It Takes a Village: Greening Los Angeles' Affordable Multifamily Housing Stock

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ABSTRACT

The City of Los Angeles is the second largest city in the US, with a population of almost 4 million. In terms of potential for energy efficiency, Los Angeles is like a sleeping giant, with a lot of the potential untapped due to lack of steady funding and firm commitment from City Hall over the years. All of this is changing, with the recent commitment from the Mayor and the release of Sustainability City pLAn in 2015 has Los Angeles on track to reduce its energy footprint by 15% by the year 2020. As 60% of Los Angelinos live in multifamily housing units, the path to energy efficiency must include greening the multifamily housing stock, particularly the affordable stock that has long struggled for funding. This paper examines the City's strategy to improve the energy efficiency of affordable multifamily units, and the roles of the different actors in realizing it. There are many actors in this space, from the housing authority, property owners and managers, local government, utilities, non-governmental organizations, and renters. They all need to work in unison to accomplish this monumental task. This paper will examine the City's strategy to improve the energy efficiency of affordable multifamily units, and the roles of the different actors in realizing it.

Introduction

Los Angeles (LA), was officially founded by the Spanish Governor Felipe de Neve on September 4, 1781, and was incorporated as an American city on April 4, 1850. Since its founding, the City and the areas surrounding it have grown into a sprawling and diverse metropolis, with a population of almost 4 million within the city limits, and as many as 14 million residents in the Greater Los Angeles area.

With respect to housing, there are 1.4 million housing units within the city limits as of 2011. Out of these, 38.2% are owner-occupied, and 61.8% are renter-occupied. Approximately 60% of these housing units are multifamily units, defined as two or more units in a single dwelling.

There are number of barriers that impede energy efficiency implementation in Los Angeles:

- **Climate.** Due to the minimal heating and cooling loads, LA residents' utility bills might be somewhat lower than those in other parts of the US, or even in other parts of California, thereby making energy efficiency projects less cost effective.
- **Heavy Concentration of Low-Rise Buildings.** LA is characterized by the heavy presence of low-rise buildings that are spread out in a large area. The relative scarcity of tall buildings in LA could be attributed to a half-century LA City Council ordinance set in 1905 that prohibited the construction of buildings taller than 150 feet (Au 2014). It is commonly accepted that the concentration of people in high-density urban city centers dominated by medium- and high-rises offers greater overall energy efficiency and lower life-cycle greenhouse gas emissions than lower-density expanded suburbs dominated by low-rises (Du 2015).

- **Home Ownership.** Similar to other major metropolitan areas, the lack of home ownership might be another constraint that has discouraged energy efficiency efforts to take root here in LA. The split incentive issue is very common in the multifamily sector, where renters are not keen to invest in energy efficiency at their rented property due to their lack of equity, while owners are not too keen to invest due to the perceived lack of return since renters typically pay their own utility bills, and thus are in the position to reap the benefits.
- **Aging Housing Stock.** LA has an aging housing stock (55% of the housing units in Los Angeles were built before 1970, vs. 44% elsewhere in the US) (Sperling 2016). The lack of home ownership, and lack of investment from property owners may have further exacerbated this issue.
- **Other Competing Environmental Issues.** LA sits on a basin, which makes it susceptible to air pollution in the form of smog. The aggressive focus on combating air pollution has perhaps contributed to the relatively lack of focus on energy efficiency in buildings.
- **Lack of City Directives or Initiatives Prior to 2015.** Prior to 2015, the City of LA did not have a consolidated plan to address building efficiency. This topic will be explored further in the coming sections.

A Brief History of Energy Efficiency in Los Angeles (or Lack Thereof)

In the inaugural City Score Card released by ACEEE in 2013, Los Angeles was ranked 28th out of the 34 major cities in the USA (Mackres 2013). LA scored low across the board, with particularly low scores on Local Government Initiatives (3 out 15 possible points) and Community-Wide Initiatives (4 out of 10). The City also received low ratings on Building Policies (6.5 out of 29 points), and it was ranked in the middle of the pack for Energy & Water Public Policies. It did not help that when contacted for the study, city officials failed to respond, and the lack of data might have further contributed to the low scores.

It is perhaps quite shocking to read that the second largest city in the US, and the largest in California, is struggling with energy efficiency. After all, California is a state where energy efficiency has taken root since the 1970s, a state that, under the leadership of Art Rosenfeld, pioneered energy-efficiency-focused building and appliance standards. However, unlike other large cities in California such as San Francisco, San Jose and San Diego, up to the point of the ACEEE study, LA had not established any energy efficiency targets for its government operations. Furthermore, the primary utility in LA is a city agency (Los Angeles Department of Water or LADWP in short), and LADWP's mission is closely tied to the City's. As utilities are often the implementer of customer-facing energy efficiency programs and services, the lack of support from the City Hall might have hampered LADWP's ability to aggressively and effectively push for energy efficiency.

