

CPUC Energy Efficiency Finance Workshops Notes

Held February 8-10, 2012

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1 Workshop Summary Highlights

1.1 Day One: February 8, 2012 – Non-Residential Customers

1.1.1 Financial Institutions

- Unsecured energy loans would be considered similar to, and perform like credit card loans.
- The big challenge is there are a lot of unknowns that cut through all property types. There need to be multiple financial mechanisms to meet the retrofit challenge.
- For OBR, the value of the disconnection threat is high. OBR without disconnect would perform more like an unsecured loan.
- Financial institutions currently offer unsecured loans at rates above 15% yet consumers typically want to see rates of below 6%. We need a mechanism to bridge that gap until we have enough data to model energy loan performance. That gap-filling mechanism should consist of a credit enhancement to buy down rates and to provide loss coverage.
- The credit enhancement required for government sector loans will be smaller than a credit enhancement for non-government sector loans. Government sector loans should be financed with a separate financial product from commercial sector loans.
- The best way to subsidize financing is to have a pot of dollars that can cover losses, while providing an earnings stream to the investors
- The threat of disconnect will have a different impact on different borrower types. For example, financial institutions cannot shut down a hospital or take its equipment if it defaults, so a threat of disconnection will have little “real” impact in this case.
- OBR will help the commercial real estate market because it could solve the split incentive issue if the OBR financial obligation travels with the meter -- meaning it transfers from one occupant to a successor occupant.
- Data on performance of technologies is important to show financial institutions that EE is low-risk. Data needs to be specific to market sectors and technologies.
- Loan terms for EE projects are most attractive if they exceed 5 years, however few financial institutions are willing to lend to commercial projects for that long.
- Financial institutions felt that OBR accompanied by the threat of disconnection was more valuable than simply OBR (without disconnection threat).
- Financial institutions are open to working through pilot projects in early stages, for non-residential markets, however it must be demonstrated that the pilot can and will likely be scaled to be something much larger.

- The \$250,000 cap on loan size is too small for large commercial properties, especially if CPUC desires to move beyond financing only lighting and controls.
- The value of disconnection in commercial markets is somewhat uncertain because by the time a property has reached the point of utility disconnection, multiple other factors may have caused that borrower to be at serious risk of default.
- OBR could drive down the interest rate. A lower rate would likely increase uptake and project size.

1.1.2 Contractors/ESCOs/Developers

- The goal is to have deep, comprehensive projects that go beyond just lighting.
- There is a need for longer term financing products.
- Integration with the utilities' existing rebate programs is important.
- Utilities need to be involved with measurement and verification.
- There should be no cap on OBR project sizes.
- Simplicity is what will make projects happen.
- Prequalifying customers prior asking them to apply for a loan is a very useful step and will increase contractor participation.

1.1.3 Energy Users

- Small business users are interested in OBR, but they want to make sure the savings are real.
- Small business users need the process to be simple and quick.
- Data –
 - Small businesses will be reluctant to participate in a program that requires them to provide data – or at least a program that requires them to undertake a great deal of work to collect data.
 - The willingness to provide data will vary by sector. California technology data centers may not be willing to provide data. An office building may be more willing to give its usage data so long as that data is provided “blind”.
- Participants expressed general interest in credit enhancements but offered few specific details.
- Leasing structures may be of interest in the commercial equipment finance sector in addition to straight loans.

1.2 Day Two: February 9, 2012 – Residential Customers

1.2.1 Financial Institutions

- Residential EE loans are viewed as long tenor loans on illiquid assets so it is likely that large banks are not the best holders of these assets. Banks are under pressure from regulators to not hold long tenor and illiquid assets. Banks can play a role, but should not hold big portfolios of unsecured loans for many years.
- EE financing should pursue capital markets. The role of banks will be to help structure these transactions.
- On bill is a game changer if the loan is tied to the utility bill and may be associated with the traditional means of utility collection.
- A pari passu allocation of collections between energy and principal/interest is key for financial institutions because it makes historical payment of utility bills relevant as performance data.
- For a truly unsecured long tenor portfolio - 30% credit enhancement to get to an investment grade senior tranche is a fair estimate, for a capital markets structure. To deliver a lower rate to the end user the most effective mechanism is to fund the credit enhancements from a party that does not need a return – ratepayer, state or foundation funds.
- OBR will need to incorporate a mechanism to service loans and deal with collections, term or rate modifications, boarding of the loan into the servicing platform and other loan servicing issues.
- It is important to develop a strong contractor network and to monitor that network – and to be willing to remove contractors from the network if they fail to perform.
- There is a need for a 3rd party to verify savings estimates.
- Credit enhancement structures are hard to develop in the absence of a long history of similar lending products.
- Attaching the loan to the utility bill could improve credit quality, simply because customers are more likely to pay their utility bill than other bills.
- The program should be able to accommodate a large portfolio of loans – credit union on its own capital may not be able to supply all capital required in the long run.
- Keep the program design simple.
- For rental properties, the loan should be disclosed to property occupants.
- We have seen loan loss reserves as low as 5%. For low-income populations, the loan loss reserve could be as high as 50%. Debt income ratios and FICO scores should not be ignored because they are fundamental.
- Data –
 - Data is needed on the impact to the financial institution of pari passu vs subordinate payment of the finance obligation vs the energy bill.

- More data on loan portfolio performance and on technology performance is needed.
- Utilities, originators and capital providers need to develop a well-coordinated program.

1.2.2 Credit Challenged Populations

- Bill neutrality is helpful but insufficient to address the needs of credit challenged populations. A credit enhancement is likely to be necessary.
- Multifamily housing is an important market, but must be addressed with a financing structure that is unique to that market.
- OBR is well suited to the single-family market.
- OBR can make marketing easier because it creates a more homogenous program that is easier to market.
- OBR in and of itself does not eliminate the split incentive problem. However, depending on lease structure, there can be a rent increase to recoup the cost of financing an efficiency retrofit. Common areas of multi-family buildings are also not subject to the split incentive barrier.
- Panelists for the most part expressed objection to threat of shut off, but supported the concept of tying the loan to the meter is useful for transferability.

1.2.3 Contractors

- The definition of third party lender needs to be broad. It can expand beyond a depository institution to include finance companies and insurance companies.
- Successor Occupants - The bank should have the right to rescore and accept/deny the new applicant.
- Streamlined applications and paperwork is necessary.
- A requirement for bill neutrality will limit the program to just weatherization projects.
- The medium-income, single-family homeowner is the ideal market.
- Utility should be in charge of quality assurance (QA).
- Do you prefer OBR or credit enhancements? How would it affect the uptake of EE projects?
 - Financial institutions will find the program more attractive after it is credit enhanced.
 - OBR and credit enhancements are not mutually exclusive.
 - OBR seems to be simpler/cleaner than credit enhancements.
- OBR and credit enhancement will not replace rebates.
- Emergency equipment replacements should be allowed, and the approval process should be streamlined and available after installation.
- The loan loss reserve will reduce risk for the entire portfolio. A higher loss reserve for less desirable markets would lower the interest rate for these sectors.

1.2.4 Energy Users

- We need to make sure products reflect the needs for each market because we have to give each market what it wants.
- We want to make sure the appropriate disclosures about energy savings, transfers of payment obligation with the meter etc. are made to the customer.
- We need quality assurance to make sure the savings are verified .
- Bill neutrality as a program requirement will limit the measures that can be financed and will not be appropriate for all building types or customers.
- The loan needs to be tied the meter because it reduces the risk to the customer.
- Simplicity paired with low rates and long terms is crucial.
- The advantage of on-bill even in the absence of a policy allowing disconnection or transfer of payment obligation with the meter: Property owners can see the consumption and efficiency improvements on the bill. It's all on one spot.
- The Low-income segment is the segment that can't afford EE upgrades, and could benefit most from bill neutrality.

1.3 Day Three: February 10, 2012 – Implementation Issues

1.3.1 Introduction

- Legal issues could disrupt the program and therefore must be addressed.
- We need to make OBR look like the traditional utility collection model so that the existing utility bill payment performance data is relevant.
- We need to define what data will be needed.
- California has a statute against residential shut off on third-party charges. Guaranteeing savings is also is complex and problematic.
- There are existing consumer protections and existing debt holding protections. We need to differentiate single-family ownership from multifamily ownership in this regard.
- Allocating resources to modify systems and program ramp-up is a huge consideration.
- Ownership and tenant changes can increase default.
- Bill payment history has been a successful tool without the added 3rd party check.
- We don't mention bill neutrality. Instead contractors sell “comfort” first and energy savings second.
- Utilities have been great partners to work with because of the communicated data exchange and processes.
- Loan repayments are subordinate to utility payments and this is a key feature to get the utilities to buy-in.
- OBR loans are not a loan on the property.
 - A California-wide central model is most efficient from a contractor perspective and perhaps from the perspective of customers, however it is not necessary to be centralized. Centralization might take longer and utilities want to control their branding.
- Billing systems upgrades may be costly however utilities were not able to offer specific estimates on cost implications at this time.

1.3.2 OBR Implementation Insights

- Presenters described their program structures in this section.
- Sempra –
 - Vendor support and training is key for compliance.
 - It is important to prequalify the customers up front.
 - Concerning data, protecting customer privacy is important.
 - Simple design is key.
 - Understanding the utility's role when it comes to lending laws for the customer and project is important so it's fair and standardized.
 - The legal aspects are very important to address.
 - Tying OBF funding to an EE incentive has increased participation.
 - Allocating resources to systems and ramp up is an important consideration.
 - Ownership and tenant changes can increase default.
- What about the compromise of the 2 party payments?
 - Sempra does not allow the customer to co pay because it helps with the cash flows and paybacks depending on your institution. Maybe offer a rebate or loan, but not both.
- Sempra: Things they would do differently

- Notary requirements
- Loan to the project level rather than account level
- Minimum customer copayments
- Loan proceeds to the customer and not to the 3rd party
 - Payment not to the vendor at the end
- The Craft3 program does not mention bill neutrality, instead contractors sell customers on the basis of increased comfort and not energy savings.
- NYSERDA-
 - Encountered challenges with Federal and state regulations regarding classification of their loan product as a mortgage.
 - Utilities have been great partners to work with because of the communicated data exchange and processes.
- Deutsche Bank gave a presentation and the link can be found in this section.

1.3.3 Credit Enhancement Implementation Insights

- Smaller banks and credit unions would provide 5-8% interest rate for FICO scores of 650+ with a 15% loan loss reserve.
- Buy downs are very expensive, but it helps reduce interest rates. However, rate buy downs are not sustainable over time.
- Lenders like loan loss reserves as a way to cover potential losses. Credit enhancement can support lower FICO scores. It's essential until we have a track record.
- Attracting involvement from financial institutions that offer attractive loan products:
 - Takes a lot of handholding and mutual support between entities that offer credit support and the financial institutions.
 - Requires flexibility on the part of both financial institutions and the entities that offer credit support.
 - Financial institutions are not accustomed to negotiating with the government. Credit unions were most willing and able to work with government; CDFIs were able to do so but often did not have the capacity to engage in new programs, and banks were often most hamstrung by regulations or other factors that made it difficult to participate in finance programs.
- Big banks like new things only if they are large (hundreds of millions of dollars) and look similar to things they've done before. Small banks are more comfortable with small opportunities (millions of dollars).
- Loan loss reserves are good for large volumes of smaller loans, but not as good for small volumes of large loans, due to concentration of risk. Large programs should use a senior/subordinate structure.
- To leverage private dollars, don't limit the program to low to moderate income because to some extent the higher credit people can carry the lower credit people.
- Lessons from financial institutions. We need data. We want to see how loans did in previous years, as far back as possible. It's critical how we get there. We need data on borrowing, FICO scores, and delinquency

1.3.4 Local Governments

- Lessons Learned from Local EE Financing Programs Receiving ARRA Stimulus and EECBG Federal Funds 2009-2012 Presented by Jeanne Clinton – link to presentation can be found in this section.
- emPowerSB –
 - The loan product is just one piece of the overall financing program. It's an apparatus. Financers need an apparatus of EE to help them. In a perfect world, the utilities compliment the financing with rebates to help pay for EE savings.
- Sonoma County Regional Climate Protection Authority –
 - Absence of financing is not the only reason people don't do EE. Make financing available but make the overall product more attractive.
 - Sonoma is trying to minimize the capital provider role.
- Office of Sustainability County of Los Angeles (LA) –
 - LA does not want to run a program; it wants to initiate programs that others run.
 - Municipal buildings and financing - A lot of municipal governments are not taking advantage of OBF because don't have resources to figure out how to do it. A trusted central resource is needed so municipal governments can find high quality information.
- Local governments operate numerous types of financing programs, some of them with partner credit unions. These programs have been able to be designed to accommodate local needs and concerns.
- OBR sounds complicated to the credit unions that have been partnering with local governments.
- Local governments expressed the need to understand better how OBR could work and to understand more about how it might be integrated with their existing programs.
- Bill payment history has been a successful tool without the added 3rd party check.

1.3.5 Policy and Regulatory Issues

- Give customers a choice to mix and match incentives or financing.
- Let's not call it a loan because customers aren't pursuing loans today. OBR is a new product. It's not a new paradigm because risky customers will pay more. OBR will catch a revenue stream from excess payments. Lenders may not see that value so we need to leverage the utility's position to create a new way to pay for EE.
- Do more education and outreach using realtors.
- The fundamental problem is we have a very short time horizon. Financing can lengthen that time horizon
- Allowing the utilities to follow their standard collection mechanism is worth hundreds of basis points. We do not have a statute in place for collection and shut off and we would want to make sure we have a legal pathway to get there if we need to.
- A program such as this requires the IOUs to step out of their traditional role into one in which they are acting as a collection agency for a third party.
- A third party manages all payment streams and funds could make it much easier to attract capital to an effort such as this.
- The IOU is a trusted third party that reviews things on an ex-ante basis. The IOU can project savings.

- As mentioned in the comments, IOU does not have to take on the role of biller. A third party could take the utility bill and the finance bill and consolidate it to remove the burden from the IOU.

2 Welcome and Introduction – Day One: Non-Residential Customers

The CPUC Energy Efficiency Financing Workshop was opened by Jennifer Finnigan on Wednesday, February 8, 2012 at 8:45am. We are here because of rulemaking number 09-11-014 filed with the state of California on January 10, 2012.

2.1 Video from Commissioner Mark Ferron (remote from Washington, DC)

This meeting is important to Commissioner Ferron from both a policy standpoint and personally. Commissioner Ferron understands how difficult it is to develop new financial products. Commissioner Ferron asked to be personally involved with the California energy efficiency (EE) program because he thinks it is important to the state's future.

- EE is the fastest and cleanest energy solution
- CA spends about \$1 billion a year of rate payer money on EE and it's finite
- We'll need private in addition to public funds
- OBR is not a silver bullet, but an extension of the strategy
- OBR is another tool to help achieve EE goals
- Having access to capital with affordable interest is often the biggest obstacle

Commissioner Ferron hopes to answer three broad classes of questions about the design of the program in this workshop:

1. Policy questions
 - a. What should be the goals?
 - b. What are the gaps in the HB&C report and staff proposal?
2. Program design and operational
 - a. What are the essential program elements needed to create a successful program?
 - b. What are the conditions to balancing risks and returns?
 - c. What is appropriate for lenders, contractors, vendors, and ratepayers?
3. Flesh out how these programs should work?

All ideas and questions are welcomed but we need to get very concrete
What are the differences between residential and nonresidential customers?

Goals for this meeting were provided in the handout provided by Jennifer Finnigan on February 8, 2012.

2.2 Frank Spasaro, Sempra

Frank Spasaro is the Manager of Energy Efficiency Partnerships with Sempra. Sometimes referred to as the father of OBF, Mr. Spasaro was asked to talk about OBF lessons learned from the last 5-7 years.

Slide 2 - Description of OBF:

Provides easily accessible, zero percent interest, on the utility bill financing for purchasing and installing qualified energy efficient equipment. It is targeted to overcome the barriers of capital constraints, administrative and/or time burdens.

OBF is not funded by private capital and it is not consumer lending. There is no one silver bullet for financing.

Slide 4 California design:

There are other states that have OBF program. This slide shows CA's program design.

CA OBF is targeted towards businesses only and not for consumers

The business must 1) qualify and 2) take an incentive from an energy efficient program. It's a combo. It is an unsecured loan and is not transferable.

The utility is authorized to shut off the meter if the business defaults on the loan

Bill neutral. 0% interest

Sempra has issued over 1,200 loans and \$31million to over 345 projects. The default rate is less than 1%. The design works in Mr. Spasaro's opinion.

Lessons learned:

1. Businesses have difficulty understanding OBF and are weary of the financial component.
 - a. Businesses have different financing intents and desires
 - b. Helping businesses understand OBF is important
2. There are so many vendors and contractors that it is like herding cats.
 - a. Vendors are critical to OBF's success because they are the ones that interact with the customer
 - b. Vendors have been certified into the program
3. Up-front funding gap problem
 - a. Not everyone can afford the up-front project costs
 - i. Businesses may have to borrow short term money
 - b. Businesses don't receive the money until after verification that equipment is installed
4. Comprehensiveness of projects.
 - a. Started off with simple projects. Then pushed for deeper and more costly projects.
5. Natural gas-only projects.
 - a. High cost and little savings projects
6. Legal issues
 - a. Customer confidentiality
7. IT/billing systems upgrades.
 - a. Automation is not cheap.
 - b. Uncertainty
8. It's been challenging to work with governments state and local. OBF worked with some but not others.
9. Ratepayers are the ones that fund the loans. They cannot keep funding forever.

People thought OBR would not work. We proved them wrong. It has been successful.

There will be many financial answers, not just one. OBF can coexist with other financing tools. OBF still has a role and Frank doesn't want to see it go away until we see that the next tool works well. Looking forward to applying OBF lessons learned to future financial tools.

2.3 Finance Ruling

Jennifer Finnigan is a Senior Analyst at the CPUC and is one of the moderators of the CPUC Energy Efficiency Financing Workshop.

On October 25th, Commissioner Ferron issued a ruling for the direction of the 2013-14 EE program cycle. The ruling states that there is need for finance in the EE portfolio. The ruling emphasized EE financing for all sectors by leveraging private capital because financing on a mass scale is a better use of public dollars. Financing would help with the first-cost barrier and could help close the transaction (car sales example).

Where loans are most needed? HB&C identified gaps.

- Few businesses qualify for loans right now
- Few off-balance sheet options
- Businesses are more interested in using money for non-EE projects like core business
- Almost no loans are made to rental properties due to the split incentive issue

1. OBR should be developed
2. Should roll out rate payer funding credit enhancements
3. OBF should not go away just yet
4. \$130million straw man

With OBR, we can get 3rd-party capital by leveraging the ratepayer money pool and debt attaches to meter and not the individual.

With credit enhancements, we can set up a straw man. \$57.5million can be allocated to small/med customers.

There is money set aside for pilot programs so we can to collect data

Overcoming barriers

- Could help with off-balance sheet options.
- Credit enhancements will help with "do not qualify for underwriting"
- Data collection for "unproven energy savings gap"
- Could help with rental properties and split incentives.

