

On-Bill Repayment

Innovative Models, Strategies for Communities

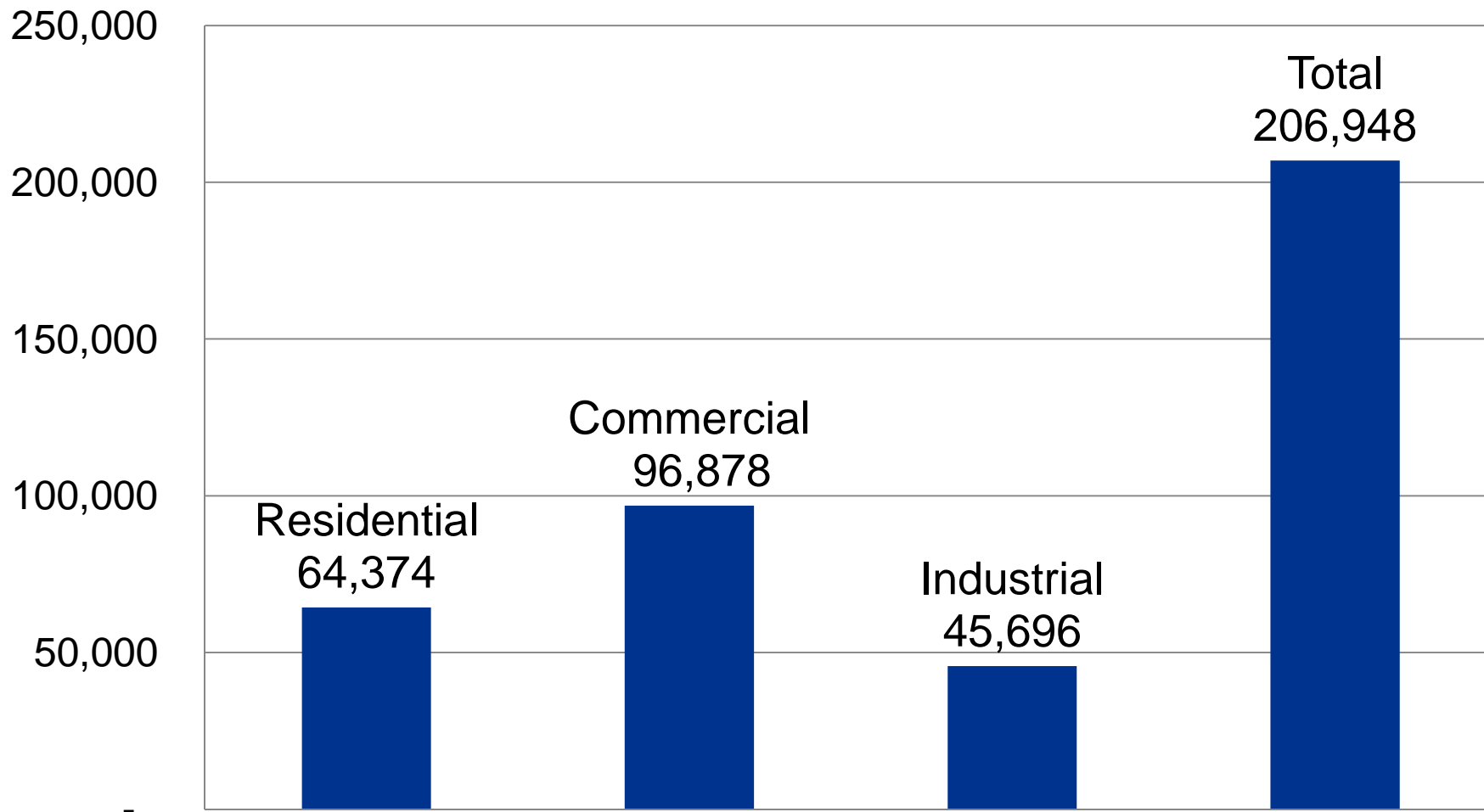
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Presented by James Fine