LADWP was founded in 1902, starting out as a water provider, and in 1917, it started to also provide electricity to LA residents. Today, LADWP is the largest public utility in California (second largest in the United States), and it is overseen by a Board of Water and Power Commissioners who are appointed by the Mayor of LA, while the General Manager of LADWP is elected by the City Council. Given the close link between the City and LADWP, the lack of focus on energy efficiency from City Hall was perhaps reflected in the lack of consistent energy efficiency policies and funding for LADWP's energy efficiency efforts prior to 2012. Like many other utilities in the state, LADWP had administered various energy efficiency efforts over the years, but it lacked a consistent vision and steady funding that would allow it to transform energy

efficiency in LA. The passage of Assembly Bill 2021 in the year 2006, which directed each California POU to meet all achievable cost-effective energy efficiency measures by 2020, was debatably the primary driver in LADWP's energy efficiency efforts through 2011.

Southern California Gas (SoCalGas) is the natural gas utility that serves LA and most of Southern California. SoCalGas is the nation's largest natural gas distribution utility, providing energy to 20 million residential, commercial, and industrial consumers through approximately 6 million meters in more than 500 communities for over 140 years. About 20% of the SoCalGas' meters are located in the City of LA. While LADWP answers to the city government, SoCalGas is one of the four California Investor-Owned Utilities (IOUs) regulated by the California Public Utilities Commission. The four IOUs, under the direction of the CPUC, have administered energy efficiency programs and services using ratepayer funding since the 1970s. After the California energy crisis in early 2000s, the state legislature responded by setting aggressive goals in pursuit of energy efficiency. Consequently, SoCalGas has long administered energy efficiency efforts in its territories, including in LA. SoCalGas' energy efficiency budget for 2015-2016 totals $178 million. While SoCalGas has been successful in partnering with like-minded IOUs in most of their territories, partnering with LADWP proved to be more challenging prior to 2012. As a gas utility, SoCalGas could only claim benefits associated with natural gas savings. Without an electric partner, SoCalGas was unable to go far in LA as the costs associated with delivering gas-only programs often far outweighed the benefits that it could claim, particularly in the residential and commercial sectors. In other words, most gas-only programs in LA would not be cost effective for SoCalGas' ratepayers.

The City of LA Gets in on the Action

We now flash forward to 2015. The ACEEE released its second City Score Card (Ribeiro, 2015), and Los Angeles improved its rankings considerably to 12th. LA demonstrated improvements across all scoring categories, while ACEEE also cited improvement to data collection as a contributor to the rise. So, outside of better data collection, what changed? In October 2012, the LA City Council approved LADWP Board's proposals to set a citywide goal of 10 percent energy reduction in 10 years (which was updated in 2013 to 15% reduction by 2020), and to double LADWP's energy efficiency budget to $265 million for 2 years (Cavanagh 2012). This marked the first occasion where the City made a long-term commitment to energy efficiency and sustainability. Aided by the new, sizable budget and the City's firm commitment, LADWP could now earnestly pursue energy efficiency in LA.

To accelerate its speed to market, LADWP looked to SoCalGas, and shortly thereafter, the two utilities struck a master partnership to jointly deliver energy and water efficiency programs in the City (Drake 2014). This move allowed LADWP to leverage many of the statewide IOU programs that SoCalGas was already implementing elsewhere in Southern California for many years. It also allowed both utilities to minimize program costs, maximize benefits, and improve customer experience, since customers would no longer have to apply for benefits and services from two utilities. From SoCalGas' perspective, this partnership allowed SoCalGas to promote and deliver its programs in LA more cost-effectively, and in fact, SoCalGas and LADWP were able to launch new programs that were not available before. For example, the utilities launched the new construction programs, where builders could apply for incentives to build residential and non-residential structures far exceeding the State's Title-24

building code. This partnership is still in existence at the time of writing, and has grown to include 18 different programs.

Meanwhile, the momentum for energy efficiency within the City Hall continued to build. Mayor Eric Garcetti assumed office on July 1, 2013, and immediately after appointed Mr. Matt Petersen as LA's Sustainability Officer. On April 18, 2015, Mayor Garcetti released the first-ever city-wide Sustainability pLAn that outlined the vision for the city's environmental future. It set an ambitious goal of 45% of greenhouse gas emission below the 1990 baseline by 2025, and 80% below the baseline by 2050. It also targeted 2025 as the year when LADWP would no longer generate power using coal, shifting the energy sources mostly to renewables and energy efficiency.