The ruling has 3 attachments and 25 parties filed comments

February 22: Comments due on Sections 6B and 6C of the ruling, along with any topics raised in the workshops

February 29: Reply comments due

Late March/early April: There may be an Assigned Commissioner's Ruling giving further guidance to utilities on the 2013-2014 EE portfolio filings.

2.4 Brad Copithorne, EDF

Brad Copithorne is an Energy and Financial Policy Specialist at the Environmental Defense Fund (EDF).

OBR is not a new idea. It's been done in Oregon, NY state, and dozens of other places across the country. NY's program targets residential customers with \$8 billion. We can take the best elements from others' programs and apply them to our program.

CA doesn't have a lot of money right now for financing and we don't receive enough money from ratepayers to fund all the EE projects that we need. We can take other people's money since they have more money than we do.

EDF likes the idea of:

- A single statewide program so the program will be seamless.
- Bill neutrality or better
- Loan staying with the meter
- Financing commercial loans off the balance sheet
- It is critical that the program is flexible enough to accommodate lease agreements.

Vendors and contractors want the program to be as consistent as possible so they can get more business.

Suggestions:

Standardize the program as much as possible.

Reduce the cost as much as possible.

Have the bank act as a hub.

Use a statewide document-processing agent

Make sure audits and inspections were done properly.

Work with banks and contractors.

Make sure utilities have a simple data run to plug into their systems.

Provide the correct 800-phone number on the customer's bill so they can contact their lender or processing agent.

We don't see OBR supplanting other EE programs. It can be integrated with other programs to turbo charge them. It doesn't have to be "either or". It can be "and".

Banks do not to disconnect power, but they want to piggyback on standard mechanisms from the utility. Critical medical equipment will continue to be protected

OBR is an unsecured that acts like a credit card.

- It is up to the bank to figure out the interest rate. The customer can walk into an appliance store and there are 2 different products: The less efficient product or get a more expensive one with a bill-neutral loan.
- The program gets more credit over time as you use more credit and provide more data

- You can do a number of different types of transaction
- OBF's funding is constrained

EDF believes the utilities are providing a good service and wants to help them succeed. Is it possible to do that with no cost to the ratepayer.

Upgrading the billing system

It costs \$3-6 a month to send the bill and process the payment.

It will cost money to upgrade the billing system, but upgraded system marginal costs should be low.

Financing can increase EE and EE is cheaper than constructing new power plants. Give OBF/OBR credit for the energy savings that are created from this program

There are underserved markets like low income and multi-family residences. More banks will participate if there is more interest in renewable.

Critical that we meet their needs

Building owners

Project dev. and contractors/workforce

Lenders and investors

Utilities

Consumer advocates

It is important for communication during the design of the program because banks may design a program that consumers may not like and consumers may design a program that banks may not like.

2.5 Matthew Brown, HB&C

Matthew Brown is a Principal at Harcourt Brown and Carey (HB&C) and is one of the moderators of the Workshop.

HB&C has worked with a lot of state, fed, local governments that want to set up a financing program. It is important that they all communicate the same language. All parties need to understand roles and objectives.

Utilities and the EE market today

- Integrate efficiency into the existing utility structure
- Tariffed payment to the utilities
- Rate payer credit is pooled so delinquent customers are covered by other rate payers
- There is security from threat of disconnection. Disconnection should be in the language of the program.

Utilities offered rebates for EE to cover a portion of the cost while the customer pays the remainder. The customer would have to pay using cash, loan, or service agreement

OBF

The utility provides a loan to the customer to finance the remainder of the project cost and the customer pays it back

Capital is from ratepayers and the pool is limited.

Source of security is the threat of disconnection

OBR

Similar structure to OBF

Customer pay remainder of EE project costs with a loan facilitated by the utility. Outside capital provider loan/tariff.

The customer repays the utility and the utility repays the capital provider. The utility is in the middle of the repayment.

The size of the capital pool is limited by the willingness of capital providers to provide funds.

Source of security is the threat of disconnection.

What will bring in the capital?

Security of repayment

Good collateral (home equity, business real estate, equipment)

Strong motivation to pay (threat of disconnection)

Credit enhancement

There are a number of credit enhancements

Other states set up credit enhancements

Provide a strong balance sheet to stand behind loans

Could use credit unions to get loans and give them a loan loss reserve

Money is set aside to cover potential defaults.

A strong balance sheet to stand behind loans

Scale

Pilot projects will NOT entice significant interest

ARRA funded programs are very small

Financers are not interested in \$1million loans and are marginally interested in \$10million loans

Requires a balance between security and credit enhancements

Traditional finance structure

If we insert a utility and use their collection system, is that a good idea?

Does it create new counter party risk?

The following are from the presentation slides:

- Lend
- Intake and origination
 - Finance company
 - Bank
 - Credit union
 - Cdfi
 - State - energy office, hfa
 - Utility
- Capital sources
 - Banks
 - Credit unions

- Foundations
- Capital markets
- Federal
- Treasury
- Utilities
- Credit enhancement
 - Loss reserve
 - Debt service reserve - bond world
 - Loan insurance - not much of this out there
 - Subordinate debt
- Security
 - Tax lien
 - Mortgage
 - Fixture lien - they won't take the weather stripping back
 - Disconnection
 - Unsecured

3 Financial Institutions

3.1 Michael Karlosky, Wells Fargo

Michael Karlosky is the Director at Wells Fargo Securities and focuses on EE and renewable projects.

Question 1: Some or all borrowing will be viewed as unsecured

It is viewed as unsecured. The big challenge is there are a lot of unknowns that cut through all property types. We will need multiple mechanisms to meet the retrofit challenge.

The role for OBR: For some sets of property classes, on bill is the best answer while other sets of property classes commercial PACE is the best answer. There's going to be a mix.

For OBR, the value of the disconnection threat is high because OBR is like an unsecured loan. If the customer does not pay, the financier ends up with nothing. The threat of disconnection gives the customer an incentive to pay.

Michael expects to see a lower default rate in the On-Bill portfolio compared to other unsecured loans. Utilities can get more favorable rates over time when more data is gathered. This will happen over time and not on day one.

Question 1d) Credit enhancement

There is a big difference between the rates of what the financier wants to give and what the customer wants to receive. The unsecured loans are viewed like credit card loans. The market rate for credit card loans is 15% and higher, but customers want to see 5% and lower. We need a mechanism to bridge that gap. The gap will be large at first because we do not have enough data yet. This mechanism will need to serve 2 purposes: 1) homogenize portfolio loans and 2) subsidize the rate to the end user so the market gets 15% and consumers gets 5%.

The government and nonprofit segment is going to have a much easier time getting financing at a good rate because those segments do not shut down or stop paying their bills. The credit enhancement required for governments will be smaller and should be financed separately.

The portfolio can mix senior tranches for less risky investments and subordinate tranches for more risky investments to get the more risky borrowers into the portfolio. Another option is to keep them away from each other in different portfolios.

The best way to subsidize the financing rate is to have a pot of invested dollars that can cover losses and kick off an earnings stream to subsidize the rate to the end property owner.

What about the payment flowing through the utility?

What we will need to do is figure out a way to run those payments so we have the full power of the utility billing system and the threat of disconnect but not overtly flavor the credit portfolio. We will need to have a firewall. The big fear is if something bad happens to the utility, then the portfolio goes

down with it as well. A lock box like structure will help with that and the loan-servicing agent can dictate their relationship with legal firewalls.

Mr. Karlosky believes OBF has tremendous possibilities and it has been around for a long time. So why have the utilities not done more with OBF? Are there forces that will hinder their roles?

3.2 Olivia Rebanal, NDC

Olivia Rebanal is the Director / Loan Officer at National Development Council and is based in New York.

NDC has a Small Business Administration (SBA) license and used that license to create the Grow America Fund that finances underserved markets. NDC contracts with cities and municipalities throughout the country. The funding source is typically public funds and the city identifies which public funds to use. Loans are guaranteed at 75% through the SBA license and the other 25% is from a public source.

NDC seeks funds from bank, credit unions, and public utilities and provides equity for the unguaranteed portion. NDC received \$750,000 from the ARRA grant from the federal government that flowed through the state of Washington. NDC turned the \$750,000 grant into a \$300million loan pool to serve small businesses in Seattle.

NDC currently has about 410 borrowers throughout the country and has a portfolio of \$130million with additional lending capacity for both small business lending and to fund new initiatives.

Dave Carey, HB&C

Is OBR a business idea for NDC?

Response

Anything EE is. We can help fill the void of capital for up-front costs of EE projects. Rebate programs don't cover 100% of project cost so we can finance the rest. Additionally, rebates come later on so we can cover 100% of the up-front cost.

Dave Carey, HB&C

What about disconnect and credit enhancement?

Response

Our mission is to increase capital flow to underserved communities who are under-collateralized. We can be in a subordinate position. We are ok with that structure.

Dave Carey, HB&C

What would NDC's role be?

Response

NDC is nationwide with 5 cities throughout the US and has the capital to deploy. NDC can cross market across other programs. They have seen transaction size range from is \$100,000 to \$2million.

Dave Carey, HB&C

What is the value of shut off and how will it impact the underwriting? Will you wait to see if the proof is in the pudding?

Response

We will need wait to see. We would structure it on a case-by-case basis.

Dave Carey, HB&C

Who would be the typical clients?

Response

Our clients would be Small, medium, and large commercial customers. ARRA thresholds were lifted so they could expand what's considered a small business.

Dave Carey, HB&C

Could you mine existing clients in CA?

Response

Yes

Dave Carey, HB&C

What about operational aspects since payments would flow through the utilities?

Response

NDC works directly through a borrower and not through the utility. OBR would need to flow through the utility because the utility bill is involved and is worth exploring.

3.3 Bob Anderson, GCP

Bob Anderson is the Chief Executive Officer and Managing Director of Green Campus Partners (GCP). GCP focuses on Cogen, Clean gas fire, Biomass, and Renewables.

GCP provided \$350million in EE financing in the last 2 years primarily to the Municipal University Schools Hospitals (MUSH) market and is seeing a lot more activity in the commercial sector. GCP has a portfolio of \$1.5billion in equity. Bob views commercial as the low hanging fruit and off balance sheet options will help attract them. GCP works closely with the ESCOs to structure the financing for the transaction and invests their own capital into projects like Cogen. GCP does not divide the debt on transactions.

Challenges are:

- Get your arms around on who owns the building.
- Energy savings are amorphous. How do you collect the money from the energy savings?
- How do you get a lien on the cash flow that comes from the energy savings?

OBR is a pathway to get a hold of the cash flow. OBR can avoid the pitfalls of bankruptcy and the tools are already there.

Mr. Anderson's preferred form of credit enhancements is the Ultimate Net Loss with roughly a 10-15% loss reserve and will want to tranche the pool. There's no shortage of financing money, but there needs to be a proper structure that protects the financier.

OBR would help close bigger deals, but Bob struggles with the right of disconnect because there is a lot of liability. While the threat of disconnect provides security and leverage, you cannot shut down a hospital or take their equipment if they do not pay. You will get sued.

Mr. Anderson thinks data that comes in with time may help with interest rates, but only time will tell. He also thinks that we do not actually need credit enhancements or OBR because they are not game changers. We have provided \$5-6billion in EE finance already with a small default rate.

3.4 Bob Hinkle, Metrus Energy

Bob Hinkle is the President and CEO of Metrus Energy.

Metrus is a developer and financier of EE retrofit projects and focuses on private commercial and industrial sectors such as large commercial office buildings, industrial, and larger healthcare markets. Metrus will finance 100% of up-front costs from the equity of their balance sheet and bring in outside debt like banks to bring in permanent financing. They are involved with a wide range of projects from lighting and controls to boilers, chillers, and furnace upgrades. Cogen is considered only if it is in conjunction with other upgrades.

Finance 100% of finance cost, but not like a loan or lease. Metrus makes power purchase agreements for EE projects. It is a service and they charge by unit of energy saved. These agreements are typically 10 years or less.

Metrus is interested in OBR in the commercial real estate market. The Urban Land Institute sees the commercial real estate market as an \$18 billion a year opportunity. Currently challenges include balancing sheet issues and customers cannot get loans. Bob would like to see if OBR could expand and open that market because right now it is shut down.

Credit Enhancement could facilitate a 1-rung drop down on the credit ladder. We do not see it as something that provides collateral on an asset level to really open it up but it is a step in the right direction.

Metrus contracts with a wide range of entities like M&V services and Metrus focuses on project finance based transactions. They are successful with owner-occupied, private sector and would like to expand outside of that box. Bob thinks that institutional governments do not need OBR, but commercial real estate does.

Metrus provides a separate bill to the customer so it is not attached to the utility bill. The customer still needs to pay their utility bill separately and Metrus does not have the right to disconnect utility service. OBR does not come with any operational concerns because it will not change how they sell to customers. Bob thinks it is beneficial to put their bill directly on the utility bill and it could help reduce transaction costs over time.

OBR helps on an incremental basis but OBR does not fully broaden up the market so it will be challenging early on. Some form of loan loss reserve like a debt service reserve will help. The principal interest payment will be considered part of a loan for a project

Mr. Hinkle is pleased to see financing being brought into the EE discussion. We should take a step back to see how EE can be more broadly integrated into the CA portfolio. We have a lot of successful programs that provide incentives, but finance is always left out of the discussion. OBR changes the paradigm because with financing, you move from 1-2 year ROI to much bigger opportunities. OBR will bring more holistic projects.

Data

It is important to look at what market segments one is trying to reinforce and bolster. Then be specific on what data you need. Performance of technologies to show financiers that EE is low risk because we have historically seen that this type of equipment results in this amount of savings. ESCOs have a lot of this data and they use this to pay out their guarantee, usually 85-90% of what's expected. We should get data that is specific to market sectors and technologies.

3.5 Questions from Handout Not Addressed by the Panel

3.5.1 Talk about the data issue. Also talk about your perspective on new financing products that have different rates and different terms for the sake of uptake. Will it make a difference from a customer point of view? Matthew Brown, HB&C

Bob Anderson

The big challenge is term. Not a lot of EE projects have a 1-2 year payback, but have a 3-15 year payback. OBR will help with long-term projects, but does that value transfer? Transferability is important, but how does the value transfer? EE is a 30-year-old industry and things are not that complex. You can track what the performance of equipment is to determine the savings. Most of the ESCOs will guarantee ~90% of the energy savings for predictable performance. What do we do about the other 10%?

Olivia Rebenal

Performance of the equipment relates to the cost savings that we will assign value. The savings value is security or collateral, but we are not collateral lenders. NDC lends to small businesses and will look at the cash flow savings and repayment as well as the cash flows to service debt. NDC looks at performance standards that achieve the savings and transforms that to cost savings

Michael Karlosky

Over the last 2.5 years, everyone has been talking about data. Where can we get it? Nobody has it. We need to get passed that and get established. Let's start agreeing so we can start collecting data.

Regarding terms and commercial property owners, Wells Fargo is one of the largest real estate financiers and we have discovered what is important to each segment. OBR can help provide different terms to different segments of the commercial market and would advance uptake incredibly.

3.5.2 Which is better OBR or OBR accompanied by the threat of disconnection? Matthew Brown, HB&C

Bob Hinkle

Together, but is worried about customer bankruptcy. How would that work?

Our billing is not just obr. We would still send a statement to the utility with how many units of energy were saved and the amount charged.

Bob Anderson

Together.

Every ESCO will do an investment grade audit and assign a value. All of that is then tied to the utility cost. It is scientific. The challenge is determining the outcome.

Olivia Rebanal

Together.

Michael Karlosky

Together and does not see such a big difference. Their collection rates are all pretty good.

3.6 Questions

3.6.1 Bankers and investors say they are only interested only if the program is statewide, but the comments said to enter slowly. How does the size of the program affect your interest? Jennifer Finnigan, CPUC

Michael Karlosky

We have no objections to pursue something in a pilot mode, but we need to envision something scalable. The definition of pilot is commercial PACE and can try out 5-10 properties. This can be small as long as we understand it is something we want to be big

Olivia Rebanal

Our first program in Seattle has been expanded and is now established. It could be replicated.

Bob Anderson

Small success would lead to large success

Bob Hikle

It needs to be scalable. You want to look at a group of customers. Depending on which market you are focusing on, you can offer different types of financial offerings. OBR with credit enhancements expands that box.

Jennifer

3.6.2 With the straw man, we wanted to target smaller businesses. How would you target a credit enhancement to target those in need? Jennifer Finnigan, CPUC

Bob Anderson

Different markets like single- or multi-tenant all have different performance dynamics.

Bob Hinkle

The \$250,000 cap is too small and the projects would just be lighting and controls. Mechanical work requires millions of dollars.

3.6.3 Disconnect capability is valuable, but Ted is surprised how little you value it. Why is it so hard to believe that the utility can turn off their service? Ted Hope, Energy Solutions

Michael Karlosky

If commercial property stops paying their utility bill, it is probably because they are not operating so the value of the incentive is unknown.

Bob Anderson

Think of it as a co-op. If some of end users do not pay so then the building manager defaults, the utility will have a hard time turning off the electricity to a grandma. If the building manager does not pay, the end user should be able to get their power turned back on if they are paying.

Bob Hinkle

The building occupant is not coming back. If you add on OBR, you are at a better position but there still the doomsday scenario of the business not operating and having title to the boiler does not do much until another business moves in.

Olivia Rebanal

Shut off is the final step and there would be other triggers before we get to the point of shut off. We would work with them before it gets to that point.

3.6.4 Is the disconnection threat the same sector by sector? Dave Carey, HB&C

Bob Anderson

The threat is useful for commercial markets.

3.6.5 You mentioned that OBR is closest to unsecured credit cards, but we have decades of data for OBF with a <1% default rate. Why not look at that data? Is there a regulatory implication for you on that? Michael Day, Beutler Consulting

Michael Karlosky

There are years of history with these programs and we would look at it. We can reassess the starting point.

3.6.6 Comment by John McClain, Energy Efficiency Corp

Regarding bill neutrality, the customer's motivation is energy savings and to replace aging equipment. In Seattle, we achieve positive cash flow on the bill by billing 75-80% of the savings.

On bill is as an enhancement. One customer was not paying their steam bill and the creditors said to pay the bill to protect the asset and keep it operating.

Bob Anderson agrees

3.6.7 Multiple instruments will be needed for the commercial market ranging from <\$1000 to \$100,000s. What kind of markets are you actually serving besides the MUSH market in terms of size and to what extent would OBR would allow you to get to other markets? Cal Broomhead, City and County of San Francisco

Olivia Rebanal

Who will be the financing entities? Our target markets are owner occupants or tenants of commercial properties. Our structure allows us to be more flexible with our collateralization up to \$2million.

Michael Karlosky

Wells Fargo is one of the largest commercial real estate financiers so we see all sizes. OBR might be most successful with those that are already highly leveraged.

Bob Anderson

A \$1million project is on the lower side for us, but we may take on 10-20 \$1million projects.