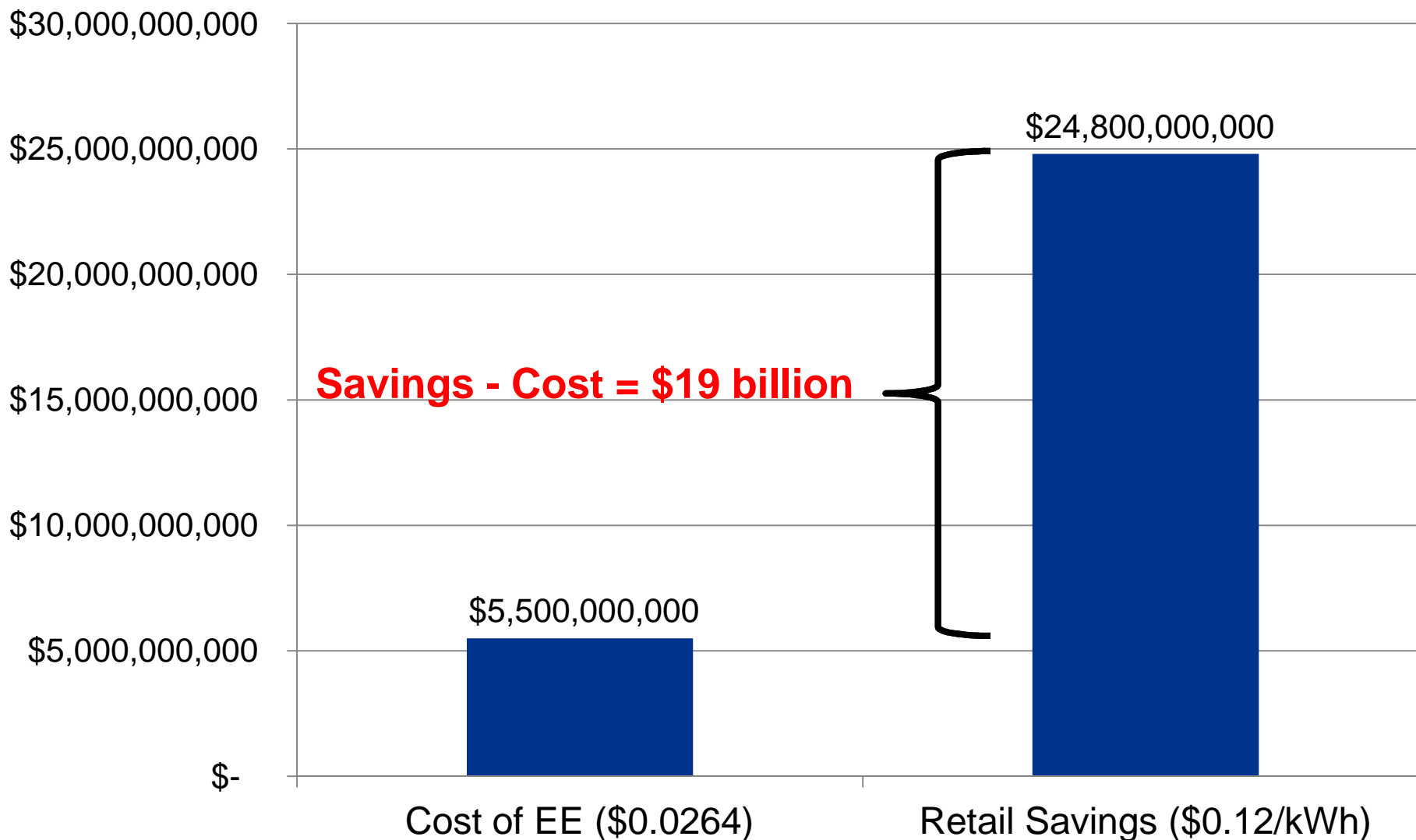
Massive Potential for EE in U.S.

Realistically Achievable Potential for Energy Efficiency (GWh)



Source: Assessment of Achievable Potential from Energy Efficiency and Demand Response in the U.S. (2010-2030), EPRI, Palo Alto, 2009,1016987.

EE Pays More Than It Costs



Source: Assessment of Achievable Potential from Energy Efficiency and Demand Response in the U.S. (2010-2030), EPRI, Palo Alto, 2009,1016987. Data for 2020.

CA Has Big, Bold EE Goals



- All existing residences will increase efficiency by 40 percent by 2020.
- Heating, ventilation and air conditioning optimized performance for CA's climate
- All eligible low-income customers given opportunity to participate in the low income EE program by 2020
- Zero net energy new buildings



On-Bill Today (in California)

- Utility provides customers with unsecured loans at zero percent interest
- Only commercial and municipal customers
 - Commercial limit is \$100,000 for 5 years
 - Municipal limit is \$1,000,000 for 10 years
- Loan obligation stays with the meter
- Threat of utility service shut-off for non-repayment
- Wildly popular and oversubscribed



CA On-Bill – Customer Eligibility

- Only Non-Residential Customers
 - Commercial
 - Municipal
 - Industrial
- Must have good credit



CA On-Bill – Project Eligibility

- Measure/equipment identified in utility rebate/incentive programs
- Energy savings must exceed or equal monthly loan repayment obligation
- Apply by contacting utility account representative



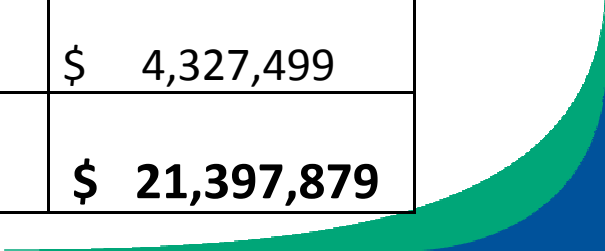
CA On-Bill so far

Number of Loans

	PG&E	SCE	SCG	SDG&E
Agriculture				4
Commercial		59		739
Industrial		9		35
Institutional		10		112
TOTAL	4	78	28	890

