to bond

For more information

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