3.6.8 Comment by Brad Copithorne, EDF

Regarding disconnection: Notices would be sent to the customer, payment plans would be offered, and medical equipment would not be disconnected. The financier would not have their finger on the disconnect trigger.

Regarding bankruptcy: It will be legally binding as part of the rate tariff.

Regarding size of pilots: Lenders want a large market. That is critical to residential and consumer. The benchmark is unsecured, but our target is to offer the customer a 5% rate. We have a less-than-enthusiastic amount of data about on-bill programs. We could try to do some sort of study and collect data on how people pay their bills. If the customers pay on time, it could lead to the 5% rate we want to offer to customers.

Bob Hinkle

It is important to have lenders take a look at the history when making a decision. They will acknowledge the history but then get back to the traditional conversation.

3.6.9 The threat of disconnect may pose a liability to the utility and lender. Are there types of customers that will be less of a liability? Would you consider setting up different tranches to reduce this liability? Diana Lee, Division of Ratepayer Advocates

Bob Anderson

Provides the co-op example again and says hospitals would not be excluded from the program. The utility would do what they normally would have done to collect their bill so nobody would need to be excluded.

3.6.10 Comment from Ted Hesser, Bloomberg

Data transparency is one of the biggest hurdles and there is a large gap between the amount of funding CA has and the amount we need annually to meet CA EE goals. All parties are pointing their fingers

about why the data is not there. There needs to be more cooperation because everyone is saying they do not know what is going on. The financial industry thinks that EE is a fuzzy industry.

3.6.11 Philip Henderson, NRDC

Question for Mr. Karlosky -- Assume a buyer wants to buy a commercial property using a commercial mortgage from Wells Fargo, and there is a \$50,000 balance due to the utility in On Bill. Would Wells Fargo require this loan to be paid-off as a condition of the sale, or would it allow the buyer to buy the property and assume the repayment obligation? If the latter, how would you go about assessing whether the improvement is still "net cash flow positive"?

Michael Karlosky

I can't really speak about that. That is a level of detail we have not delved into yet.

3.6.12 Marybelle Ang

Question for Mr. Anderson: Could using cash flow lien supplant the need for shutoff threat in any commercial context?

Bob Anderson

If you have both, then you would have a better deal. I would say no. As the banker, I look at it differently.

3.6.13 Karla Hendrickson

Is there a place for OBR for owners who are simply struggling to get their properties to code, those who may not qualify for a utility rebate/incentive program requiring above-code results? Addressing those small to medium sized properties with aging equipment may hold significant savings potential.

Olivia Rebanal

From the small business perspective, we would like to see why they are struggling. It's part of their business underwriting.

3.6.14 When it comes to transferability, is tying to the meter the answer? Dennis Reitz, Renew Age Energy

Bob Anderson

Tying to the meter does help. If a project costs \$1million, the building owner would like to hold onto this investment if a tenant moves out. Tying the investment to the meter incents the building owner to pursue the retrofit.

3.6.15 Is EM&B data helpful to you? What is the current range of interest rates of your projects? Barbara George, Womens Energy Matters

Olivia Rebanal

2% fixed then tied to prime. Our rates are very aggressively

Bob Anderson

The better the credit, the better the structure. Tax-exempt projects can get 2-3% rates.

Dave Carey, HB&C

What percent is set aside for loss?

Olivia Rebanal

Our pricing is not dictated to our loss.

Bob Hinkle

OBR would help drive down the interest rate. The big game changer is not interest rates of 5 versus 5.5% because that is something we can do now. OBR will help drive down the interest rate, but it can expand reach as well.

3.6.16 Equipment from OBR-funded projects is not off the balance sheet when it comes to bank audits. Ron Perry, Commercial Energy

Bob Hinkle

Each accounting firm will need to assess that.

Bob Anderson

Service agreement could be off the balance sheet.

Ron Perry

In California, I could have a service agreement with a third party that would save me 20% from my bill then charge me based on that 20% savings.

Olivia Rebanal

We are willing to do these more challenging credits, but what if they do not achieve those savings? What if NDC cannot afford all the equipment? In the long-term she thinks they can.

Bob Hinkle

The notion of guaranteed savings would impact our risk.

3.6.17 To what extent has OBR helped you meet your goals to build deal volume? Jeanne Clinton, CPUC

Bob Hinkle

OBR has expanded build deal volume. There are other benefits that are harder to quantify but they will be there. Also, energy savings as a service is nice.

Dave Carey

Panel, are you talking about OBR by itself or OBR with credit enhancements?

Bob Anderson

I prefer OBR with credit enhancements.

Michael Karlosky

Do the California utilities want to be involved at that scale or are there are forces to cause them to hesitate?

3.6.18 OBR cannot be profitable and will suck up resources from other EE programs. What is the appetite from the utilities to make this program big? Carla Hendrickson, PEI

Richard Aslin, PG&E

We think we can make it profitable, but we need to make it attractive.

Dave Carey

The OBR projects can receive an incentive too. Decoupling will keep them from getting hurt

3.6.19 We should start with a pilot to get the data that the financiers are asking for. Philip Henderson, NRDC

Michael Karlosky

Possibly yes. A pilot program could be a productive thing. We could purchase a small portfolio

Bob Hinkle

A small pilot like a lighting pilot is good idea but may not be a predictor of success.

3.6.20 If there may be long sale cycles, can we map out the project cycle? John MacLean, Energy Efficiency Finance Corp

Dave Carey

We are seeing development cycles of 1-2 years. If the utility is electric only, what about projects that consist of electric and gas savings?

Frank Spasaro, SEMPRA

It is not simple but it can be done.

3.6.21 How valuable is the transferability issue to financiers in the commercial space? Frank Spasaro, SEMPRA

Bob Anderson

It helps make it seamless and painless.

Bob Hinkle

OBR projects are pretty big so 10 years should be part of the design. The terms need to be cleanly stated on the bill.

3.6.22 Does a big pool of lenders already exist for OBR? Karla Hendrickson

Bob Anderson

There is no shortage of money in the market for risk-adjusted returns.

Michael Karlosky

It is all about how it is structured.

4 Contractors/ ESCOs/ Developers

4.1 Neil Alexander, Trane

Neil Alexander is an Account Manager Complex Solutions at Trane.

Regarding question 1, the goal is to have deep, comprehensive projects. We want more than just lighting projects. Trane has a 7-year term financing program and works with financiers.

It is common to hear a customer demand a simple payback that must be 2 years or less. If a chiller has a useful life of 20-25 years, we need to have longer-term financing if the equipment lasts 15 years or longer. This will help with making the bill neutral too. Things move twice as fast when the customer realizes there is nothing up front and the bill may be even lower.

How do we model OBR so banks and customers are both happy? Right now, the OBF program is the best program and all customers and contractors are asking for it. There is a need for a cap though.

Customers have the concept of disconnect on their minds already since the line item is on the bill. The customer knows if they do not pay, they will have their utility service shut off. On-bill makes transferability easier.

Integration with the utilities is important. A lot of customers are looking for this kind of funding. We need to identify the energy savings and have multiple people look over the project savings calculation. Modeling software can accurately model the savings. It takes a long time to review the savings and can result in a long delay to approve funding for projects. It usually takes the utility 2-3 months to release the money.

4.2 Brenden Millstein, Carbon Lighthouse

Brenden Millstein is the CEO and Cofounder of Carbon Lighthouse.

CLH makes it profitable to eliminate a business's carbon footprint. We will provide financing for projects and immediately achieve positive cash flow. Carbon Lighthouse provides the capital and OBR is appealing because it involves a financier.

Brenden has a concern about speed of funding. OBF projects in PG&E territory have taken 6 months to process.

Utilities need to be involved with measurement and verification and there should not be a cap on OBR, just OBF. Credit checks should be provided by the utility because they are difficult. Right now, credit information of customers is not available.

Regarding disconnect, utility bills are paid even during default. We are treating the threat of shut off as the only security. Brenden would rather have higher interest rates and have projects move more quickly.

Calculations could be based on simple payback to help speed up projects. OBR funding should be used for more than just equipment replacement like new insulation. Brenden thinks the on-bill component is valuable.

4.3 Carlos Santamaria, Glen Merral

When it comes to OBF to the end user, there is no one size fits all. Each project is different.

OBF is power because he saw 2 of them in progress. Both have a 0% interest rate and were completed in a couple of months. Third party verification was used and the bills are being paid.

To the end user, it does not matter if the offering is OBF or OBR. As long as it is seamless, it should not matter.

4.4 Questions

4.4.1 What about credit enhancement? Jennifer Finnigan, CPUC

Carlos Santamaria

Credit enhancement is more complicated than on-bill and a lot of people will not participate in the program.

Brenden Millstein

It will slow down the speed of projects and transferability is harder too. OBR could piggyback on existing programs because all of the projects will qualify for an incentive.

Transferability is harder too.

Neil Alexander

On-bill is stronger because it is backed by the utilities and is more direct than credit enhancements.

4.4.2 Regarding technical review, we have to follow program guidelines and this could be connected to the issue of timing and speed. We have ample internal and external engineering resources for technical review. Jim Dodenhoff, SCE

Neil Alexander

The review protects the customer and the utility.

Brenden Millstein

Technical review process takes a long time because there is so much incentive to inflate savings.

Jim Dodenhoff

We should have quicker approval of work paper applications to get deemed measures in place.

4.4.3 We need to make the process simpler to attract small- and medium-sized customers (\$20,000 and smaller projects). Anthony Harrison, Climate Group

Brenden Millstein

Workers salaries are more expensive than the project. Simplicity is what will make these projects happen.

Neil Alexander and Matthew Brown

The process can kill the good idea.

4.4.4 PACE also exists in the market. Michael Day, Beutler

Neil Alexander

PACE is interesting but there are subordination issues. Trying to get a bank to agree to have a subordinate makes the loan look bad. OBR helps with that.

Brenden Millstein

Has experience with 7,000 PACE projects and they are complex. OBR would be simpler because it is larger.

Carlos Santamaria

We haven't pursued PACE because we would have to go to a number of lenders or approval makers. At a certain point, the process stops because it is taking too long. The OBR process would be much shorter.

4.4.5 Simple projects should use deemed savings, but what about very complex projects if our goal is to have a speedy approval? James Fine, EDF

Neil Alexander

There are difficult calculations like interactive effects where there is a lot of uncertainty. It is also has issues with occupancy changes.

4.4.6 What if a nonresidential customer wants to do a series of upgrades where some are not EE related? Michael Colvin, CPUC

Brenden Millstein

If one wants to add something non-EE, then the simple review cannot be done. A more comprehensive review will be needed.

4.4.7 What do you think about if we had access to history of payment on utility bills and how that plays into the underwriting? Matthew Brown, HB&C

Michael Karlosky

It could be meaningful to the underwriting criteria because the criteria have not been fully established.

4.4.8 The problem with PACE is the owner has to approve the loan. Will OBR have the same problem? Lara Ettenson, NRDC

Carlos Santamaria

OBR will have a more streamlined decision making process. Less people will be involved so it will not have to be a barrier.

4.4.9 Comment from Ramesh Ramchandani, Commercial Energy

Some projects get approved from the utility, but then we find out that the client cannot get approval from the bank. It is a painful process so we should prequalify the customers before we go through the EE program hoops. It would save time and administrative costs.

Carlos Santamaria and Neil Alexander agree.

5 Energy Users

5.1 Selected Findings from CPUC's Market and Process Evaluation of On-Bill Financing - Presented by Jean Lamming, CPUC

Customers' main reason for using OBF?

- 24% of users said it is no upfront cost

Is OBF enabling EE projects that would otherwise not occur?

- 72% of people would not have pursued their project if it were not for OBF. Vendors said OBF was very important in helping sell EE projects.

Does OBF support comprehensiveness?

- SDG&E pursued more comprehensive projects (more than just lighting).

What source of capital do customers prefer?

Respondents did not care where the money came from

Preference for tariff versus loan?

Findings from non-participant focus groups:

- Decision makers liked both loan and tariff options because they are bill neutral and simplify payments. But they wanted to know more details before stating a preference.
- Renters favored the tariff more because the repayment is tied to the meter and not the occupant
- Owners were concerned about how a tariff would affect buying and selling transactions
- Participants ranked **low interest rates** and **bill neutrality** as their two most important criteria for financing a EE project

Would customers be interested in financing at below-market rates?

- 2-3% is the interest rate customers find acceptable. The mean willingness to pay is 3.27%.

If customers had to choose between financing and rebates, which would they prefer?

- People prefer a 0% loan to an incentive. Customers would still be interested in OBF if the incentive were halved.

5.2 Lisa Galley, Galley Eco Cap

Lisa Galley is the Founder and Managing Principal of Galley Eco Cap. Lisa left banking 5 years ago to become a consultant for green finance creating and developing financial tools for EE to be used by property owners. She is currently designing a tool for MF investors that involve 15 parties.

Lisa runs “Serious games” focus forums to witness how people prioritize their decision-making. OBR is great in theory, but people say one thing and do another. Lisa structures her studies to observe people’s decision actions. Real estate is a time business and everything they do is time sensitive. There is a small window of opportunity when the owner is susceptible to making those types of decisions. At the same time, there is a triage process that marketing and sales goes through. It is complex so there has to be a standardized process. Anything that is introduced is not looked favorably upon because it introduces risk. You have to understand how the user will use your product. If there is a lack of fit, people will avoid it. There is a drive for standardization and efficiency. If they have not experienced your product before, they will be weary because they do not want to be seen as underperforming. Third parties would need to have enough experience if they are brought in.

Core investors have a longer time window and bring more cash. Their comfort level is higher. Others have a shorter hold period.

Lisa does not think enough data is being collected and thinks there is a low level of integration.

5.3 Moh Palizi, Jones Lange LaSalle

Moh Palizi is a Program Manager at Jones Lange LaSalle.

Jones Lange LaSalle is a real estate service company and its clients are motivated by carbon commitments. Sustainability projects come from clients that are self-selected. However, it is still hard to get approval internally unless it is a quick payback project like lighting projects. More complicated retrofits or renewable energy projects are harder to get approved financially.

There is no silver bullet. Moh thinks projects with a 3-6 year payback period are ideal for the OBR program. The payback period for some projects is hard to predict and verify like projects that involve employee behavior.

California technology data centers may not be willing to provide data. An office building may be more willing to give their usage data as long their employees remain anonymous. For example, the amount of energy used by square foot or by employee could be provided by office buildings.

For a lease to get approval for EE projects, it is easier if they are in a true triple net lease. Approval by the leaser depends on the cost of the project. Lessees can easily get approval for projects costing \$50,000 and less, but lessees do not like the long payback of solar projects.

5.4 Scott Hauge, Small Business California

Scott Hauge is President of Small Business California (SBC).

SBC represents small business users. Small business users are not efficient users of energy. Some small businesses view energy as something that is not manageable. Rebates did not make a lot of sense and the funding could have been better spent on OBF or OBR.

Small business users are interested, but they want to make sure the savings are real. They do not want to hear that the reviewer made a mistake and the savings are not what are expected. Small business users need the process to be simple and quick.

Small business owners would most likely pursue \$5-100,000 projects. They prefer OBF because it is cheaper for the end user and small business owners would be upset if OBF is eliminated or reduced to make room for OBR.

Dave Carey

Can we take aspects of OBF that you like and integrate these with OBR? Perhaps improve upon OBF.

Response

I want to see more of it offered. SCE and SDG&E should do more with it because they dragged their feet. The utilities should embrace it.

Regarding data, small businesses do not do that kind of analysis so they are not able to offer this kind of data.

5.5 Questions

5.5.1 Looks like disconnection is not a concern of small businesses. My question is what if credit enhancements are pursued instead of OBR? Jennifer Finnigan, CPUC

Scott Hauge

Small businesses care about EE and financing but they want to make sure the savings are verifiable.

Moh Palizi

There is interest in credit enhancements.

Jennifer Finnigan

What about leasing?

Moh Palizi

Yes there is going to be interest from the leasing side as well.

Lisa Galley

Any reduction in the interest rate helps. You need to look at the fit of the customer as well.

Scott Hauge

Should be moot if it's neutral or better

Matt Brown

For small customers, it looks like we might get a lot of the lighting retrofits instead of the deeper retrofits and it is more challenging to work in the leased spaces. Leased spaces seems to be where the gap is too because the program will not work with all leases.

5.5.2 Comment by Jeanne Clinton, CPUC

Regarding transferability for leases and tenant turnover, the new tenant should be ok with it since they will save energy, who will verify the savings for the new tenant? Will the savings match up with the audit that was done years ago? Verification is important – verify and you will be okay.

5.5.3 If small businesses want projects that are \$100,000 in size, but the bankers want \$1million and above, what should happen? Elizabeth Echols, U.S. Small Business Administration

Matthew Brown

Michigan's structure used credit union capital. The Credit Union Service Association was more willing to fund projects \$50,000 and less.

5.5.4 Comment by Michael Day, Beutler

We processed 1,100 loans and every building was modeled and received a third-party inspection. It was modeled on a cash flow basis and no loan defaulted. CRHMFA Homebuyers Fund (CHF) did the financing and the program was funded through the stimulus bill.

5.5.5 What is so great about OBF what we cannot do with OBR? James Fine, EDF

Scott Hauge

We hate to give up something that we know works with something new. I am not completely comfortable with the utilities so a new program scares me.

Lisa Galley

In the end, more money is great so OBR is welcomed, but outcomes that were promised need to be delivered.

5.5.6 Issue with by Jean Lamming's Presentation. Ron Perry, Commercial Energy

If customers had to choose between financing and rebates, which would they prefer?

If customers said they preferred a 0% loan to an incentive, then specifically what was the question asked? What was the amount of the incentive? The amount of the incentive matters in regards of framing of the question.

Jean Lamming

It is a simplistic question but the concept is would you prefer cash or 0% interest.

Matthew Carey

One of the options is don't know/undecided.

Ron Perry

Don't small business owners care if the cost of their business stays relatively the same?

Scott Hauge

I think you can leverage more with a loan than a rebate.

5.5.7 Comment from Brad Copithorne, EDF

We share your concern that the banks will go after the easier projects at the beginning of the program and small businesses will be moved to second place until the banks are ready to go after those projects. We will have to put something into the underwriting to help prevent this. We could subsidize some loans so they get a 0% interest rate. This will be done on a statewide basis and it will incorporate small business projects.

Scott Hauge

I am not saying that OBR will not work, but management is making promises that we are not being fulfilled.

Brad Copithorne

In the commercial space, a lot of deals will be down using Bob Hinkle's structure. That energy savings performance is used to calculate how much is billed to the customer. If the energy savings is incorrect, it is the financier that loses and not the end user.

6 Welcome and Introduction – Day Two: Residential Customers

The second day of the CPUC Energy Efficiency Financing Workshop was opened by Jennifer Finnigan on Thursday, February 9, 2012 at 8:45am. We are here because of rulemaking number 09-11-014 filed with the state of California on January 10, 2012.

6.1 Finance Ruling

Jennifer Finnigan is a Senior Analyst at the CPUC and is one of the moderators of the CPUC Energy Efficiency Financing Workshop.