Loan Amounts

	PG&E	SCE	SCG	SDG&E
Agriculture				\$ 141,841
Commercial	\$ 109,600	\$ 997,525		\$ 16,147,739
Industrial		\$ 256,411		\$ 780,799
Institutional	\$ 250,000	\$ 758,780		\$ 4,327,499
TOTAL FUNDED	\$ 359,600	\$ 2,012,716	\$ 988,608	\$ 21,397,879



Investment Capital Remains Scarce

- CA programs dwarfed by size of EE opportunity
- Publicly funds cannot scale to opportunity/goal
- Repayment schedule doesn't match “deep” upgrades
- Demand for EE investments is hampered by many well-documented market failures



Insufficient Financing Mechanisms

- Building/home equity has declined or disappeared
- Unsecured loans
- Philanthropic capital
- Public bonds
- Leases
- Energy services agreements (ESA)

Thus far, nothing close to size of the opportunity

On-bill repayment (OBR) provides a way to mobilize a new lending industry while reducing consumers' borrowing costs

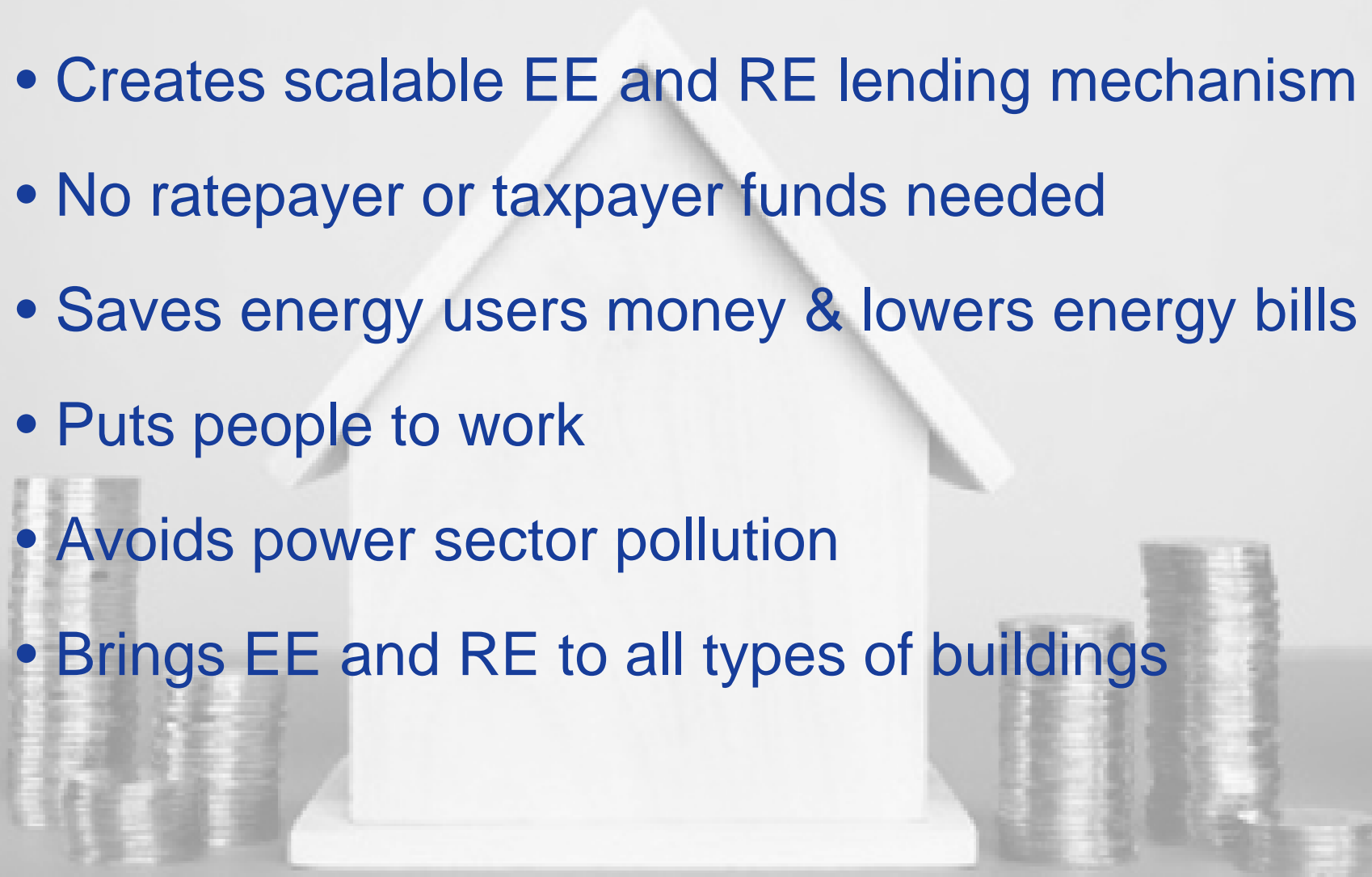


What is On-Bill Repayment (OBR)?