On December 3, 2014, the LA City Council also adopted a motion to improve existing building stock in LA through creation of new policies. The newly-created LA Sustainability Office immediately convened stakeholders to start working on new energy efficiency policies for existing buildings that would put LA on par with other major cities, which had already enacted policies and programs on their own such as New York and San Francisco,. The consensus of the stakeholders was that the City would need new policies to help guide property owners in their pursuit of energy efficiency. In the draft proposal, building owners would be mandated to benchmark their buildings periodically, and the low-performers would need to take discrete steps towards energy efficiency, for example conducting energy audits or retro commissioning. At the time of this writing, these new policies on existing buildings have yet to be enacted.

Strong leadership and sound public policy set the stage for energy efficiency implementation in Los Angeles. Partnerships with other agencies were essential for broadening reach and bringing projects to the table. Coordination between utilities to implement joint efforts and best practices was also another important step to realize the energy efficiency savings.

SoCalGas and LADWP

With the partnership between SoCalGas and LADWP in effect, the two utilities can now jointly offer an impressive array of energy efficiency programs and services to their common customers in LA (Drake 2014). While both utilities have worked extensively with the multifamily sector prior to the partnership, their efforts tend to be fragmented, even within the respective utilities. Rebates, incentives and services typically revolve around "programs", and as successful programs are kept and new ones launched to address recently identified market gaps, the number of programs tends to soar over time. Not only do the programs overlap; eventually, some programs may end up competing directly with one another. Programs that have been designed to address specific barriers would grow over time to include a larger scope than originally intended for. This makes coordination, internally within each utility and externally between the utilities, crucial.

Immediately after partnership launch, the two utilities consolidated some of their programs by administering them jointly. To date, for the multifamily sector, SoCalGas and LADWP have launched direct install, custom retrofit incentive, and new construction joint programs. Subsequently, both utilities started identifying and tracking all the measures offered to the multifamily sector, and began tackling overlaps in measure delivery or program coverage. The overlapping measures have not been eliminated from any of the programs they belong to, as these measures usually serve a unique purpose in each program. Instead, the staffs at the two

utilities have established a loading order and a communication protocol between programs so that they do not trip over one another in front of customers.

Another groundbreaking strategy outside of utility partnering that SoCalGas has instituted for the multifamily sector is the creation of the multifamily account executive role (Lukito, 2014). Traditionally, utilities would assign account executives (other common terminologies for this position are "account representatives" or "account managers") to customers with a significant load, usually in the commercial or industrial sectors. The position is often assigned based on geographical areas. It is not unusual for an account executive to serve customers belonging to a variety of market segments, as long as they are located within a specific geographical area. Multifamily customers are typically unassigned, and when they are, they are lumped into a whole host of other market segments that a single account executive would serve. As expected, with such diverse customers to serve, a traditional account executive's customer touches tend to be at a superficial level; the traditional account executive simply does not possess the complete skillsets or deep knowledge of all the market segments he or she needs to work with. Occasionally, within large utilities, a single account representative may be assigned to cover specific market segments with very large energy loads, for example, data centers or heavy industrial facilities.

Multifamily property owners and managers, even 501(c) non-profits, usually manage their properties like a business. Although profit is not necessarily the motivation for the affordable property sector, as many owners are non-profit organizations, most property owners maintain discipline akin to a business operation. Most realize that for them to continue to provide services to their communities, their operation has to be well-organized, the books have to be balanced, and they need to have room to grow. In the meantime, they also have to comply with a myriad of codes and regulations, and keep their residents happy and productive. As far as energy efficiency is concerned, there is also the issue of split incentive that tacks on to the complexity of engaging this sector. All of these reasons make multifamily a unique sector that requires a specialized method and skillset to engage. With this in mind, SoCalGas has created a new role within the company that is exclusively dedicated to engaging the multifamily sector. This new strategy (also called a "Single Point of Contact") has been very successful, and SoCalGas plans to continue growing this role. This strategy's success will be discussed later in this paper.

By coordinating and collaborating with its peer utilities, and internally, among its own programs, SoCalGas is trying to execute its vision of "Total Utility Solutions" for its customers. Being a gas-only utility, SoCalGas realizes that it may be inconvenient for customers to engage multiple programs and/or utilities in order to get assistance for their efficiency and sustainability projects. By minimizing the touch points with gas, electricity and water utilities, SoCalGas believes that a customer is more likely to follow through with and successfully complete a project, and down the road, be a repeat participant of utility's programs.