On October 25th, Commissioner Ferron issued a ruling for the direction of the 2013-14 EE program cycle. The ruling states that there is need for finance in the EE portfolio. The ruling emphasized energy efficiency (EE) financing for all sectors by leveraging private capital because financing on a mass scale is a better use of public dollars. Financing would help with the first-cost barrier and could help close the transaction (car sales example).

\$25,000 is the average price of a retrofit project for single family and incentives do not always get the price down to the affordable point. The thought is if more loans are made available, more EE projects will get done.

Where do the loans need to go to? Who needs these loans?

There are few unsecured products with low interest rates because of high transaction costs. Few borrowers can access secured loans. They just are not available today like they used to be. Renters are not served by existing programs.

Strategic Plan is the visionary document that outlines what EE look like for the future. HB&C looked at how much it will cost to achieve the goals of the Strategic Plan. OBR is not a silver bullet, but it is a way to achieve the goals.

Staff proposal includes four elements:

- 1) Develop an OBR framework
- 2) Develop ratepayer support credit enhancement
- 3) Develop OBF in the interim basis
- 4) Create an energy loan database

The \$130million strawman is just a discussion starter.

- 1) OBR is similar to OBF, but there is third party capital. This could apply to the residential sector and the debt attached to meter and not to the individual.
- 2) Credit enhancements - \$72.5M annually

- a. Secured loans greater than \$10,000
- b. And unsecured loans greater than \$15,000
- c. Could use HVAC as an entry point
- d. Pilot projects for OBR in rental properties to see if we can get over the split incentive barrier
- e. The limit may be too low. Do the \$10,000 and \$15,000 amounts make sense?

Organized over 60 questions into the following categories: 1) Strategic policy questions and 2) program design and operational questions 3) implementation questions

Focus of today: program design and operational questions

Where loans are most needed? HB&C identified gaps.

- Few businesses qualify for loans right now
- Few off-balance sheet options
- Businesses are more interested in using money for non-EE projects like core business
- Almost no loans are made to rental properties due to the split incentive issue

- 3. OBR should be developed
- 4. Should roll out rate payer funding credit enhancements
- 5. OBF should not go away just yet
- 6. \$130million straw man

With OBR, we can get 3rd-party capital by leveraging the rate-payer money pool and debt attaches to meter and not the individual.

There is money set aside for pilot programs so we can to collect data.

Overcoming barriers

- Could help with off-balance sheet options
- Credit enhancements will help with "do not qualify for underwriting"
- Data collection for "unproven energy savings gap"
- Could help with rental properties and split incentives.

The ruling has 3 attachments and 25 parties filed comments

February 22: Comments due on Sections 6B and 6C of the ruling, along with any topics raised in the workshops

February 29: Reply comments due

Late March/early April: There may be an Assigned Commissioner's Ruling giving further guidance to utilities on the 2013-2014 EE portfolio filings.

6.2 Brad Copithorne, EDF

Brad Copithorne is an Energy and Financial Policy Specialist at the Environmental Defense Fund (EDF).

OBR is not a new idea. It's been done in Oregon, NY state, and dozens of other places across the country. NY's program targets residential customers with \$8 billion. We can take the best elements from others' programs and apply them to our program.

CA doesn't have a lot of money right now for financing and we don't receive enough money from rate payers to fund all the EE projects that we need. We can take other people's money since they have more money than we do.

EDF likes the idea of:

- A single statewide program so the program will be seamless.
- Bill neutrality or better
- Loan staying with the meter
- Financing commercial loans off the balance sheet
- It is critical that the program is flexible enough to accommodate lease agreements.

Vendors and contractors want the program to be as consistent as possible so they can get more business.

Suggestions:

Standardize the program as much as possible.

Reduce the cost as much as possible.

Have the bank act as a hub.

Use a statewide document processing agent

Make sure audits and inspections were done properly.

Work with banks and contractors.

Make sure utilities have a simple data run to plug into their systems.

Provide the correct 800 phone number on the customer's bill so they can contact their lender or processing agent.

We don't see OBR supplanting other EE programs. It can be integrated with other programs to turbo charge them. It doesn't have to be "either or". It can be "and".

Banks do not to disconnect power, but they want to piggyback on standard mechanisms from the utility. Critical medical equipment will continue to be protected

OBR is an unsecured that acts like a credit card.

- It is up to the bank to figure out the interest rate. The customer can walk into an appliance store and there are 2 different products: The less efficient product or get a more expensive one with a bill-neutral loan.
- The program gets more credit over time as you use more credit and provide more data
- You can do a number of different types of transaction
- OBF's funding is constrained

EDF believes the utilities are providing a good service and wants to help them succeed. Is it possible to do that with no cost to the rate payer?

Upgrading the billing system

It costs \$3-6 a month to send the bill and process the payment.

It will cost money to upgrade the billing system, but upgraded system marginal costs should be low.

Financing can increase EE and EE is cheaper than constructing new power plants. Give OBF/OBR credit for the energy savings that are created from this program

There are underserved markets like low income and multi-family residences. More banks will participate if there is more interest in renewable.

Critical that we meet their needs

Building owners

Project dev and contractors/workforce

Lenders and investors

Utilities

Consumer advocates

It is important for communication during the design of the program because banks may design a program that consumers may not like and consumers may design a program that banks may not like.

6.3 Matthew Brown, HB&C

Matthew Brown is a Principal at Harcourt Brown and Carey (HB&C) and is one of the moderators of the Workshop.

HB&C has worked with a lot of state, fed, local governments that want to set up a financing program. It is important that they all communicate the same language. All parties need to understand roles and objectives.

Utilities and the EE market today

- Integrate efficiency into the existing utility structure
- Tariffed payment to the utilities
- Rate payer credit is pooled so delinquent customers are covered by other rate payers
- There is security from threat of disconnection. Disconnection should be in the language of the program.

Utilities offered rebates for EE to cover a portion of the cost while the customer pays the remainder. The customer would have to pay using cash, loan, or service agreement

OBF

The utility provides a loan to the customer to finance the remainder of the project cost and the customer pays it back

Capital is from ratepayers and the pool is limited.

Source of security is the threat of disconnection

OBR

Similar structure to OBF

Customer pay remainder of EE project costs with a loan facilitated by the utility. Outside capital provider loan/tariff.

The customer repays the utility and the utility repays the capital provider. The utility is in the middle of the repayment.

The size of the capital pool is limited by the willingness of capital providers to provide funds.

Source of security is the threat of disconnection.

What will bring in the capital?

Security of repayment

Good collateral (home equity, business real estate, equipment)

Strong motivation to pay (threat of disconnection)

Credit enhancement

There are a number of credit enhancements

Other states set up credit enhancements

Provide a strong balance sheet to stand behind loans

Could use credit unions to get loans and give them a loan loss reserve

Money is set aside to cover potential defaults.

A strong balance sheet to stand behind loans

Scale

Pilot projects will NOT entice significant interest

ARRA funded programs are very small

Financiers are not interested in \$1million loans and are marginally interested in \$10million loans

Requires a balance between security and credit enhancements.

Traditional finance structure-

If we insert a utility and use their collection system, is that a good idea?

Does it create new counter party risk?

The following are from the presentation slides:

- Lend
- Intake and origination
 - Finance company
 - Bank
 - Credit union
 - Community Development Financial Institutions Fund (CDFI)
 - State - energy office, Housing Finance Agency (HFA)
 - Utility
- Capital sources
 - Banks
 - Credit unions
 - Foundations
 - Capital markets
 - Federal
 - Treasury

- Utilities
- Credit enhancement
 - Loss reserve
 - Debt service reserve - bond world
 - Loan insurance - not much of this out there
 - Subordinate debt
- Security
 - Tax lien
 - Mortgage
 - Fixture lien - they won't take the weather stripping back
 - Disconnection
 - Unsecured

6.4 Jeanne Clinton, CPUC

Jeanne Clinton is a Special Advisor to the Governor for Energy Efficiency at the California Public Utilities Commission.

Residential market in California:

Ownership is at 68% and single family homes make up 63% of the market. Lawrence Berkeley National Laboratory (LBNL) defines the middle income single family household as \$35,000-75,000. If we perform an energy upgrade for just 1/3 of the 32million middle income single family households alone, then we would require \$3-10billion of EE funding in California. 10 years ago, these households were relying on savings and home equity for EE projects. Nowadays, 80% of the middle income households may not have access to the financial mechanisms for pursuing EE projects.

National data for FICO scores:

- 700 and above have delinquency rates of 1-5%
- 600-699 have delinquency rates of 13-31% and banks may not be comfortable with that.
- More than half of households are not in the desirable tranche.
- In a Wisconsin program, the loan loss reserve was structured not on the entire blend of FICO scores, but on each 50 point tier.

Question from Mark Fischer from Green Home Solutions: Is the loan loss reserve based on a loan by loan basis or pool basis?

Answer from Mark Zimring from the Lawrence Berkeley National Laboratory: Loan loss reserve is structured on a pool basis at 5% of the pool. The loan loss reserve shares losses.

People pay their bill if the price on the bill stays the same or decreases. Bill neutrality increases the likelihood that the loan is paid off. There is a lower perceived risk and provides greater comfort to lenders to extend credit to lower FICO scores or lower the interest rates for higher FICO scores.

7 Financial Institutions

7.1 Alfred Griffin, Citibank

Alfred Griffin is a Director at Citibank.

Citibank finances alternative energy and EE projects and believes there is a huge opportunity in EE, but enormous amount of capital is needed. The problem is that we have to tackle a highly fragmented market. How to get deals done in this fragmented market? It is the right thing to do and there a lot of benefits. California foresees billions of dollars in business.

Residential EE loans are viewed as long tenor loans on liquid assets so we do not think banks are the best holders of these assets. Banks are under pressure from regulators to not hold long tenor and liquid assets. EE financing should pursue capital markets. The role of banks will be to help structure these transactions. Banks can play a role, but should not sit on big portfolios for many years.

We know how to classify consumer credit. It is like credit cards, auto loans, and time-shares. The disadvantage is that whether you have security interest or not, the EE investment will be thought of as unsecured. This means EE projects are viewed as long tenor, unsecured loans. If someone defaults, it is unlikely that the bank will rip out the insulation. In times of stress, the consumer may choose to not pay their EE loan.

Credit cards are short tenor loans and if the consumer defaults, the consumer will lose access to the card and their credit score will be harmed.

We can do it off bill. We can get a transaction through the rating agencies without it being on bill. It is going to take a lot of credit enhancements like 25-40% for long tenor loans like this.

On bill is a game changer because if the loan is tied to the utility bill, then there is a loss of utility for not paying the bill. The assumption is that consumers have a very low default rate when it comes to paying their utility bill. People may pay late sometimes, but that will not impact recovery. We would have to work with certain guidelines like not turning off power to medical equipment.

Pari passu is key for financiers to trust historical payment of utility bills. An example of pari passu is say one has a utility bill is \$100 and \$40 is for the repayment of EE financing. If only \$60 is paid, with pari passu, the financier gets their portion of the \$60. Without pari passu, the financier is subordinate and will get \$0.

Matthew Brown

What are the effects of layering on different policies like credit enhancements and senior tranches?

A longer tenor is defined as north of five years. We need to get to the single digits so we need to have creditors. Someone else will have to take the first dollar loss. The senior tranche will be viewed as investment grade. The lenders will back that with lower cost financing.

For a truly unsecured long tenor portfolio - 30% credit enhance to get to an investment grade senior tranche is a fair estimate. To deliver a lower rate to the end user is to fund the credit enhancements from a party that does not need a return on its capital like state funds or foundation funds.

Is the program being set up to allow a lot of parties to be involved? Could use an originator and contractor like Solar City. Solar City could go out and originate transactions in this regard. Solar City could sell products up front, off-bill at the price of \$x, or offer it on-bill at the price of \$y.

7.2 Tim McFarland, Viewtech Financial Services

Tim McFarland is a Director at Viewtech Financial Services, Incorporated.

We are a Fannie Mae energy loan originator and servicer and also a power service lender.

OBR would create servicing issues. Viewtech talked to other states and their OBR programs foresaw some issues like:

- Inconsistencies of billing cycles
- It can take 21 days to load the loan into the utility's system
- Late fees
- No prepayment penalties. Does the utility look for a note to pay off the principle if the customer overpays their bill?
- Bad economy modifications
- Term or rate modifications
- Bill cycle and payments are due every 30 days
- How do you coordinate the payment cycles of the utility and the financier?

Lock box and how we process payments. At a high level - a borrower pays Viewtech and that money is put into a custodial lock box that Fannie Mae has access to. Fannie Mae sweeps those accounts on a daily basis.

Contractors can be the largest source of issues. Who you use is important. A homeowner can insert a claim to a holder. This includes a misinterpretation of energy savings so we do not let a contractor state that something will save x%. This creates a problem on the lender side because the borrower has a claim against the note. It creates a variety of problems if those savings are not true. A home may have additional family members move in and that will affect the savings. Inspections can help that. Roles must be defined.

Matthew Brown

Are there issues that you see in trying to integrate what you do with utilities and their relationships with contractors?

Response

A homeowner may say my HVAC unit is not working correctly or is not seeing the savings he/she expected. There is a need for a 3rd person to verify savings estimates.

Regarding payment delinquency, we start calling borrowers that are 10 days past due, but the utilities can allow 60 days.

If a sales reps claim 10-15% savings, then it may be incorrect because it is based on current usage. 2-4 years later, the home owner may complain and say they are not seeing 10-15% savings so they are not going to make payments. There are a lot of unseen holes. Inspections up front help mitigate that.

Matthew Brown

What's your perspective on credit enhancements? What about the value OBR will bring?

Response

Regarding credit enhancements, it depends on the losses. It is hard to get a program to scale without history and there is no history without a program. It is a catch 22.

Regarding OBR, there is a psychological advantage in Southern California where homeowners think that because the utility sponsors it, the homeowner will pay it first. There is no doubt it is a great tool because it is something home owners tend to pay, but there is a huge change in payment patterns. Consumers' hierarchy of debt paid has changed. For example, consumers may be paying credit card bills over utility bills.

7.3 Gina Skyllas, San Jose Credit Union

Gina Skyllas is the Business Development Representative at San Jose Credit Union (SJCUC).

SJCUC has secured and unsecured green financing with single digit interest rates. The longest term loan SJCUC offers is 15 years with automatic payment. San Jose City workers can have their payments automatically taken out of their pension or paycheck, but the credit union has expanded their customer base to include non-City workers. SJCUC has a pretty good amount of solar financing without OBR. OBR may not make sense.

Offers group buys on equipment regardless if they want financing from SJCUC. Their borrowers tend to be pretty strong and their solar customers are strong borrowers so repayment has not been a big issue.

Attaching the loan to the utility bill could bring the benefit of customers paying their loan over other bills. Solar financing started a year ago so there is not a lot of data, but the data shows that people are paying on time and making overpayments. There is no prepayment penalty and SJCUC re-amortizes.

SJCUC is interested in learning more and does not want any liability of dealing with contractors. Existing relationships of customer and contractor should stay that way.

Matthew Brown

You offer single digit rates for unsecured loans?

Response

Single digit unsecured loans are harder to qualify for and are for customers with a 680+ credit score. A person with a lower score will be offered a loan, but at a higher rate.

Solar loans all started with a solar group buy. We offered a loan of 3% on a 3 year loan if the customer used the equity of their home. The rate goes up for worse credit scores. Usually 75% of borrowers are A+ borrowers, but values of homes have gone down recently.

SJCU has \$134million in assets so SJCU has money to lend and they want to lend it, but they are cautious too.

Matthew Brown

Alfred, how does this contrast with banks?

Alfred Griffin

One contrast is credit unions are with customers that they know and this drives down rates. If a large volume of customer comes, credit unions may not be able to satisfy that volume.

Look at historical default rates and be conservative and double that rate. Either cover yourself with credit enhancements or a lot of yield to make up for conservative losses.

On the contractor's end, they want to install an air conditioner tomorrow. There needs to be a streamlined frame work that is FICO score based so funding can be delivered more quickly. Otherwise, the more efficient unit may not get purchased.

7.4 Questions

7.4.1 How do we get from where we are now to hundreds of millions of dollars in unsecure loans? Jennifer, CPUC

Alfred Griffin

If there is financing available, will consumers retrofit in masses? If we build it, will they come? Citibank is putting resources to this and banks need the revenue of large programs like this.

Tim McFarland

We need to keep it simple. For example, \$25million was borrowed for a biodome program, but the program got so entangled in procedures and policies that it failed. The lesson is the more you add to it, the less successful it may be.

Gina Skyllas

Keep it simple. Marketing will be from word of mouth because customers will refer others. Once it gets too complicated, then customers need time to think about it before signing and may not want to do it.

Tim McFarland

Contractors promote it so they are important because they are the ones that get the phone call from customers. For example, there was a complicated program with a 2.99% rate in NJ and contractors chose to advertise a simpler program with a 10% rate because it was simpler.

7.4.2 Comment from Matthew Brown, HB&C

What is considered good is subjective. In Arizona, \$5million projects were considered too small, but \$20million started to get interest from financiers.

7.4.3 Comment from John Howe, National Consumer Loss Center

For rental properties, the loan should be disclosed to property occupants.

Tim McFarland

We do not finance rentals. It is a great legal issue that needs to be addressed.

Alfred Griffin

It seems complicated because the landlord and tenant must consent. Some sectors are more straightforward and we should pursue those instead.

There are a lot of residential programs that have a UCC filing and there's a cloud on title. There are two elements for residential loans that are different than straight unsecured lending. Michael Day, Rockwood Consulting

Gina Skyllas

For our loans, security is based on the equity on the home and not on the equipment. With unsecured loans, regulators look at it like any other unsecured loan.

Alfred Griffin

From a credit committee, there is no guarantee that the money will be saved and there may not be more discretionary income from this project. It will be hard to take out assets especially in large volumes. We have to think we are not secure in the analysis.

7.4.4 Comment by Kevin Nunn, Comstock mortgage

Interest rates come down to: delivery versus return. EE mortgages that were done for new houses and we can look at the data to see the difference in energy use from the EE enhancements.

Matthew Brown

Our current conversation is more dealing with secured versus unsecured loans.

7.4.5 What size loan loss reserve would attract the Wall Street banks? Ryan Young, Green Light Institute

Alfred Griffin

We would have to see.

Tim McFarland

We do not go below FICO scores of 640 so we do not have a lot of data for these people.

Gina Skyllas

We look for higher FICO scores and income levels. We look at debt ratios because we do not want to fund people who cannot pay us back. We are conservative lenders.

Matthew Brown

We have seen loan loss reserves as low as 5%. For low-income people, the loan loss reserve could be as high as 50%. Debt income ratios and FICO scores should not be ignored because they are fundamental.

7.4.6 Give me a sense of what data is necessary. We have some data and some pilots have been done. We can do additional pilots. Brad Copithorne, EDF

Alfred Griffin

For on-bill, I would like data on pari passu.

When you do not have good comps, can you still get a good rating? Yes. There is no track record for this program. You can keep adding on stresses and credit enhancements. The better the data, the sharper the pencil. For a 15 year loan, they would like 15 year of data otherwise boot strap.