- Building owners and occupants repay **private** loans for EE and RE via their utility bills
 - Loan repayments become tariff on meter
 - Utility is compensated for payment services and perhaps for achieving EE goals
 - Consumer protections
 - Contractor certification
 - Project eligibility requirements
 - Verified project installation
 - Energy savings must be expected to exceed loan
- 

On-Bill Repayment - **Advantages**

- Creates scalable EE and RE lending mechanism
- No ratepayer or taxpayer funds needed
- Saves energy users money & lowers energy bills
- Puts people to work
- Avoids power sector pollution
- Brings EE and RE to all types of buildings

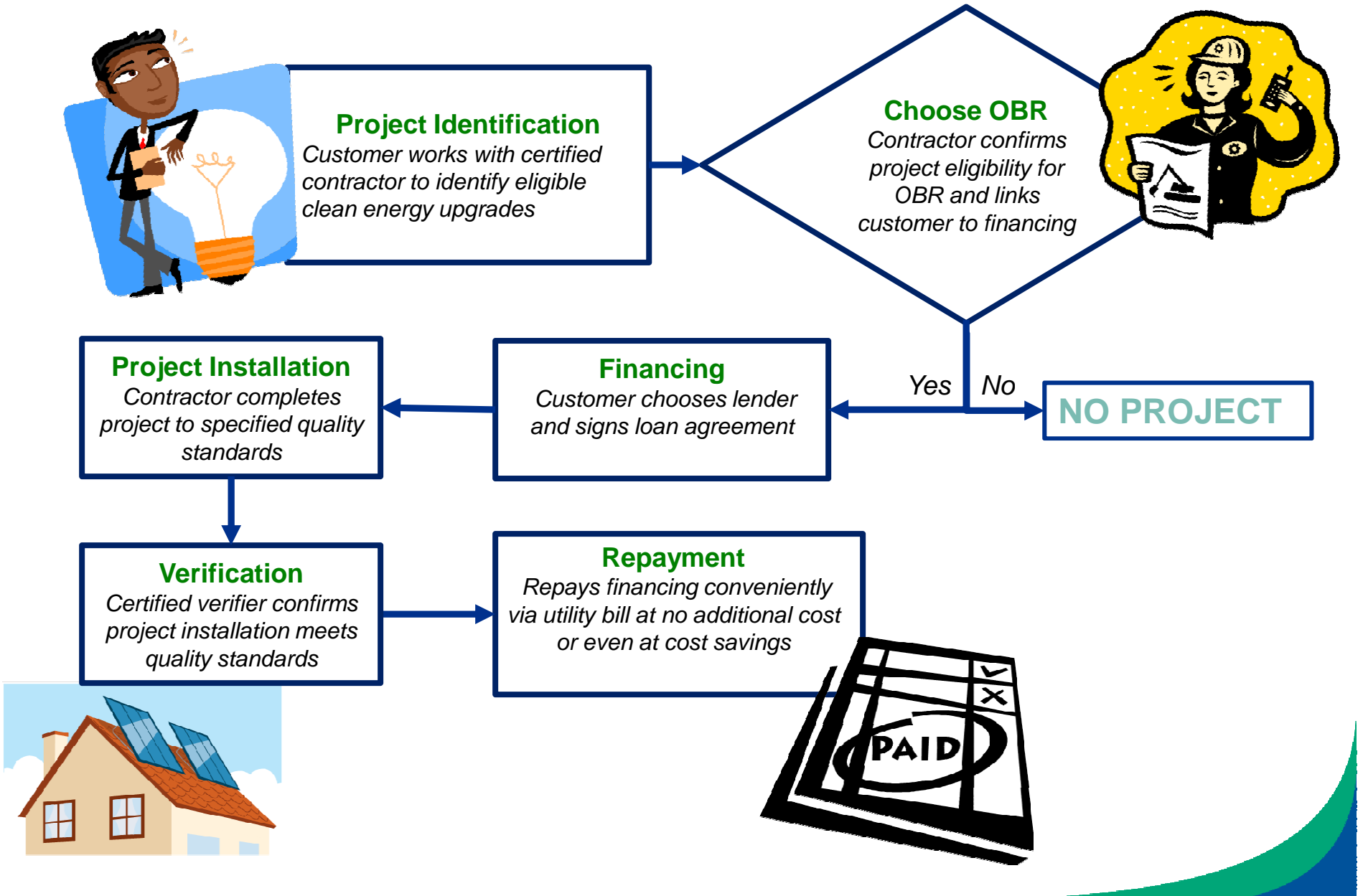


On-Bill Repayment: EDF Proposal

- Projects originated by contractors/developers
 - Program must be flexible enough to accommodate variety of contractor business models
- Commercial lenders are likely better equipped to underwrite and fund loans
 - Utility is a payment conduit – Similar to Visa
- Scale and standardization can reduce costs



OBR: Access for Californians



Significant Program Flexibility

- Variety of buildings
 - Single family
 - Multi family
 - Commercial
 - Public
- Variety of transaction types
 - Loans
 - Leases
 - Energy Service Agreements (ESAs)
- Variety of projects
 - Retrofits
 - Renewables/CHP
 - Energy Star Appliances