What is the customer support contact if I am confused on why I have a late fee when I used to be able to pay my utility bill 60 days late or if the contractor savings estimate was wrong? Diana Lee, Rate payer advocates

Alfred Griffin

There could be an origination organization.

Tim McFarland

It should be the originator.

7.4.7 What sort of scale of loans is SJCUC working with and is SJCUC interested in financing OBR? Louise Auerhahn, Working Partnerships USA

Gina Skyllas

Solar loans is a new product so we have done about \$200,000 - so the product is not huge. The loans are in the \$20,000 - 40,000 range. We have not discussed OBR that much because we do not see value in OBR right now. We keep things in house and it is rare that you will see credit unions sell off anything other than mortgage loans.

Louise Auerhahn

Tim, how did you choose your contractors?

Tim McFarland

Viewtech uses a third party that does the screening. We have a national blanket agreement form to they agree to do and not do certain things. We monitor our contractors daily.

7.4.8 For the Energy Upgrade California Program, the model that was most successful was a rater who worked with home performance contractors and got

all the pieces likes the incentive for the customer. Comment by Nehemiah Stone, Benningfield Group

Gina Skyllas

Right now I do not see SJCU doing that.

Alfred Griffin

From a franchise standpoint, we would want to know that the appropriate screening process was put into place in case if things go bad because we would be the financier.

7.4.9 There are successful business models based on performance guarantees. How could you think that the assumption of improvements are highly unproven? Bruce Mast, Build it Green

Alfred Griffin

There is still the question of is the person going to pay the financier back.

Gina Skyllas

For home equity loans, the project may bring up the value of the home, but we look at the financials of today. We look at the current debt ratios and net income. Savings from the project is even better.

Who is going to cover the administrative costs? Tara Siegel, Low Income Investment Fund

Tim McFarland

There needs to be collaboration between the utility stakeholders and originator. They need to be on the same page and the utility of PUC will need to be the blender.

What are the kinds of data will be needed to get the rate or credit enhancement we desire? Could we couple these loans with other non-EE measures? Beckie Menten, CEC

Gina Skyllas

Green loans cover anything green.

Alfred

Should be

7.4.10 Comment by Steve Schmidt, High Energy Audits

We should do a bill disaggregation using smart meters to track heating and cooling of customers for 12 months. If we see that heating or cooler data isn't what we expected, the contractor should be on the hook.

Our utility staff currently does not receive a lot of requests to stop collection communications. What if a customer contacts us to cease communication for OBR but could still be facing shut off? Gary Kromider, Sempra Energy

Tim McFarland

Legally if a borrower gets a cease and desist, you have to follow it. You cannot call them at that point. Just written or email communication.

8 Credit-Challenged Populations

8.1 Matt Schwartz, California Housing Partnership

Matt Schwartz is the President and CEO of California House Partnership.

Retrofit loans do not work in low-income populations. We have properties with a dozen lien holders and to record a new loan is burdensome. There is also the issue of split incentives since savings would flow to the meter.

PACE model doesn't work for low income.

OBR is exciting. A pilot of 15-20 MF buildings was done in SCE/SCG territory. Learned that it needs to be layered and tap into existing incentives.

It's not enough to have bill neutrality. We need debt service coverage and there's got to be a margin of error. We need to focus on owner issues and individual metered units.

No more than 80% of EE funding should be shifted to OBR.

Term should be matched to the EUL of equipment. What could be used as collateral in the low income field? Shut offs are just not done and should not be used as security.

There is a risk of nonpayment or partial payment. The issue of actual savings being less than the estimated savings is less of an issue for master metered buildings. Loan loss reserves will have to make up for the risk of difference in energy savings.

Consumer protections apply to phase two tenant meters. Disclosure is up to the owner if he wants to tell the new tenant about the loan.

Could use a 20% buffer when it comes to estimated energy savings.

20-35% loss reserve is needed and we need to think about where this money will come from.

Dave Carey

There are two types of risk: credit and performance. Low-income cannot take the performance risk. Should we use insurance or an ESCO?

Response

It's worth exploring. Who provides these performance guarantees?

Dave Carey

If we cannot shut off, is it worth putting the loan on-bill?

Response

Yes

Credit enhancements are good enough because low-income needs the money. Century is going to underwrite the borrower as if they were going to make a loan to the owner of the building and they will be careful about whom they offer this to the first time around.

8.2 Tara Siegel, Lii Fund

Tara Siegel is a Green Program Manager at the Low Income Investment Fund (Lii Fund).

Ms. Siegel has been administrating a loan product for two years. The loan product is not working well. It's unsecured and almost 100% credit enhanced. The loan is more like a grant. There are multiple levels of financing.

Loans are averaging \$50,000-500,000s and not \$25,000-250,000s like we expected.

Also, we provided technical assistance and project assistance so people understand the calculations and documentation. There are a lot of variables like utility rates going up. We can't control some variables like user behavior so we focused on the ones we could control. We are looking at the ESCO approach because it is a successful approach. We are a lender but we are also looking for money.

Dave Carey

Master meter vs. individually metered?

We had to focus on master meter it was hard to get our sponsors to agree to unknown tenant behavior.

The number of multifamily housing is huge and needs to be addressed if we are going to meet the state's goal.

8.3 Lori Bamberger, Bamberger Consulting

Lori Bamberger is the Principal at Lori Bamberger Consulting.

OBR is something that can truly transform the single family market.

Launched OBR pilots. 50% of Californians' incomes are above low income but can't afford retrofits. The range of incomes is \$36,000-91,000 and is the vast majority of people here. OBR is great for two reasons.

1) Offers potential to net neutral or negative is great.

2) Allows somebody who is experiencing system failure. Gives them a tactic to get the more efficient version.

Pilots targeted moderate income level households. Help people avoid unnecessary energy costs. Use that to increase assets and reduce green house gases.

A utility bill is a tool that can process this all in a seamless manner. The OBR program can aggregate the marketing. The program can focus in on people of similar incomes. We could make a pilot that is big or small and gather data that is considered thorny.

We are interested in any lender including community development financial institutions (CDFIs). Even CDFIs need to create scalable programs.

Enormous need for programs like ESCOs

We think the ruling will determine the design issues so our goal is to make it flexible as possible so we don't unintentionally eliminate a class of people.

Interest rates don't matter. The ability to prioritize allocation of subsidies or philanthropic money is important. Loan maximums. Will they matter?

If we truly want to piggyback on the system failure, then there is a dollar amount that could exceed the amount a low-income person can borrow. Could help people in tier 3-5. What if there is a housing crisis that affects lenders? Don't want to create a loan product that is used for more than just solar HVAC, insulation, and other prescription measures.

There's a tension of bringing down credit scores and a need for additional credit enhancement like 10-50%. We want to create a product that itself is enhanced by meter security. CDFIs still want credit enhancement.

There may be a menu approach of a 4 or 3% rate for home equity. We need to figure out how to bundle in EE with these other products. We need a variety of tools to meet the needs of a variety of markets.

8.4 Michael Day, Rockwood Consulting

Michael Day is the owner of Rockwood Consulting.

Moderate income sustainability (Mist) program commonly known as the CRHMFA Homebuyers Fund (CHF) program. Mr. Day is a consultant working with the Joint Powers Authority consisting of 31 rural counties another 21 associate members. CHF offers mortgage programs for members and they were wildly successful. Uptake went from 1-67 contractors in 7 months. Pilot was 1,000-1,100 homes averaged \$125,000 loans a piece. It had to have Bill neutrality and there was a cap at 160% of the median income. 40-50 applicants and over a \$1million a week. 60 contractors signed up and could have had 2-3 times more if there were additional funding.

Administrative costs were low at less than 4%. It was just over a \$1million for a \$30million program.

It is transforming from a publically financed to a privately financed program. Will keep existing programs with existing ratepayer allocations. How can we keep the ecosystem of auditors, borrowers, and builders engaged so we can generate data?

Regarding MF low income homes, there is a split incentive problem. Unless it is a rent controlled situation, there can be a rent increase to recoup the cost to the building owner. Also, there is at least one meter for common areas and some of that is going to the tenants. Mr. Day suggests an 80% of energy savings would be the cap can be billed. The CEC is working on a software tool called CUAC that would estimate the energy savings as a dollar value. Tenants can get lower bills and OBR can do that without a rent increase.

There are more savings available in climate zone 15 than along the coast because there is geographic inequity.

8.5 Questions

8.5.1 If the panel is against the threat of disconnection, what security could we get from tying the loan to the meter? Frank Spasaro, Sempra

Lori Bamberger

We are against shut off, but tying the loan to the meter is useful for transferability. Pilots can be based on the State's needs because we do not want to impede the sales of housing.

8.5.2 Low-income households are only the energy they can afford, but they have the right to be comfortable. Do you think you can cover the risk of low-income households? Nehemiah Stone, Benningfield Group, Incorporated

Matt Schwartz

There has to be a loss reserve.

Lori Bamberger

Bill neutrality is thorny because we want people to be able to use more energy.

Tara Siegel

We have been looking at a cushion beyond 20%.

8.5.3 If my multifamily dwelling has a master meter, do I have to have my tenants divide the cost? Hunter Johnson, Linc Housing

Tara Siegel

It's illegal to go from single meter to multi, but the sponsor can pay for all the meters.

8.5.4 Is there an option to include positive externalities of measures into the bill? Cal Broomhead, City and County of San Francisco

Michael Day

The MIST program looked at this and there are comments from Solar City on this. The issue is that it isn't just energy related. For regular capital expenditures, how do you calculate the savings of the more efficient version of the measure? The base efficiency is the sunk cost and should not be included. Only the marginal cost should be included. The payback amount should be based on marginal cost, but you would get financed on the entire cost.

Lori Bamberger

We are going to have a complicated set of guidelines for the OBR program.

9 Contractors

9.1 Michael Mittleman, Solar City

Michael Mittleman is a Director at Solar City.

Financing at Solar City is based on the concept of cash flow neutrality. For example, if you took a \$3,000 loan for efficient equipment and the alternative was to spend \$1,000 on less efficient equipment, \$2,000 is the net factor. We need to focus on the incremental cost. This concept covers those customers who were already planning on purchasing the efficient equipment and those customers who received an audit and this was a new idea. Cash flow neutrality does not always work because the customer is going to save what they are going to save.

The definition of third party lender definition needs to be broad. It can expand beyond a depository institution to include finance companies and insurance companies. The greater number of lenders is better. Mr. Mittleman encourages the CPUC to look at the widest range of products from supports leases to open ended (similar to credit card debt) to closed ended. Customers want the widest array of products.

Regarding the project cost of measures that don't offer EE benefits but do offer health benefits, the calculated savings should be excluded for these measures. They are still important though.

Rebates should be assigned to the developer or the customer will have to get a loan. Once the customer receives the rebate, he/she can pay down the load, but may get a prepayment ding.

What happens if someone with a 700 FICO starts a loan, but a 600 score moves in later. The new owner is less desirable and the bank may not want to allow this because it is like a second application. The bank should have the right to rescore the new applicant.

Matthew Brown

It is a vis a vis situation.

Michael Mittleman

The parties involved include the contractor and finance company. It does not have to involve the utility. However, if it were streamlined, it could work. Streamlined applications and paperwork is necessary.

On-bill and the security associated with it should count as 50 basis points. A person with a 700 score without OBR should be viewed as 750 with OBR. OBR implies more stability from a person with a 600 score.

9.2 Rick Wylie

Rick Wylie is the President of Beutler Corporation.

Home performance contracting specializing in deep energy retrofits that include: weather sealing, duct sealing, water heaters, and solar photovoltaic. 30% energy reduction modeled by Energy Pro.

Mr. Wylie would be happy to find more of 15 year term loans at 3%.

9.3 Mark Fisher

Mark Fisher is the President of Grupe Companies.

Green home solutions by Grupe initially involved creating a zero energy community consisting of single family homes. When new home market went away, Grupe turned to retrofits. Grupe would buy homes then bid for work. The CHF program offered 15 year term 3% financing on an EE mortgage (EEM) for home buying or refinancing a first loan with no appraisal barrier at market rate. Grupe was one of the 67 contractors that participated in the program.

9.4 Joint Discussion with Rick Wylie and Mark Fisher

Mark Fisher

Payment factor was easy to explain to customers and was affordable. Also, it is important for contractors to get paid within 30 days or they will not want to participate. How quickly will they get paid with OBR?

Rick Wylie

Rapid approval is important. Also need to address emergency burnout. When a furnace breaks and it needs to be replaced immediately, we want to do more than just get them a basic furnace replacement. The party is willing to do the entire analysis, but it needs to be done quickly. The more rapid of an approval, the better. Consistent paperwork could help with this.

Matt brown

What about progress payments?

Mark Fisher

Mr. Fisher does not like progress payments.

Rick Wylie

30 days is sufficient to pay the contractor, but 10 days is probably the right number. CHF was able to pay in 5 days.

A small thing of cash is not as valuable as getting the full financing amount.

We're going to have to choose how to fail since we can't make all markets happy. If you require cash flow neutral, we are minimized to just weatherization projects. You can't cash flow neutral an air conditioning system. The complex measures we want will not cash flow. The cash flow neutrality issue is becoming more important.

Matthew Brown

Would you target certain customers at first or open it up to everyone?

Rick Wylie

Medium-income, single-family home owners is the ideal market.

They make enough money and use enough energy to make themselves comfortable. You will see energy savings from this market.

Mark Fisher

Medium income and above is the market we should pursue. The interest from these many \$10,000-sized loans will add up quickly to benefit the financier. From a behavior standpoint, we need to prevent these efficient homes using more energy post-retrofit because they feel they can now.

Matthew Brown

How does that affect the marketability of OBR?

Rick Wylie

Mr. Wylie is more optimistic because the projects do not have to be cash flow neutral. As soon as you have the loan payments on the utility bill, investors will flock to the program. They don't need all the other things. However, if the bank can't find a way to value EE, it's worthless.

Matthew Brown

What's the appropriate role of the utilities?

Mark Fisher

Utility should be quality assurance (QA) because we rely on QA to provide assurance to the credit market. It proves that what is installed is installed properly.

Matthew Brown

How can you improve upon the existing financial products out there so we do not offer the same thing?

Rick Wylie

We hear a lot of great sounding programs and we can get great things, but they all require 770 FICO scores.

Mark Fisher

For the products out there, the payment factor is just too high. We will cave to program guidelines anyways.

Michael Mittleman

Many are mortgage products and it's a cumbersome process for a small 5 year EE project. On the other hand, other products have interest rates north of 10% and are comparable to using a credit card at 15%. They are too expensive.

9.5 Questions

9.5.1 Do you prefer OBR or credit enhancements? How would it affect the uptake of EE projects? Jennifer, CPUC

Mark Fisher

Through MIST, I have worked with credit enhancements. Financers will find the program more attractive after it is credit enhanced.

Rick Wylie

Mr. Wylie prefers OBR because it's a significant part of the solution. It can gain momentum it's the right path to go down. However, it doesn't have to be one or the other. We can do both.

Michael Mittleman

OBR seems to be cleaner.

Mark Fisher

It's all about scaling credit enhancements.

9.5.2 The bank takes a risk that the FICO score of a new owner/tenant could get worse. What about if the FICO score improves? Will the banks want to lower the interest rate for a less risky owner/tenant? Nehemiah Stone, Bennington Group, Incorporated

Mark Fisher

It's a hard sell to get the banks to lower the interest rate on the new customer. It might be an option, but it's a hard sell.

9.5.3 Regarding bill neutrality, will this apply to measures or packaged measures? Kevin Nunn, Comstock

Rick Wylie

Bill neutrality is for the packaged measures.

9.5.4 Comment by Tara Hobbs, Solar City

What about insulation or weatherization that is not a, "Do I replace it with base or efficient?" It only involves weatherization and we consider it all incremental because the base is zero.

Financing for EE is hinting that we don't need rebates anymore. It's naive to think that OBR or credit enhancement will replace rebates. We still need the rebates. Solar took off because we had enough support from incentives and financing.

9.5.5 Will the lenders be looking at separate sectors or will the lenders be reviewing individual loans? What about if the new owner wants to pay off the loan before moving in? Beckie Menten, CEC

Michael Mittleman

Bank lenders look at the portfolio but at the end of the day it's individual loans.

Rick Wylie

If someone filed a UCC-1, they could pay off a transfer. Could pay it when they refinance. We have not found it to be an obstacle.

9.5.6 Three questions by Jeanne Clinton, CPUC

- 1) How does the fast approval affect your ability to make a sale or expand your volume? How fast does it need to be?
- 2) If the customer is told their long-term loan has a threat of disconnect, will the customer get frightened and walk away?
- 3) What matters most to the customer? Low interest rates?

Mark Fisher

Answer to question one: Two weeks, but for emergency situations we want a post-approval

Rick Wylie

Answer to question one: Five days for people who know their equipment is old but they don't have the money to change it with high efficiency.

Answer to question three: There's a mental aversion to paying more than the refinance rate. In the SMUD area, they were not succeeding with 8.5% rates and even the 7.5% loans died too.

Michael Mittleman

There is sticker shock.

Rick Wylie

Answer to question three: No modeling is accurate, but the customer views it as my monthly payments are going to be \$x and that amount cannot be too high.

9.5.7 Could we have different loan loss reserves for different types of customers? Bruce Mast, Build it Green

Michael Mittleman

The loan loss reserve will reduce risk for the entire portfolio. Having a higher loss reserve for less desirable markets would lower the interest rate.

9.5.8 Some incentives need to be upstream to address the emergency burnout situation. Jim Dodenhoff, SCE

Rick Wylie

Are you going to encourage one measure or a whole home approach? It's a conflict of interest because you won't weatherize if you can get just an efficient heater.

9.5.9 What are some of the contractor qualifications and certification you want for quality assurance? Uyen Le, UCLA Labor Center: California Construction Academy

Rick Wylie

The CHF program used Building Performance Institute and has been positive.

9.5.10 Do we not have enough trained professionals from the Workforce Education and Training Program? Louise Auerhahn, Working Partnerships USA

Rick Wylie

Lots of training but not enough work to do.

9.5.11 A remodel project will have many components that are unrelated like cosmetic upgrades. Brad Copithorne, EDF

Michael Mittleman

Our whole home retrofits are not cosmetic but energy related.

9.5.12 What about the threat of disconnection? Jeanne Clinton, CPUC

Mark Fisher

Maybe people that are concerned shouldn't be in the program.

Rick Wylie

Irresponsible customers will think again before joining the program so it's a good thing. We can sell to real customers so it won't constrain sales.

Tara Hobbs, Solar City

Middle to higher income customers won't default anyways. If there aren't high incentives, we can't close the deal.

Mark Fisher

Rebates are important.

9.5.13 Thirty days strikes you as a long time to pay contractors. Currently, incentives are not paid until after the project is installed. This is ratepayer money so the funding is not like typical construction funding. Jim Dodenhoff, SCE

Mark Fisher

It is more like 60-90 days right now, but 30 would be faster.

9.5.14 Comments from Frank Spasaro, Sempra

Bill neutral and cash flow neutral are different. Be careful or the model you use will result in different savings.

10 Energy Users

10.1 Ryan Young, Greenlining

Ryan Young is a Legal Fellow and the Vice President of the Board of Directors at the Ecology Center Legal Fellow at the Greenlining Institute.

Regarding EE financing, the amount of people in the target FICO range is not that high. We need to make sure products reflect the needs for each market because we have to give them what they want. For example, non-EE measures like asbestos is important. Higher income projects might not be bill neutral. For those segments, if the bank is comfortable taking on that risk they should do it. What is difficult is the risk of disconnection because the risk of disconnection is twice as high for the low-income segment.

Regarding process issues, we want to make sure the appropriate disclosures are made to the customer. We need quality assurance to make sure the real savings come through. We want to make sure the workforce is compensated. OBR is streamlined and we are committed to working out the kinks.

10.2 Heather Larson, Stop Waste

Heather Larson is a Program Manager at Stop Waste.

Stop Waste designs environmental programs for the multifamily sector. The low-income sector has sub sectors. Ms. Larson will focus on the rental market and multi-rate issues.

The commonality among housing markets is the primary decision maker is the property owner. Ms. Larson's recommendation is to consider a model where you take a whole building approach. The property owner makes the decision for his central meter. This affects his bill as well as his tenants' bills. It is hard to achieve bill neutrality, but for multifamily housing, we don't think that bill neutrality is a big selling point. Getting 11% for the holding of the property is the selling point and using credit enhancements to achieve that kind of return would be great.

Bill neutrality would limit the kinds of measures you can do. Regarding the status of estimating energy, the Home Energy Rating System (HERS-2) software has been modified and improved for low- and high-rise multifamily housing.

We will need operating subsidies for the low-income market. We could use a utility loss calculator from the U.S. Department of Housing and Urban Development.

Workforce

The workforce involved with multifamily is different than with single family. It is difficult to find qualified workers for multifamily housing.

10.3 Mike Sandler, Sonoma County

Mike Sandler is a Program Manager for the Sonoma County Regional Climate Protection Authority.

Sonoma County's goal is to assist the counties with program design. They achieved this using Stimulus funding.

Financing is a means to an end and is there to get the customer to say yes to a project. Who should take on the risk? It should not be the customer. We do not the EE market to consist of only "the wealthy 1%."

Regarding question four, customers only pay when they save money so there is no new cost to them. All this talk about FICO scores is irrelevant. On-bill avoids credit checks.

We could insure those who are paying for the measures to absorb the risk. This could be the utility and the suppliers. We prefer the whole house approach and packaged measures, but risk free means you can't provide whole house Program like Energy Upgrade California. It is still worthwhile to do selective measures because once a customer agrees to one measure, it's easy to get them to do multiple measures.

Regarding question two, we are trying to branch out from just the early adaptors. The customer is protected so maybe the contractor needs to be bonded. Regarding transferability, the energy savings from the project is such a good offer that the new owner shouldn't care.

Regarding question three, if it's not better than credit card or home equity, then no. If it reaches other customers, then yes.

The loan needs to be tied the meter because it reduces the risk to the customer. We are trying to get to a new paradigm.

10.4 Jack Clark, California Center for Sustainable Energy

Jack Clark is a Program Manager at the California Center for Sustainable Energy (CCSE) and oversees the day-to-day operational management of activities related to building retrofit programs.

CCSE is a nonprofit that is mission driven. CCSE's focus is clean energy for California and this includes clean vehicle, distributed generation, EE, and climate change projects.

Regarding question one, we need low rates and long terms. We would like to be under 7% and have terms match the EUL of the equipment. For example, HVAC systems have a EUL of 15 years. The loan does not need to be longer than the EUL. We need to keep the process simple.

Bill neutrality is ideal, but we have a huge variety of buildings and customers.

Full disclosure needs to given during a transfer of renter/owner. Non energy benefits should be addressed as well.

10.5 Questions

10.5.1 It is tantalizing to get OBR to the rental market, but there are issues with metering, split incentives, and disconnection. Jennifer Finnigan, CPUC

Heather Larson

There is no easy answer when it comes to rentals. With multifamily, the renters have limited ability to make decisions with big measures to achieve the return they are looking for. There is a median return of 10-11%. To get that return they would have to eat some of the tenant areas. There is a 10 year holding period to make some sort of cash flow.

Mike Sandler

Default rate is 1% because people don't like their water turned off. The utility is guaranteeing payment and they are going to have a real incentive to collect because utilities are on the hook.

10.5.2 What's the advantage of on-bill if there are issues with disconnection and transferability? Frank, Sempra

Jack Clark

They can see the consumption and improvements on the bill. It's all on one spot. Market this advantage.

Heather Larson

Integrated energy audits are a great tool. Benchmarking audits to see how the building is performing.

10.5.3 Guaranteed savings are estimated. How can they be guaranteed if the customer might wash their neighbors' cars? James Fine, EDF

Mike Sandler

The savings are estimated on assumptions using a self qualification form that includes questions like I flush my toilet this many times a day.

Capital providers don't understand the value of EE. Financial institutes like CDFI get it, but others don't. CDFI is mission driven. We wish we had a list of capital providers to choose from.

10.5.4 Comment from Kevin Nunn, Comstock Mortgage

The Low income segment is the segment that can't afford EE upgrades. They could benefit from bill neutrality.

10.5.5 It is paramount that this program does not increase the rate of disconnection. Repayment should not exceed 80% of savings. Jeanne Clinton, CPUC

Ryan

That would make me more comfortable.

10.5.6 Is bill neutrality possible or is it just a marketing mechanism? For the renter and subsequent renter? What about the dispute resolution process? John Howard, Consumer Loss Center

Ryan Young

I hope it's not just our imagination and hope it's not just a marketing tool.

Heather Larson

Some of these programs have been achieving bill neutrality so it's real. We could limit the measures that can promise bill neutrality.

Jack Clark

Bill neutrality is absolutely achievable but it shouldn't be required.

Mike Sandler

Our program only charges when you save. For every \$10 in savings, there is a \$7.5 tariff. That gives us a \$2.5 leeway for miscalculations.

For our team we have a certification agent that's a 3rd party and follows what the contractor does. This agent is our first line of defense for the customer.

10.5.7 Isn't there already a margin of error in the energy savings calculation? Why only charge 80% of the estimated savings? James Fine, EDF

Ryan Young

That makes sense.

Heather Larson

You can assume that there's some conservativeness in the calculation.

James Fine

Does the idea of renewable change things?

Jack Clark

I think distributed generation should be included in OBR.

10.5.8 Instead of a 30-40% credit enhancement, we could guarantee payment of energy savings tariffs for the low-income segment. Brad Copithorne, EDF

Ryan Young

Yes I would like that. It would bring responsibility to the low-income segment.

Matthew Brown

One other option is to have funds to drive down the capital cost with incentives.

Jack Clark

Like a larger rebate to low income people?

Mike Sandler

We are looking at co-pays and rebates of more efficient washers since they are more expensive.

10.5.9 It is difficult to force a replacement tenant to accept Pay As You Save (PAYS). It is an issue we have been trying to solve. Frank Spasaro, Sempra

Mike Sandler

As long as there's documentation, the tariff amount will get transferred over. Not sure if there's legal issues there.

10.5.10 We should divide the conversation of protecting the rights of borrowers and the interests of banks. Mark Zimring, LBNL

Heather Larson

There is a big distinction between these two topics.

Jack Clark

We should pull in banks and ask them what they want.

Mike Sandler

If your goal is to do comprehensive and whole house, then toss out net neutrality. You don't need to jump into whole house. Net neutrality can be its own product.

10.5.11 Comment by Jeanne Clinton, CPUC

We have precedent with net metering. If one's solar array creates more energy than one makes, the owner gets to split the credit with the occupants. We have no issue with allocating credits. This applies to both residential and nonresidential markets.

10.5.12 Is there any feedback on some of the quality assurance that happened in MIST that has shown good performance? Michael Day, Rockwood Consulting

Ryan Young

No

Jack Clark

If OBR is coupled with Energy Upgrade California, then there's QA set in place for that program. We can plug it into existing programs.

10.5.13 How do you deal with equipment that can be removed from the house when it is supposed to stay with the meter? James Fine, EDF

Mike Sandler

A metal cord keeps the washer in the house with a sign saying if you remove, then it's theft. CFLs are easy to take too, but they are easy to replace.

11 Introduction Day Three: Implementation Issues

The third and final day of the CPUC Energy Efficiency Financing Workshop was opened by Dave Carey of Harcourt Brown & Carey (HB&C) Friday, February 10, 2012 at 9:00am. We are here because of rulemaking number 09-11-014 filed with the state of California on January 10, 2012.

11.1 Single Family Residential Discussion – Input from Attendees

11.1.1 Potential legal issues have not been adequately addressed for OBR. These issues include the Collection Practice Act, third party collection, and third party investors. Ted Williams, SDG&E

Dave Carey, HB&C

Legal issues could disrupt the program. Regulators will have to look at it carefully so it's bulletproof. Deutsche bank will address the idea of a third party managing collection to make the program more streamlined.

Brad Copithorne, EDF

If we design a repayment structure that is new and not understood, our credit enhanced offering is still going to look like an unsecured loan. It's going to be hard to get banks to lend. We need to make OBR look like the traditional utility collection model so the history data is relevant.

Dave Carey

We wouldn't get enough funding to meet the goals of the Strategic Plan without that.

11.1.2 Does this need to be on-bill? Dave Carey, HB&C

Jeanne Clinton, CPUC

To the consumer? No. To the bank? Yes.

Dave Carey, HB&C

We should also consider credit enhancements.

11.1.3 We know we need data. We can get data from Bloomberg, but we will not find energy data. Dave Carey, HB&C

Michael Colton

We need to be clear about what data will be needed. The devil will be in the details.

Dave Carey, HB&C

Go to investors and look at all of their products. We can determine what data investors always look for.

11.1.4 Is there something unusual about the roles stakeholders will play? Dave Carey, HB&C

Janet Corey, PG&E

Non-participating utility customers of OBR and credit enhancement will be harmed because the funding for rebates will be diminished.

Michael Day

Anything that reduces aggregate demand benefits the grid and all ratepayers. There's a philosophical reason we should all pay into it.

Jean Clinton

Who would residential customers call if they have a complaint?

Ted Williams

If OBR becomes reality, who fields calls and what happens if it is utility error? Utilities are working with disconnection moratoriums.

Dave Carey, HB&C

For OBR we will adopt all collection practices including shut off.

11.1.5 I've heard that shut off is nice to have, but it is not a real mechanism in their minds. Daniel Pialigan

Dave Carey

No decision has been made.

John Collin, National Consumer Loss Center

It would be illegal for anyone to be shut off because of non-energy payments.

11.2 Bill Neutrality – Input from Attendees

Diana Lee, Division of Ratepayer Advocates

I've heard that we want to stay far away from guaranteeing savings. Telcos putting third party charges on their bills harmed their reputation.

Mya Gattus, SCE

There's a statute against residential shut off. Guaranteeing savings is also bad.

Mark Zimring, LBNL

There are existing consumer protections and existing debt holding protections. We need to differentiate single family from multifamily in this regard.

Daniel Pialigan

If contractors could take on the guarantee with a finance partner, there could be a chance to mitigate that.

12 OBR Implementation Insights

12.1 Jill McGhee, Sempra

Jill McGhee is a Supervisor at San Diego Gas and Electric and works on their On Bill Finance Program. Ms. McGhee manages project implementation. This includes: installation, payment, repayment, and more.

The program started in 2007 and just funded the 1000th loan on 2/9/2012 and is strictly for commercial customers.

Implementation Barriers and Challenges According to Stakeholders Involved. Vendor support and training is key for compliance. In San Diego, we have mandatory vendor training for those selling OBF. It's a standard and formal class. It's important for customer privacy and calculating the true impact to their bill. We walk them through the stages.

We have 60 vendors, but a smaller group of them are pushing a lot of projects through. Their sophistication ranges from one technology to the next. We have seen a lot of the same vendors from previous programs, but now they have this new tool so it's helpful to them and us.

We have seen more comprehensive projects and we have set policy to push more comprehensive with longer paybacks. We work mostly with smaller contractors. Lessening the amount of time of payment is something we are focusing on. Vendors want their payment.

Dave Carey

Is 30 days acceptable to them?

Response

It depends on the phase of the project. We have a 4 month process from prequalification to repayment on the customer's bill. That includes the customer signing the loan agreement and installation. We expedite OBF through the system as much as possible. We track what stage they are in to chase down payments.

It is important to prequalify the customers up front. We do ask for the customer to get prequalified. If we set policy to get more comprehensive projects, then that's what we get (like HVAC and refrigeration).

Protecting customer privacy is important to us. We do not provide customer data without permission.

Simple design is key. Easier the better is what we are hearing. Customers without a vendor are having a hard time speaking the EE language because vendors help them navigate the program.

Most customers come in with a vendor.

It is important to get unbiased calculation for estimated payback. The utility plays a role to verify the savings. We have seen some bad calculations. Understanding the utility's role when it comes to lending laws for the customer and project is important so it's fair and standardized. The legal aspects are huge. SDG&E wants the Department of Corporations to be a part of the discussion when it comes to collections.

These are no consumer loans and loans are \$5000 and greater and rebates are applied. The IOUs have a waiver.

Tying OBF funding to an EE incentive has increased participation.

Allocating resources to systems and ramp up is a huge consideration. It took 1.5 years to ramp up and build out system interfaces to allow for that before we had our first loan.

Ownership and tenant changes can increase default. We had some loans where the new party doesn't want to pay the loan of the old party.

Bill payment history has been a successful tool without the added 3rd party check. While evolving, OBF is a model that works. The different utilities do things differently so there's a lot of stakeholder involved.

Things we would do differently

- Notary requirements
- Loan to the project level rather than account level
- Minimum customer copayments
- Loan proceeds to the customer and not to the 3rd party
 - Payment not to the vendor at the end

Dave Carey

What about the compromise of the 2 party payments?

Response

We do allow the customer to co pay because it helps with the cash flows and paybacks depending on your institution. Maybe offer a rebate or loan, but not both.

12.2 Adam Zimmerman, Craft 3

Adam Zimmerman is the Senior Vice President of Craft 3

Craft 3 is based in Oregon and is a nonprofit. Craft 3 makes loans but is not a bank. The funding comes from the government, philanthropy, private industries, and banks. Craft 3 has an OBR program for single family and small commercial in Seattle. It is a junior mortgage product and the average loan size is \$11,000 and is 26 months old. \$14millions originated and the portfolio is \$12million. A lot of people are paying and a lot of people are paying down their debt. Incentives are attached to the loan. A lot of customers get the incentive and pay us back with it. There are 1,200 loans.

We do business with contractors. The vast majority of loans are repaid through the utilities. Pacific power is the biggest and there's also Seattle – municipal and Seattle City Light. IOUs have been easier to work with.

The utilities are related to program design. There is convoluted legislation. The threat of the legislation got the Portland utilities to have a conversation. We would have to upgrade the billing system and that was too expensive. Over 6 months had to manage the perceived risks to the utilities. We had to seduce them and calm them down.

We made agreements with 3 IOUs and municipal. \$50,000 to pay for the programming works in their system and to jointly manage customer issues. Billing systems vary widely but we managed to do it and it seems to work. Fees are minor and are below the line in Oregon. We pay a boarding fee for all new clients which is less than \$100 and we pay a monthly fee for every active account.

Shutoff and meter is all brand new. There is no track record. We've written off 3 loans out of 1200 so the portfolio is performing well. We have the longest track record and we are consumer lenders that received a great rating. We have to follow the law. We didn't change the law.

We place a deeply junior mortgage to their property. It is a thumbprint on the title to remind homeowner that they still owe us money. If the owner wants to move, they are reminded. We take a subordinate role on the mortgage. Regarding refinancing, about 90% banks are ok with us having a subordinate role on the mortgage. New owner doesn't have to agree to it. The upgrade does improve the value of the house so maybe the new owner will get a new loan and pay c3 back. We don't travel with the meter.

Typical customers receive a rate of 5.99% and low income customers receive a rate of 3.99%. The rate break didn't make a difference because it isn't that much money. We need our portfolios to be bigger. We need bigger incentives to get financiers in. So 5.99% is what we offer with zero fees with a 20 year term to keep payments low. We don't mention bill neutrality. Instead contractors sell on comfort and not energy savings.

They carry insurance pool for all loans at 10%. It's too expensive, but we don't know how the loans will look like yet. It incents some sort of portfolio sale.

Wants to follow California instead of lead them on OBR because \$12m isn't that large or impressive to banks.

12.3 Jeff Pitkin, NYSERDA

www.NYSERDA.org and follow the OBR link on the main page

5 Unique features

- 1) Tariff that stays with the meter
- 2) On bill are treated like normal utility charges - payment and termination. Normal.
- 3) Statute. Recording the obligation through a mortgage. To ensure that the subsequent owner will know that the obligation transfers

- 4) Statewide program. OBR funding. Not OBF. Administered by NYSERDA. Ultimately using private capital
- 5) To gain support from IOUs, fee mechanism

Legislation in 2009 established NYSERDA for residential home owners, small business, multifamily. Under the Power of New York Act of 2011, OBR was established. We are secured by a mortgage. Mortgage can't be used to foreclose or force payment. It's just so the seller must notify the new purchaser that there is a loan attached to the property. It would provide assurance of a notification.

Creates green jobs and is ready funding. It supplemented grant funding and we have \$9.3million funding to use as a loan loss. They follow residential program guidelines and home performance certification from Energy Star. They have followed the guidelines for over a decade with retrofits and required audits by accredited contractors. Cost effective measures to be included with built in QA and QC to safeguard consumers. There is independent review and 15% of projects get inspected. They have a hotline for complaints and can bar a bad actor from the program. Program allows financing terms of 15 years and less.

Residential loans just started. They are 2 weeks into it and have 5-15 year terms. Funded through capital market sources and qualified bonds. There is a 70% cap and currently has one lender. They will allow multiple lenders later on. Loan originator is originating it on behalf of NYSERDA and they get an origination fee.

Central loan servicer who tracks all loan activities for green jobs for New York. OBR leverages off of their existing platform. They can act as a centralized entity that will serve as a funnel. We are doing this model. Customers are interfacing with us because we are the ultimate funding source. Statute provides for transferability of OBR. The mortgage is subordinated and the loan will appear on the title.

Encountered challenges

Federal and state regulations regarding mortgage - includes our agreements do not fall under mortgage regulation and is restricted from the terms of the current mortgage. However, all we want to do is provide a notice to the customer that money is owed if they move.

Utilities have been great partners to work with because of the communicated data exchange and processes. We provide payments to the utilities in 3 forms:

1. One time sum to utilities
2. \$100 fee each time a loan is closed to offset system costs
3. Percent of each loan to cover operational cost

This money comes from \$500,000 of DOE funding.

We are entering into agreements with each utility to establish roles. Loan repayments are subordinate to utility payments and this is a key feature to get the get the utilities to buy in.

We have a "no payments until June" marketing campaign. The customer needs to get prequalified.