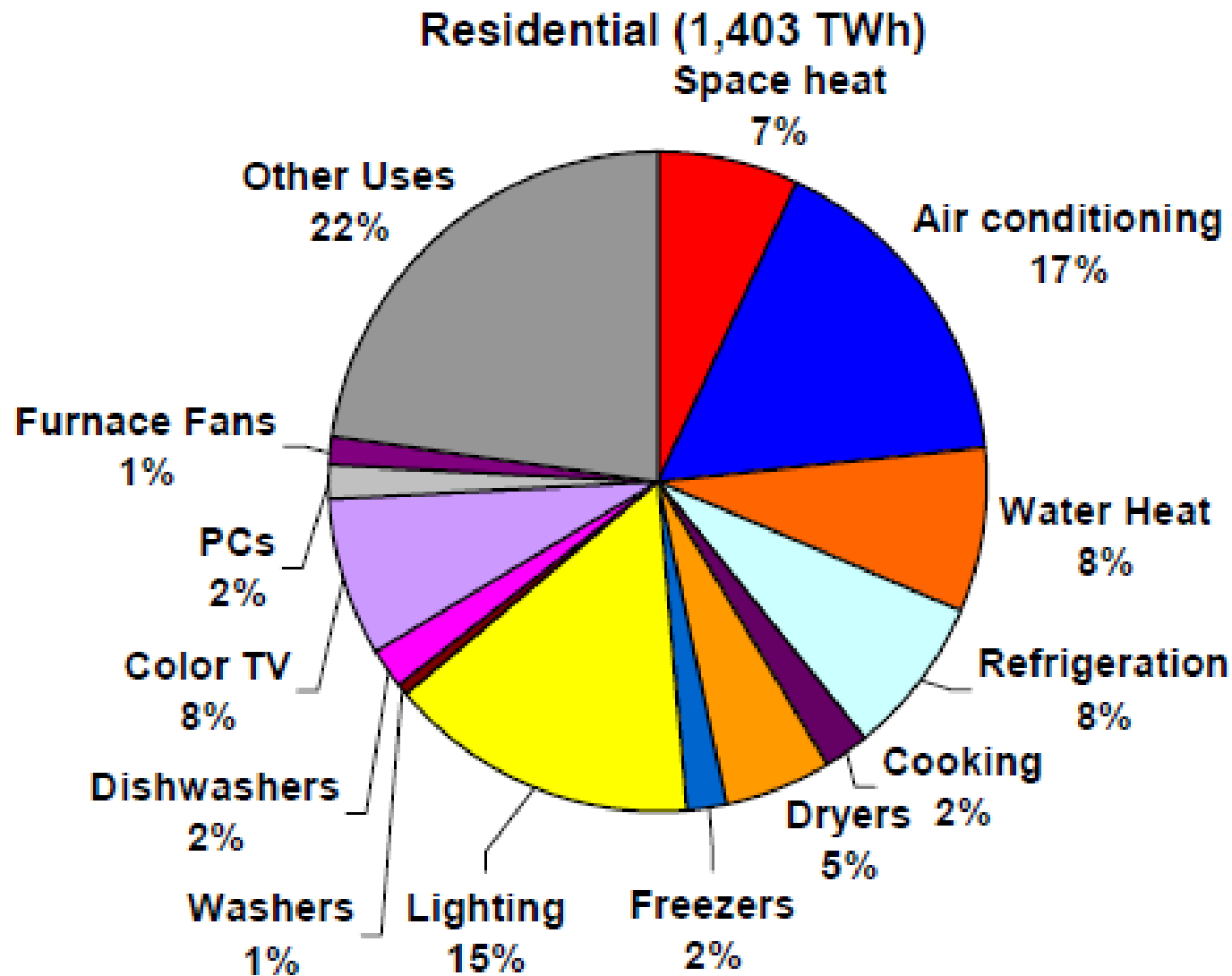
Thank you!

Jamie Fine / Economist, EDF

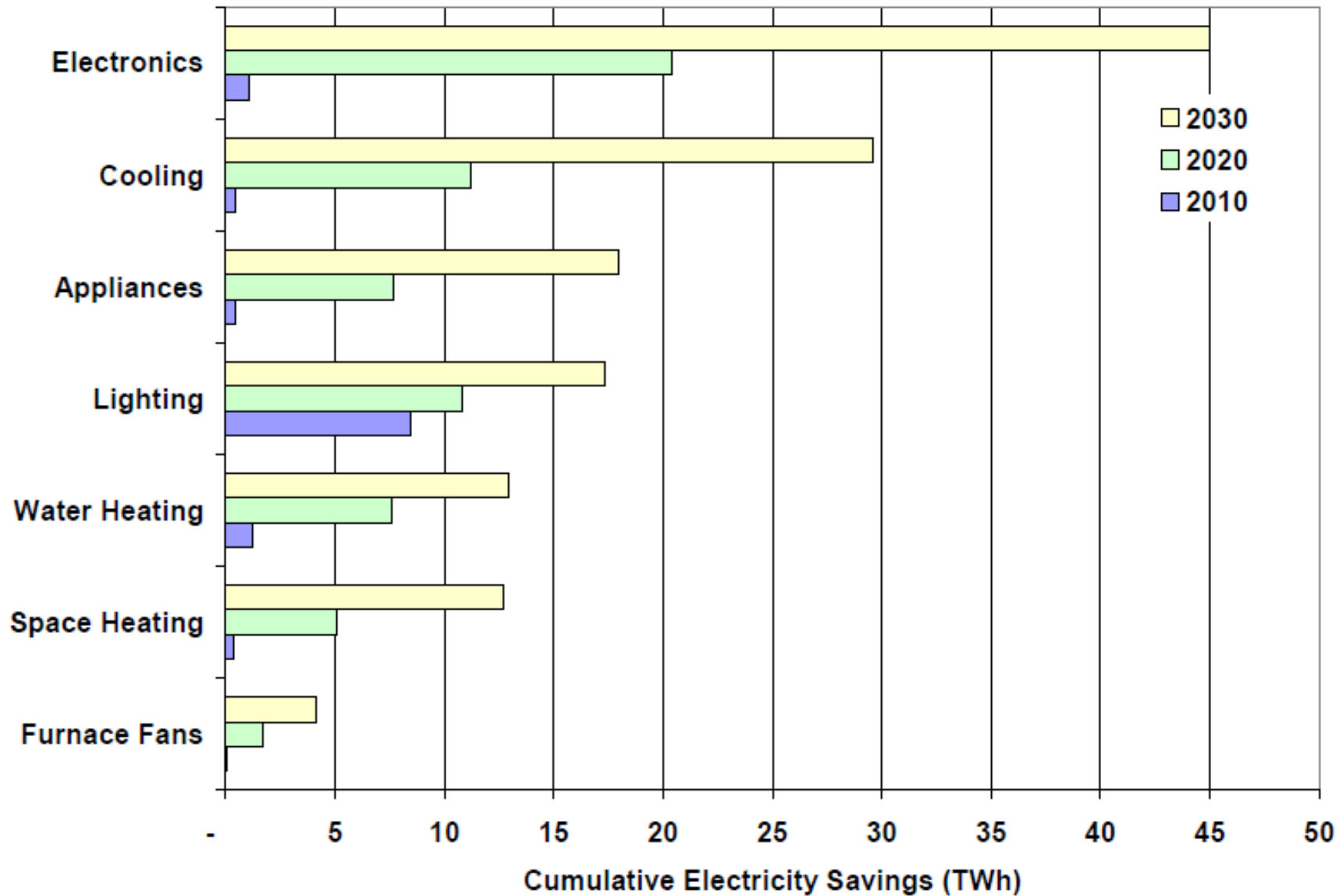
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Residential Electricity Demand