12.4 Questions

12.4.1 Comment from Jennifer Finnigan, CPUC

It's nice to know what's going on in other parts of the country. We can learn their lessons and integrate into a simple product.

12.4.2 Adam, how would you compare your program to the PACE program? Mike Sandler, Sonoma County

Adam Zimmerman

We don't guarantee payment. The banking industry is going to get cranky on the residential side so our mortgage instrument is just for title changes. We're never going to foreclose anyone. If somebody goes into foreclosure, we will lose our money.

12.4.3 I am worried about the cost and legal complexity to write something into the mortgage. How about creating a law to disclose the information to the new owner like in New York? Brad Copithorne, EDF

Adam Zimmerman

We don't know what that instrument looks like and don't know how it's going to be handled. Creating a new law could be confusing. What would it trigger in consumer lending law?

It's not that expensive to file a Deed of Trust (DOT). It does create a mortgage. We ended up with a mess in 2008 because of mortgage lending gone wild. We are dealing with the aftermath. Rules are there for a reason so are we opening Pandora's Box? Either way it's not hard to file the Deed of Trust.

Jeff Pitkin

The declaration is like an easement. It's for record keeping but it's recorded to the mortgage. It does not dilute the mortgage interest. Providing a subordinate is a great approach but you want to be careful to not get in the way of the closing process. Hopefully, the new approach would accomplish their objectives without mucking it up.

12.4.4 Comment by Kevin Nunn, Comstock

Lenders are resistant. Sometimes the lending community isn't supporting their vehicles. OBR loans are not a loan on the property so it's not a problem.

Regarding DOT, you could run into programs during refinance. You have to take the subordinate role. There could be lots of nightmares because they don't show up at a lien.

You're doing a good job to figure out the practical things. Real benefit to account for those things so the real estate community can support it. We have to show that it does not create issues.

Adam Zimmerman

The lenders have to get on board eventually.

12.4.5 Regarding state laws in New York, have you encountered operational difficulty to revamp system to comply with laws? Gary Colman, Sempra

Jeff Pitkin

There have been some challenges in pursuing legislation to make it easier for us.

12.4.6 Are the loans offered only to the owner of the property? Mary Yanser, PG&E

Jeff Pitkin

Statute requires that it must be the owner of the property and be on the utility account. Green Jobs loan can be made to a small biz if they are a tenant.

Mary Yanser

How many res apps have you received?

Jeff Pitkin

Since November 2010, we've received 2,700 apps for financing and approved 1,600. We've closed 1,200 for \$12million. These are unsecured loans and are OBR loans.

12.4.7 Does the statute deal with the messier disconnection and transferability issue? Monica Gatts, SCE

Jeff Pitkin

It is dealt with by statute. The incoming owner will have to pay it. No amendment was made. After a long process, we can disconnect. Utility payback comes first because we are subordinate to the utility.

Monica Gatts

Do you guarantee bill neutrality?

Jeff Pitkin

Yes. The statute requires that consumer OBR pay not be more than the estimated savings. It allows for all efficiency measures (like oil heating) to be in OBR and paid back on the gas/electricity bill. The line item goes to the electricity bill unless the project has more gas savings. It would go to the gas bill in that case.

Monica Gatts

Is there an unsecured loan program?

Jeff Pitkin

It's an option. It is paid back to NYSERDA at 3.99% or 3.49% if the payment is on auto pay.

12.4.8 Adam, if you did not push for pari passu, how did that affect negotiations with the utilities? Jennifer, CPUC

Adam Zimmerman

Being subordinate to the utilities was non-negotiable. It's cumbersome, but it's a key thing to get utility buy in.

Jeff Pitkin

You have to satisfy the utilities. Pari passu is not critical because a partially paid bill with subordination usually has the same result as a partially paid bill with pari passu.

12.4.9 How many parties have to get involved in dispute resolution? Jeanne Clinton, CPUC

Jill McGhee

We look at if the customer is heading down a bad road. We can help them make payment arrangements. OBF staff, credit services, and the customer are involved. It's still new so we're figuring it out. Residential just started so we'll see what happens.

Jeff Pitkin

Utilities made it clear that NYSEDA had to do the dispute resolution. Consumers can lodge a complaint in New York and can freeze bill payments until the dispute is over. This triggers an investigation.

Adam Zimmerman

Have to verify the contractors work then pay the contractor. All 4 utilities we work with, if the billing to us is aged 90 days it comes off the utility bill. We take them off and then they become our problem solely. We work with the customer for another 90 days. Ideally we get ACH auto pay. If they become compliant we can put them back on the utility bill. If not, we write them off. We don't usually seek a judgment because the loan is too small to make it worth it

12.4.10 Would the commercial sector work with a single lender? Would there be one application point statewide? Mike Hagget, Energy Answers

Adam Zimmerman

We're going through application issues right now. There was a single application for incentives as well as the loan. We broke it into 2 because there's a lot of risk and not a lot of upside for a single application. The application is simple and now we control it.

Dave Carey

Capital market advisors said that the benefit of on bill = 50 basis points. Did they have an opinion on pari passu?

Jeff Pitkin

We didn't address it

12.4.11 Have you considered running OBR through the utilities themselves instead of through a central place? Jennifer Finnigan, CPUC

Jeff Pitkin

A central model is most efficient. Using a central entity like NYSEDA provides coordination. There is risk with decentralization and you might end up with a challenging financing situation.

Jill McGhee

SDG&E tried to be consistent as much as possible statewide because streamlining is better. It makes it easier for statewide vendors.

Adam Zimmerman

It's not necessary to be centralized. It might take longer. Utilities want to control their branding.

12.4.12 Is there a provision in your loans so the loan can change at any time? Jim Dodenhoff, SCE

Jeff Pitkin

The number of installments can be reduced if the customer makes a partial prepayment. It would need to be a direct payment to the servicer and not the utility.

Jim Dodenhoff

I meant from a dispute point of view.

Jeff Pitkin

We think it's an unlikely scenario. We can use a mediation process.

Adam Zimmerman

We allow prepayments too. Payment will be the same every month and utility does have to manage the balance.

Jill McGhee

Fixed monthly installment and we have 100% of projected inspected. There is an engineer that reviews the projects.

12.4.13 Have you had issues with accuracy of customers coming back with complaints about the estimation of savings? Tara Hobbs, Solar City

Jill

The project is vendor driven and we inspect 100% of projects. Then there's an engineering review. We don't police pricing though. We look at the actual bill payment history.

12.4.14 The proposal has a larger amount set aside for the cost to upgrade the billing system than amount you mentioned. Is it because your systems were easier than ours? Jeanne Clinton, CPUC

Jill McGhee

There's going to be substantial costs involved. Ours took a year and half and cost over \$1million.

Jeff Pitkin

In New York, \$500,000 was allocated and \$100 per loan to help offset the cost. We utilized a statewide servicer to limit the amount of the investment from the utility. We set up FTP sites, shared files, and modified billing systems for the 7 utilities.

Adam Zimmerman

\$50,000 was probably more than the effort it took. We didn't have \$500,000 to offer. We exchange 8 simple data points with the utility on a regular basis.

Jeff Pitkin

\$10million like the proposal states is a lot of money. It would take a lot to recoup that much at \$100 per loan. Maybe 1% of the loans.

12.4.15 Comment by Jim Dodenhoff, SCE

Hesitancy is that we do not want to commoditize the billing system upgrade. Commoditizing is troublesome. We need to scale it up so people can spec and scope it up.

12.4.16 We want to know if the customer took action as a result of the program rather than they were going to do it on their own. Jennifer Finnigan, CPUC

Jeff Pitkin

Free ridership will be evaluated like with all California EE programs.

12.4.17 Three questions from Laura Bamburger, Generating Energy Savings to Generate Wealth

Out of your 2,700 unsecured loans,

- 1) Any knowledge of people who are partaking with negative equity?
- 2) In the underwriting, there is a variety of array with consistent utility repayment. What are their credit scores?
- 3) Are people taking advantage of the program during time of system failure? Or just during home renovation?

Jeff Pitkin

- 1) None of ours look at the home value.
- 2) Our New York program is for both unsecured and OBR. Created 2 tiers that consumers can be in. 1) standard which is aggregated and packaged. It is also capital market friendly. It has good scores and debt ratios. 2) If you can't meet those criteria, you can be in this tier. This consists of people who don't traditionally qualify. It's an experimental alternative criterion so they still qualify. We use metrics such as: looking at utility payment history and mortgage payment history.

Adam Zimmerman

- 1) Similarly, we don't look if consumer is underwater.
- 2) Classify borrowers in 2: good and bad

12.4.18 If the utilities have a limited role, it seems like this could be successful without the on bill portion. Tracy Chen, PG&E

Adam Zimmerman

In general, people like the convenience of on bill. It makes it easier to lend to 600 score people.

12.4.19 Comment by Monica Gatts, SCE

There is a provision in the New York statute that discusses disconnection.

12.4.20 Is there a mechanism within the loan process that would address or require "code compliance" of the improvement that is being installed? Example: require that the

improvement meets Title-24 code, permits are obtained, HERS verifications & testing done, and approval by the local jurisdiction. Brian Selby, Benningfield Group

Jeff Pitkin

Our program requires contractors following all permitting rules

12.4.21 Is the loan paid when they move? If the borrow did have to get consent, would it slow down the process? Philip Henderson, NRDC

Jill McShee

It's not something we require. We are doing a lot of lighting and not a lot of whole building projects. It's nothing we had to deal with or require yet.

12.5 Deutsche Bank

Slides are available at <http://www.cpuc.ca.gov/NR/rdonlyres/4974214E-69FD-4738-BD78-0556D0D2A32A/0/EEFinanceworkshopDay3.zip>

13 Credit Enhancement Implementation Insights

13.1 Christine Solich, CAEATFA

Christine Solich is the Executive Director of CAEATFA and specializes in alternate energy transferability. CAEATFA was established in the mid-80s.

SB 71 authorizes the California Alternative Energy and Advanced Transportation Financing Authority (CAEATFA) to provide eligible projects financial assistance in the form of a sales and use tax exclusion on property used for the "design, manufacture, production, or assembly" of either advanced transportation technologies or alternative energy source products, components or system, as defined.

AB14 clean energy update program aims at increasing access to home owners. \$25million is reserved to finance homes and small customers.

Funds have been expanded for PACE bonds. There is a proposition to implement it in two phases.

- 1) Loan loss reserve to help financial institutions, bank loans, and home owners.
- 2) Release RFI to all interested parties to receive information all alternative financing models that might add value to the program.

Just issued draft regulation. Applicants are: financial institutions, banks credit unions, money center banks, CDFIs. We provide a 15% loan loss contribution and can be scaled down to 10% depending on volume of the loans. Could pay in up to 100%.

We looked at buy downs and their sub-structure and observed buy down programs in New York and Michigan. We propose tiered loan loss reserve based on loan volume.

This serves other objectives like:

- - Low to moderate incomes.
- - Fico scores.
- - Retrofits.

Lenders like loan loss reserves. Our loan loss reserve program is modeled after the successful Pollution Control Financial Authority.

- - Loan loss reserve for small business lending.
- - Essentially modeled off of this loan loss program.
- - Rapidly implemented and a useful mitigation tool. Banks like it.

Disadvantages of loan loss:

- Lowers the number of loans that can be extended.
- First loss.
- Cover 100% of all loan losses if there is a default.

Matt Brown

Tier based of volume. Tell me about the volume.

Christina

15% loan loss reserve- Most financial institutions would not participate unless we offered a 30% loan loss.

Matt Brown

What's the objective of that structure?

Christina

We heard that we could not get financing unless we provided a 30% loan loss reserve. Hoping to get below 5% interest rate. We held focus groups and workshops. Smaller banks and credit unions would provide 5-8% interest rate for FICO scores of 650+ with a 15% loan loss reserve. This is encouraging. Term wasn't mentioned. Most likely 5-10 years. These are unsecured loans.

Buy downs are very expensive, but it helps get interest rates down. However, it's not sustainable over time.

It's a new market, so the funding should go to all segments of the population and not just one type of customer.

Credit enhancement can support lower FICO scores. It's essential until we have a track record.

Answer to question 3

This will vary by size of financial institutions. \$5million didn't go as far as we had hoped. More than 50 banks were engaged. Regional community banks and credit unions expressed the greatest interest.

Common banks 30%+ loan loss or 8% guarantee loan baring loss to achieve a less than 10% interest rate. Large pools of credit enhancement are trapped at one intuition if we want to scale it to multiple institutions.

Answer to question 4

We have extensive contacts with financial institutions. We have to build a program that meets their expectations. A year ago they were far more demanding because they would like to minimize their risk. We have underwriting standards and the watchful eye of the regulator.

Our program has extensive outreach with no marketing funds.

Lessons have been learned:

- We've only released draft regulations.
- Large banks are less likely to participate.
- They want to hold onto the loans in their books.
- We have had continual communications with stakeholders in the region.

13.2 Angie Hacker, emPowerSBC

Angie Hacker is a Program Manager at emPowerSBC and focuses on the Santa Barbara EE program.

The program is funded by 3.2 million in grant funds and federal funding. Achieved market transformation and created jobs. Financing turned \$3.2million to tens of millions of dollars. We streamlined the Energy Upgrade California process. Rebates are available through the Energy Upgrade program.

PACE was developed in-house and then killed off. We redesigned it to a loan loss structure. We partnered with two local credit unions. Keeping things local was a high priority for the county. The loan loss covers 90% of the loss and can cover \$20 million and is the largest in the state. Fixed rate of 5.9% with a max of 15-year term. The loan is \$20,000 max.

Answer to question 1 - Advantages

- Straight lined loan loss reserve.
- Not risk adjusted.
- Private funds with a small
- 20:1 ratio.
- We did not have a lot of data to share.
- 40 jobs and \$200,000 in the queue.
- Santa Barbara, Los Angeles, and San Diego have launched in the last year.
- Tied to Energy Upgrade California.
- Credit worthiness equates to a 590 Fico score.

We tried to have different ratios for different credit worthiness. Credit unions said some of their biggest losses came from the highest Fico scores, so they wanted straightward. We have a small budget, so we didn't do buy downs. Not to say it's not attractive to lenders.

Answer to question 2 - Credit enhancements used as a backup.

- It's for unsecured products only.
- It's attractive to home owners and contractors.
- Has no impact to home equity.
- Interest rates adjust for the additional risk.

Answer to question 3 - Benefits of being with banks for months to negotiate. You could potentially achieve:

- 5% loan loss rates.
- Extended ten years or more.
- 5 to 15 year terms.
- 10:1 ratio
 - emPowerSBC achieving 20:1 is not unrealistic, if you negotiate correctly.
- A rate of 5% is what we were looking for at first.
- We offered a rate of 10% to see what it would get us.
- Financers said another over 5% would diminish the value.
 - It wasn't worth slimming down.

Answer to question 4 - Attracting involvement from good loan products:

- Takes a lot of hand holding, which goes both ways.
- You can't say, "I've got one million dollars and a lot of rules".
- Be nimble
 - Local government is great for administering programs.
- Financiers aren't used to speaking to the government.
- CDFIs were somewhat interested, but not close enough.
- Local banks, but some were hit hard.
- Credit unions were the least risk adverse.
 - They want to grow their base.

Your team should include innovative people as well as watch dogs.

13.3 Cisco DeVries, Renewable Funding

Cisco DeVries is the President of Renewable Funding.

We've all been down similar roads. Big banks like new things only if they are large and look similar to things they've done before. Small banks like small things.

There is enormous variation how they are put together and in their performance of the programs. There's no right or wrong way to do it. I've seen lots of programs and have collected data over the years.

Loss projections are going to vary based by the community. We've seen losses for 10 years that is very or high. It depends on the specifics of that market. You should not assume a certain number of losses. There is no one right answer for the loss reserve. Things were different there like an employer left town or maybe the housing market explodes.

Loan loss reserves are good for smaller loans. They don't scale as well. Large programs should use a senior/subordinate structure.

The capital market level is different.

Car loans are made at the dealerships. Dealers are just brokers selling you a product that's bundled and sold on Wall Street. It only works then there's large volume.

We all want to get to scale. Scale is how car loan get great cheap rates.

Loan loss reserve programs are thoughtful, require patience, assess the value side, and some capital. Another tactic is credit enhancement with a credit worthy entity and the government that stands by the losses. How do you secure the money so you don't have to deal with losses. Real security brings in larger amounts of money. Banks want us to create standards to encourage growth of the program.

Keystone Health Program in Pennsylvania.

- Set up as an unsecured program that's statewide.
- Very Fanny Mae.
- Done a very good job of creating a basic infrastructure.
- \$40-50 million that's come through.
- Sell their portfolio.

- Been in operation since 2006.
- Has had good success.
- There are lessons to be learned. See what they have done very well.

CHF has done a good program and has achieved success in a short period of time.

To leverage private dollars, don't limit the program to low to moderate income because the higher credit people can carry the lower credit people. Bringing the higher credit people in earlier is better to create a blend. They go down to 640 FICO, but the majority consists of 700s. Lower FICOs do perform not as well on average. If you want to focus on low income you will often need higher levels of subordination or a higher interest rate. It's a policy choice of where money should go.

Rates and terms. Frankly it depends on where you are. Basic framework of the economy means certain places got hit harder than others. Rates will follow that.

Lessons from financial institutions. We need data. We want to see how loans did in previous years, as far back as possible. It's critical how we get there.

A new program is going to be conservative and will need a good amount of enhancements. One financier wants 20 years of data but was provided 15 years and that was barely adequate.

Programs in their early years have low losses. That's great and may remain that way. 1% losses are great, but at year 3 and 4 there will be a big increase in losses and then it goes back down.

13.4 Questions

13.4.1 We need data for up to 20 years. Is smaller, regional data sufficient? Beckie Menten, CEC

Cisco DeVries

We want data that provides insight on long-term potential. Any data is helpful but it has to be granular. Other types of unsecured debts like timeshares will be looked at too. You just do the best you can

13.4.2 What kind of data we need so we can start to collect the same types of data? Uyen Le, California Construction Academy

Cisco DeVries

I am unable to answer that quickly because it's so extensive. This has been provided to the Department of Energy. Simply put, we need data on borrowing, FICO scores, and delinquency.

13.4.3 What do we have to do to achieve a 7% rate in the market? Mike Sandler, Regional Climate Protection Authority

Cisco DeVries

Provide a \$5-10million guaranteed note. It's very helpful if someone is willing to do the first bit

13.4.4 We know that loan loss reserves reduce risk. What else do loaners want so we can get a better rate? Kevin Nunn, Comstock

Angie Hacker

The loaners we dealt with educated us on how they dealt with pricing. There are 4 distinct things they base their decision on:

1. Cost of funds - that's just how it is
2. Loss ratios
3. Reserves - historic loss
4. Anticipated return
 - a. There's some flexibility here
 - b. This is where you can influence your way from 9 to 5.9%

13.4.5 How do we marry small programs? What does it imply? If we need investment in the \$billions, how many credit unions do we need? Jeanne Clinton, CPUC

Angie Hacker

A credit union had \$85million but wants everything done in the first year.

Matthew Brown

Credit unions are being pressured to use their money.