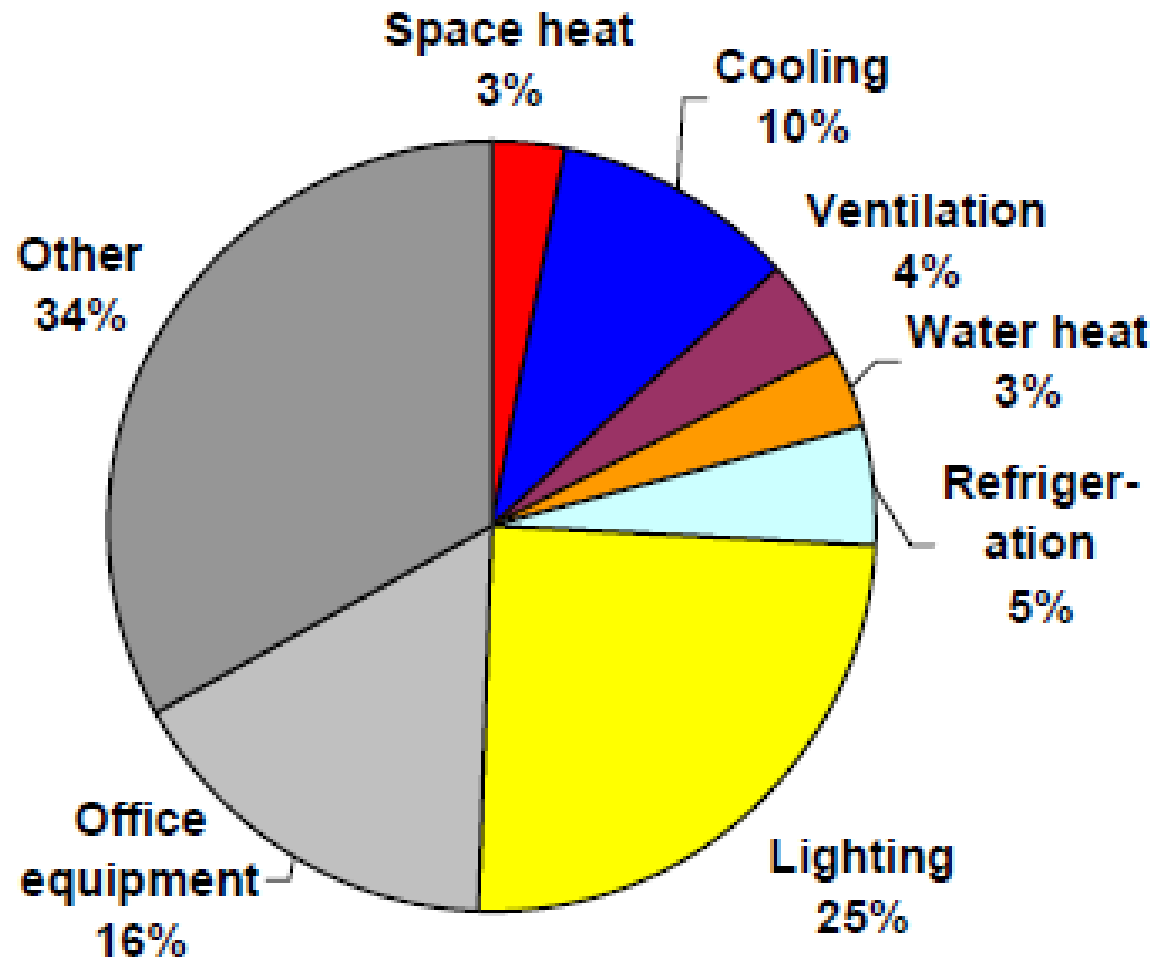


Residential EE Potential

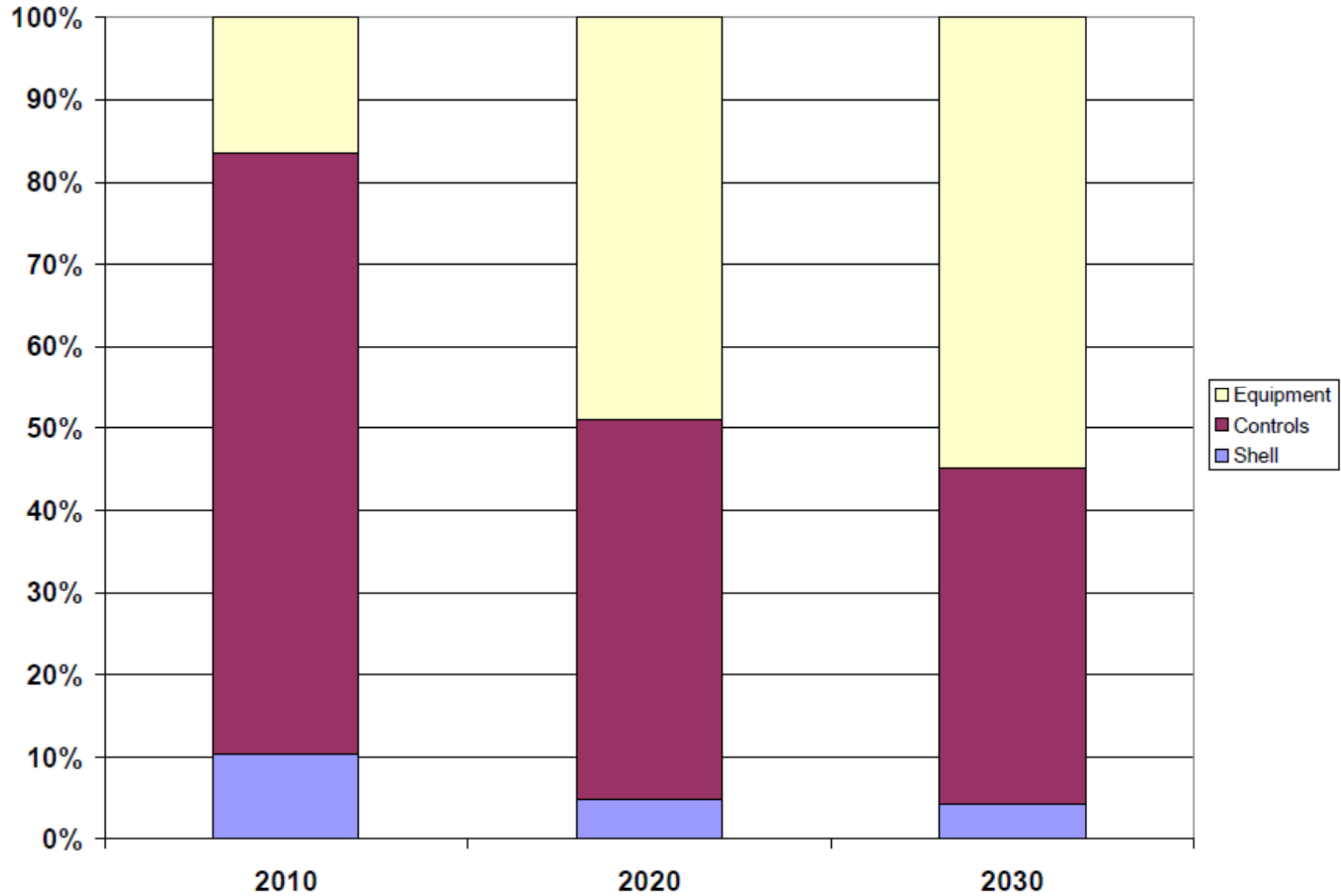


Commercial Electric Demand

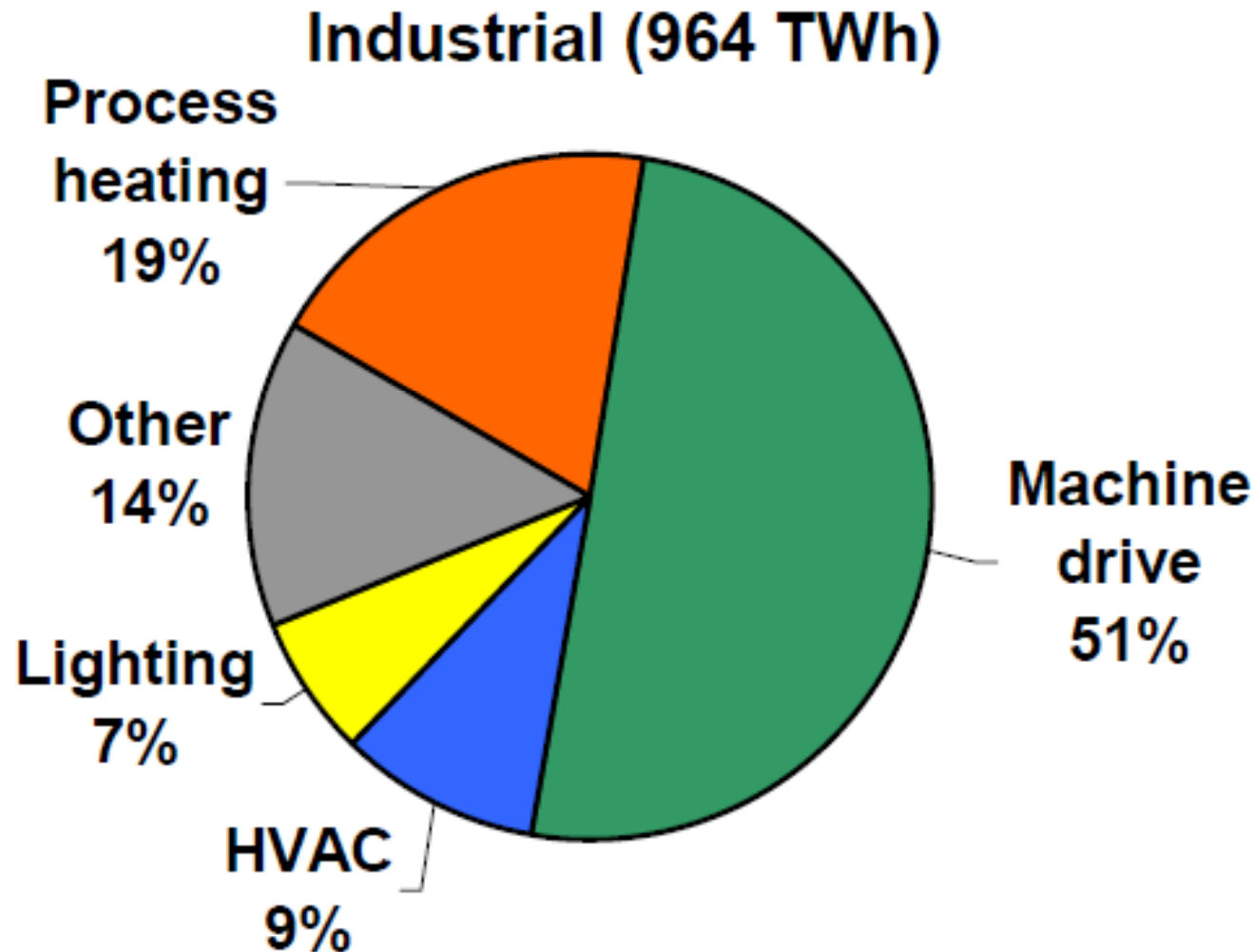
Commercial (1,350 TWh)



Commercial EE Potential



Industrial Electricity Demand



On-Bill Repayment – Who Does What

	Originate Project	Execute Project	Underwrite Customer	Provide Capital	Collect Payments/ Loan Service
Existing On-Bill Programs	Utility	Contractor	Utility	Utility	Utility
Proposed On-Bill Program	Project Developer	Contractor or Project Developer	Lender (Bank)	Lender (Bank)	Utility

- Existing OBF programs require utilities to extend beyond their core competencies
 - Expensive and inefficient
- Utilities will need to be fully compensated for the resources they provide



Benefits

- No direct costs to taxpayers or ratepayers
- Creates jobs
- Reduced carbon emissions
- Beneficial to ratepayers through avoided cost of new generation capacity and reduced use of higher cost generation
- Beneficial to utility shareholders through payment processing fees and/or improved performance of utility EE programs

EDF estimates that a statewide OBR program in California could generate annual investment of \$2.7 in residential EE and renewable projects, create 20,000 installation jobs and, after 5 years, reduce annual CO2 emissions by 7 million tons.