13.4.6 What if a program has turbulence right from the beginning? Jim Dodenhoff, SCE

Cisco DeVries

If we see a rough patch, then we might say that the demand isn't there.

Jim Dodenhoff

Let's say a person makes a loan with the best of intentions but cannot pay.

Cisco DeVries

We have seen people get suddenly reluctant to sign at the last moment.

Angie Hacker

It takes time to understand the program and make a decision. Don't confuse borrowers with too many options when you attach financing to an offering like Energy Upgrade California. During the window of preapproval and closing, you have to get approvals.

13.4.7 Could we use pension funds as a funding source? What are the inhibitors to this? Avery Ketner, Empower Energy

Cisco DeVries

The size - It needs to be large volume. There's lots of restriction. You cannot have small offshoots like pension funds because it becomes problematic.

Christine Solich

Fixed income

Private equity

Cisco DeVries

We'll need 2 rating agencies to get an investment grade rating.

Do we have enough data in the front end or will we have to wait a couple of years?

Matthew Brown

Issue of on bill - We don't know what the effect will be

Issue of scale is huge

Jeanne Clinton

9% minimum is what they would need to see

13.4.8 Comment from Michael Day, Rockwood

Regarding marketing, MIST used contractors to market to customers once we showed them how to market. These contractors called old clients and so ramp up was fast.

Angie Hacker

I agree. We are going to educate contractors more and host homeowner workshops.

14 Lawrence Berkeley National Laboratory Energy Efficiency Financing Impacts Calculator: Big Picture Takeaways

Slides are available at <http://www.cpuc.ca.gov/NR/rdonlyres/4974214E-69FD-4738-BD78-0556D0D2A32A/0/EEFinanceworkshopDay3.zip>

14.1 Questions

14.1.1 Data has value to certain aggregators. Obtaining data has value to society. Could be a policy question, but how do we keep the data in the public sphere? Michael Day, Rockwood

Brad Copithorne

It is a big issue and Bloomberg is working with us.

14.1.2 Comment by Brad Copithorne, EDF

We think on bill is worth no 50 basis points, but not 500 basis points. We hope it helps our loan loss reserve. We are excited about it.

Mark Zimring

I am excited about it too.

14.1.3 Thank you for bringing some facts to the conversation. We like to model. How would you measure the successes? How would you know success increased demand? Ron Perry, Commercial Energy

Mark Zimring

A year from now, we could measure the leverage. Look at the increased amount of dollars invested. It's a good goal to build secondary market tools. Is that an appropriate use of program funds?

Ron Perry

How do you know that the borrowers are there because of the program or were they going to do the project anyways?

Mark Zimring

Post-program evaluations will look at this. Program operators probably have a lot more to say about it than I do.

Ron

Notion that you have multiple providers

We want one big banker, but many smaller bankers have less risk wants
Should we have 20 small programs with 10 banks?

Mark Zimring

I don't have a vision for the perfect market. There's danger with choosing only one bank or one option. It will take a range of broader solutions for customers. I don't know what the mature marketplace will look like.

14.1.4 Comment by Laurie Bamburger

One of the interests in EE program across the spectrum is the policy goals of increased affordability in their everyday lives by reducing how much they spend on utilities.

Mark Zimring

It raises this challenge of where do you cut the program dollars? We just released a report on delivering EE to medium-level income households. These households struggle with non-EE issues that need to be addressed before they address EE projects. Is that an appropriate use of funding dollars?

14.1.5 Are people buying lowered electricity costs or are they buying coziness? Jim Dodenhoff, SCE

Mark Zimring

It certainly varies. There is no simple answer. Energy savings can be a big hook in the residential sector.

Economics of the project matter a lot more in the commercial sector.

You need to solve a problem that people feel like they have. It could be comfort or maybe you want to be the green home on the block. It varies by customer.

15 Local Governments

15.1 Lessons Learned from Local EE Financing Programs Receiving ARRA Stimulus and EECBG Federal Funds 2009-2012 Presented by Jeanne Clinton

Slides are available at <http://www.cpuc.ca.gov/NR/rdonlyres/4974214E-69FD-4738-BD78-0556D0D2A32A/0/EEFinanceworkshopDay3.zip>

15.2 Angie Hacker, emPowerSBC

Angie Hacker is a Program Manager at emPowerSBC and focuses on the Santa Barbara EE program.

Answer to question 1:

The loan product is just one piece of the overall financing program. It's an apparatus. Financers need an apparatus of EE to help them. In a perfect world, the utilities compliment the financing with rebates to help pay for EE savings.

We will need to recruit for consumer service and to perform essential functions. It's not necessarily "if you build it they will come." We will also need IT support and marketing to get widespread community support. Trusted messengers are the most persuasive marketers

Answer to question 2:

It is not in place. Utilities are the backbone and we piggyback on Energy Upgrade California.

15.3 Michael Sandler, Sonoma County

Mike Sandler is a Program Manager for the Sonoma County Regional Climate Protection Authority.

We provide a \$5,000 financing amount. You must own your home. Developed as a Pay As You Save (PAYS) model.

Absence of financing is not the only reason people don't do EE. Make financing available but make the overall product more attractive. 6 RFPs came in for water on-bill. We need a trusted messenger. Energy upgrade ca is good.

Capital provider role -

We are trying to minimize the capital provider role.

The amount of perceived risk is humungous, when in our head it's not risky at all and energy savings are something that are proven. Maybe a credit union is less scared. Here where a state program can come

in, get the utility or ESCO or intermediary to guarantee payment to the capital provider regardless of collection.

Our program is different. We are looking for specific measures that have quick payback. We are not going after whole house measures with this pilot. Measures include: toilets showerheads, aerators, washer, CFLs, hot water re-circulators, refrigerators, and native landscaping.

15.4 Howard Choy, LA County

Howard Choy is the General Manager Office of Sustainability County of Los Angeles (LA)

We are offering \$54million in grants mostly from Energy Upgrade California. We are trying to communicate to the very few lenders what we are offering. LA County has 10 million people and 2 million single family residences. We want to generate more interest in the lending community because we have \$2-5million to put in loan loss reserves or incentives.

Local role to promote the program - 525 projects are going through the Energy Upgrade California program. 4 cities account for 20-25% of those projects. 1 city has nearly 10% - is a city of 10,000 people. Marketing was grassroots. 100 loan application came in. 73 of them were since November 2011. Our growth is good. 75% utilized financing. Offering \$16,000 loans driving borrowers to do more complex projects.

We looked at going from 7% to 2% 5 year unsecured at a cost of \$1,500 buy down. That's the only product that has that kind of interest rate. Your typical \$15,000 loan going from 5% to 2% would need a \$2,600 buy down.

Going to get a lot more people participating -

If you can finance \$8,000 at 2%, you might see higher activity in your program.

Can't emphasize enough that they are all ARRA funded and they expire at a specific time.

Roles

We don't want to run program. We want to start programs. We can initiate codes and standards that go beyond state requirements. Figure out how to drive the market that way too. Local governments have partnerships already with utilities.

PACE

Forget residential. Nonresidential PACE is active in many jurisdictions of LA County. New pace models are out there. It's the Wild West and everything is new. It is clear that the local government role is to build some consistency in how jurisdictions move forward on PACE.

Municipal buildings and financing - A lot of municipal buildings are not taking advantage of OBF because don't have resources to figure out how to do it. A trusted central resource is needed so municipal buildings can find the best information.

New programs include: Multifamily under ARRA grants and workforce loans to contractors to help get them into the Energy Upgrade California program.

15.5 Questions

15.5.1 When lining up credit unions, what is the value for OBR? Is it incremental and beyond?

David Jacot, SCE

Howard Choy

We haven't asked our lenders about OBR yet. My concern with OBR is whether it can be flexible enough with our programs. Our program is comprehensive and includes: gas, water, electricity, renewable, and distributed generation. I don't know if that can be collected on bill.

Michael Sandler

With the PAYS model, the loan is tied to the meter so it doesn't follow the person. There is shut off if you don't pay. We need rebates right now. Down the road, we can leverage the funding stream and move money away from rebates to financing. You don't pay more than you save.

Angie Hacker

OBR sounds complicated to the credit unions and they are hesitant. I can see the benefit such as shutoff security provides comfort to the financier. Loan Servicing actually lifts some administrative burden off from them so that's good because if it adds more, that's bad.

15.5.2 For demand generation, what has worked and what hasn't? Uyen Le, California Construction Academy

Angie Hacker

Our marketing includes online, e-blasts, list serves, social media, and YouTube. Personal contact to say how great the credit unions are is the best marketing. We also do print ads, radio, and television. We are small.

15.5.3 Comment Vicky, CEC

PACE Lawsuit did an underground rule making and now has to be made public. Pacenow.org is a blog that coordinates public comments.

16 Policy and Regulatory Issues

16.1 Rebates Versus Loans

16.1.1 Comment by Michael Day, Rockwood

Even in the 2010-12 portfolio there are opportunities to pilot programs within market segments and allow financing with credit enhancements on a supplement not supplant basis. We can see uptake rates with the same marketing between loans and efficiency. We already have funds that are appropriated. Make sure IOUs receive attribution. Save money optional uses.

Jeanne Clinton

Give customers a choice to mix and match incentives or financing.

16.1.2 Question by Cal Broomhead, City and County of San Francisco

We have a large volume of homes and apartments in California. How quickly do we want to achieve our goals?

If you want to push the market faster, you have to offer them a better deal. You could vary the budget depending on how quickly you want to move the market. We're going to pick the low hanging fruit. This needs to be optimized in the marketplace to get the ones that are ready to go. This is a question for those that operate program. Do we want to go faster?

Jeanne Clinton

The aim is to grow the pie without spending any more money. How do we capture a much larger percentage of equipment purchases especially when the buyer is replacing an emergency failed unit.

16.1.3 Comment by Michael Sandler, Sonoma County Regional Climate Protection Authority

Let's not call it a loan because customers aren't pursuing loans today. OBR is a new product. It's not a new paradigm because risky customers will pay more. OBR will catch a revenue stream from excess payments. Lenders may not see that value so we need to leverage the utility's position to create a new way to pay for EE.

What your rates are will determine what is cost effective. The term "rates" is defined as the cost of a unit of energy or water. Higher rates makes more measures qualify.

16.1.4 Comment by Anthony Harrison, Ecology Action

We have talked about commercial for most of the workshop and we have focused on small to medium sized businesses. When it comes to rebates versus financing, rebates have very specific functions. A lighting retrofit project may be done because it is cheap. We have to address the low hanging fruit and eventually some of the rebates will go away and that's fine. We can't deepen retrofits if there wasn't financing. Now there is financing and that can be a powerful mechanism. What financing can we possibly do? I understand we have a single operating budget so we have to make some concessions about what products we offer.

16.1.5 Comment by Kevin Nunn, Comstock

The utilities need to leverage their assets. Financing is being offered and promoted really hard, but people don't understand the benefits of the products. Realtors are a great way to more uniquely market EE financing. Why can't we get more support to market the benefits to homeowners?

Jeanne Clinton

So you're saying we should bring these products into the real estate community to get more uptake?

Kevin Nunn

Do more education and outreach using realtors.

16.1.6 Question by Tara Hobbs, Solar City

I wanted to think about how California's energy savings goals are going to get reached. EE is supposed to be the low order of the totem pole, but it sounds like we do not have enough money to pursue EE to the point of scale to meet the savings goals. My question is if it's not rebates and it's not loans, should we support other technologies? Is EE not as low on the totem pole as we first thought? How do we reach the steep goal because it's creeping up?

Jeanne Clinton

EE is more cost effective than the alternatives. The problem is consumers' time frames are relatively short. If a commercial business only wants to pursue 1-2 year payback projects and we want to suggest the 20 year payback project, then the businesses doesn't want to do it because they don't have a 20 year time horizon. The business ends up paying the electricity tariff rate for 20 years. The collective rate payer shouldn't have to pay 100% of the cost for the next 20 years. The fundamental problem is we have a very short time horizon. Financing can lengthen that time horizon

16.1.7 Question by Tracy Cheung, PG&E

Tracy Cheung, PG&E

Financing doesn't improve the economics of a project and it might actually increase it. Struggling with the idea that we used to reduce the cost of EE projects with rebates, but now we are increasing them with financing. Will the funding be better used if it increases the cost?

Jeanne Clinton

The data shows that 50% of businesses don't have access to the capital to pay for retrofits. Maybe we can divert some rebate funding to help expand the market to that 50% with financing.

16.1.8 Comment by Uyen Le, UCLA California Construction Academy

Rebates versus loans. How long can a rebate program last if you want to scale it up? We may want a blended approach of rebates and financing.

Timing. We need to figure out what's going on with the projects in the short term to determine what will be expensive in the long term.

Audits. People don't go through the auditing process. Who pays for these audits? Consumers may not want to pay the full cost for the audit.

16.2 Investor Owned Utilities Roles

Let's invite the legal minds in the room to help us understand the legal barrier if the utilities acts as a servicer, originator, collector, etc.

16.2.1 Comment by Steve Patrick, Semptra

Roles are indistinct as set out in the ruling. There are a lot of possible roles. What role will the utilities be assigned? Then we can give you answer whether we can comply especially with consumer lending. For commercial, we will have get approval. These are consequential items. Let me know what roles we will need to play and not play.

Jeanne Clinton

What are your suggestions or opinions for what are the appropriate roles for the utilities? Some examples could be:

- Capital provider
- Loan originator
- Loan Servicer
- Collection function

What's appropriate or suitable?

Steve Patrick

Suitable is the best word. We should pick what is least of a hassle. It would be similar to SCG's line item billing program. All the responsibility falls onto the company that put the item on the bill. There is no customer shut off element and it would take a statute to add shut off. We could pursue this on a pilot scale at first.

Notion of loan versus rebate. The way the EE programs are built now, the statute states that the programs have to be cost effective. What's the effect of taking money out of the rebate program and moving it to administration for OBR? We want to know up front how much money will be taken out so we can determine if programs are cost effective.

Jeanne Clinton

If the utilities see a way to introduce financing in a bigger way that helps us meet overall goals, let us know. We need to bring in more players into the EE space. Suggest some ways that it could be

structured so we can all get our aims met. If we put 10% as a loan loss reserve, is that considered cost from a cost effectiveness standpoint?

Steve Patrick

That's not a question we can answer alone. ED staff will need to be in that dialogue.

16.2.2 Comment by

16.2.3 Brad Copithorne, EDF

When we wrote this proposal, we envisioned a wide variety of roles ranging from a minimum role like billing to take into account that the utilities have experience with implementing EE.

Allowing the utilities to follow their standard collection mechanism is worth hundreds of basis points. We do not have a statute in place for collection and shut off and we would want to make sure we have a legal pathway to get there if we need to.

16.2.4 Monica Ghattas, SCE

Right now we have been analyzing it.

Preliminary list of issues:

- Disconnect
- Transferability
- Pari passu
- Exemptions from various state and federal compliance
- Licensing requirements Department Of Corporations
- Fair debt collection laws
- Collection for third party debts
- Money transmission laws. Both state and federal.
- Fair lending laws
- Ca banking laws
- Lender or broker or servicer
- Mortgage laws
- Jeff Pitkin has run into mortgage issues

16.2.5 Comment by Mary Gandesbury, PG&E

Agrees with Mr. Patrick

A lot of what was in the proposal couldn't lawfully be done at this point

- Shutoff
- Making one tenant take the debt of another

Should do a pilot and see how much value these features bring while we research legal issues.

Do a line item billing

- Not originating
- Not stepping into debt collection shut offs
- Just turn it back to the lender
- Start with the property owners

16.2.6 Comment by Jim Doderhoff, SCE

Jeanne, I didn't hear a lot about our role as the project developers or project reviewers. It's hard to separate finance to that. We should tie a tighter linkage of those two.

Jeanne Clinton

I didn't hear a lot of discussion about the role of project developers. Project reviewers were referred to as quality assurance during the workshop.

16.2.7 Comment by Mike Eckton, Energy Answers

Want to emphasize minimizing the IOU's role as they step outside of their traditional role like being a collection agency. There is a 10% cap on administrative costs.

Having the idea of a third party that handles the application process, process of paying the loans, and getting the funds back could make it a lot easier to get lenders to buy into the program. Simplify the process and minimizing burden is the way to go.

16.2.8 Comment by Michael Day, Rockwood

Let's discuss about the importance of the utilities and the trust of their customers. The IOU is a trusted third party and reviews things on an ex-ante basis. The IOU can project savings. CHF does that on the residential size. The utility as a trusted third-party reviewer on an ex ante basis is important.

As we move to the 6c questions about implementation, the IOUs for years have had a transparent and factually-based method of evaluating proposals and integrating that into the portfolio as a whole. The IOUs as a neutral third party is a valuable role.

16.2.9 Comment by Tara Hobbs, Solar City

As mentioned in the comments, IOU does not have to take on the role of biller. A third party could take the utility bill and the finance bill and consolidate it to remove the burden from the IOU.

16.2.10 Comment from Ron Perry, Commercial Energy

18,000 billing transactions sent to the utility daily. It costs a lot of money, but using a third party would be 10x more expensive.

There is a project relations nightmare because any utility customer that asks for bill abatement will get one. OBR could be affected by this. It will take legislative changes to enforce true OBR "hammer". PG&E will not talk about this. There are billing centers that will bill, but do not want collect.

We need to split this pie of different ideas and programs. We should subsidize OBF through a third party banker.

16.2.11 Comment by Beckie Menten, CEC

What the IOU role should not be in this process. There is a role for local government partnerships. Having a regional, local face can make or break a program. Be careful how to use your local government partnerships.

16.2.12 Comment by Sandy Goldberg, Governor's Office of Planning and Research

Angie Hacker mentioned a banking regulation problem. When you qualify for a loan, the contract is signed, and the work is completed and verified. The contractor needs to be paid within 60 days.

16.2.13 Comment by Mike Sandler, Sonoma Regional Climate Protection Authority

We should not forget about the intermediary role. We use a certification agent. The capital provider provides a pool of capital. Who is he providing this loan to? In our case, he steps back to wait for money to come in. The utility holds the pool of capital and authorizes a third party to access that pool of capital to pay contractors. You would save money.

CPUC may want to talk to potential intermediaries or third parties to see what kind of roles they can take on.

16.2.14 Comment by Brad Copithorne, EDF

We ask banks what rate you would charge for your loan product. They don't know because they don't know what defaults look like. We have to determine if we are at the same level as those default levels.

This is enormously complex. No one working group should create this program in a vacuum. We will need working groups.

Jennifer Finnigan

Do you think your banks would want to come to a working group?

Brad Copithorne

We'll get you them.

16.3 Next Steps Working Group

16.3.1 Comment by Cal Broomhead, City and County of San Francisco

When you set up the working groups, I would like to see one non-utility administrative financing group. Side step all of those issues and work on 2 tracks and 2 working groups: utility model and some other kind of model like CEC.

16.4 Questions for the Floor

No questions

16.4.1 Tiger Adolf, Building Performance Institute

Continue and maintain the working groups for Energy Upgrade California. Take that on from the CEC and keep their momentum.