The Los Angeles Better Buildings Challenge

The Better Buildings Challenge is an initiative founded by the US Department of Energy with a mission of pushing industrial and commercial building owners to commit to cutting energy consumption by 20%. Established in 2012, the Los Angeles Better Buildings Challenge chapter (LABBC) is funded by the utilities, with an original goal to commit 30million square feet of commercial spaces in the City of Los Angeles targeting a reduction of 20% in energy and

water use by the year 2020. It aims to recruit and build market leaders who will serve as role models for other businesses in the community. It connects property owners to services that will help get them to the 20-20 goal; these services range from providing assistance with benchmarking using the EPA's Portfolio Manager to helping property owners obtain project financing from programs such as Property Assessed Clean Energy (PACE). In the competitive commercial real-estate sector, especially in a major city such as LA, any advantage that could be had is quickly seized. It is not a secret that energy efficiency, when managed and positioned correctly, can provide a competitive advantage to any real estate property. Not only can energy efficiency provide an attractive rate of return, when done well, it also improves comfort, health and the presentation value of a building as well as reduces maintenance costs (Cluett 2015). Driving home this message, the LABBC has been very successful in enrolling pledgers. The original goal of thirty million square feet was achieved in 2014, and as of the time of writing, it has signed up sixty million square feet.

Realizing that multifamily is a massive and relatively untapped sector in LA, in coordination with the Mayor's office, LABBC has branched out and started focusing on the multifamily sector through a new initiative called the "LABBC Affordable Housing Initiative." Working with various city agencies and the utilities, the LABBC performs targeted outreach to the affordable multifamily housing owners and managers in the City.

A market-driven initiative like the LABBC is an important piece of the overall energy efficiency strategy as it could lend a lot of credibility to the outreach effort. Staffed with professionals with extensive real estate background, the LABBC can connect with property owners and talk their "language," which is a trait often missing with the traditional players in energy efficiency outreach, for example utility representatives or city officials. These traditional influencers tend to be well-versed when it comes to the technical or policy aspects of energy efficiency, but might be less so when it comes to the world of real estate ownership and management.

The City of Los Angeles Housing and Community Investment Department

The City of Los Angeles Housing and Community Investment Department (HCIDLA) was created by the City of LA in 1990 as a spin off from the Community Development Department to implement human services, housing and community programs funded by the Community Development Block Grant, which is administered under the County of Los Angeles. Initially, HCIDLA was known as the Housing Preservation and Production Department. HCIDLA's responsibilities are quite extensive; it is responsible for facilitating the financing and development of housing projects in the city, overseeing social services programs for low-income populations, ensuring regulation compliance by the landlords, conducting strategic planning, and overseeing investment to address the affordable housing and neighborhood development needs.

HCIDLA is fully aware of the City's need to modernize and incorporate energy efficiency into LA's rental housing stock. It has been working closely with the City Hall and utilities to assist with this objective. Due to the frequent interactions between HCIDLA staff and both renters and landlords in the city, HCIDLA recognizes that it can serve as a conduit for energy efficiency. Through the Systematic Code Enforcement Program (SCEP), HCIDLA staff routinely inspects the City's residential rental units to verify compliance with health, safety and building codes. This inspection provides a convenient opportunity to also inspect the residential units for energy efficiency opportunities. At each unit inspected for code compliance, HCIDLA

staff completes an energy efficiency checklist, and the renter and landlord are provided with information regarding the identified opportunities. By 2015, HCIDLA has completed this checklist for more than 720,000 multifamily units at 110,000 property sites. If renters at these surveyed units could save 20% on their energy and water utility bills, assuming an average of $110.71 of utility bills per month (SmartAsset 2016), the overall cost savings could be a staggering $191 million annually.

While the City's and utilities' effort tend to be "top-down, HCIDLA's energy efficiency inspection is an excellent example of a "bottom-up" effort, where the renter and owner's awareness are raised through a simple, add-on process. The checklist is intended to start a conversation between the tenant and landlord, and eventually help shape the landlord's decision-making process. HCIDLA is also working with LADWP and SoCalGas to leverage data for refining the utilities' energy efficiency programs, so that they are better targeted and more relevant. Overall, HCIDLA's effort is a good example of a city agency "pitching in" to help move the proverbial needle.

The Housing Authority of the City of Los Angeles

The Housing Authority of the City of Los Angeles (HACLA) is a state-chartered public agency established in 1938. It provides the largest stock of affordable housing in LA, and it is recognized as one of the nation's leading public housing authorities. HACLA is comprised of three different programs that are relevant to this paper: Public Housing, Asset Management and Section 8. The Public Housing Program manages 14 large public housing locations, with a total of more than 6,500 housing units, stretching from San Pedro to San Fernando Valley to the north, and from Mar Vista to East Los Angeles. Some of the properties managed by Public Housing like Jordan Downs, Imperial Courts and Nickerson Gardens are very well-known in LA. The Asset Management Program manages 95 non-public apartment buildings, with 2,491 units. The properties managed by the Asset Management Program are a mix of affordable and market rate units, and the management of these properties is entrusted to third-party property management firms. The Section 8 Program provides rent subsidies to extremely low and very low-income individuals and families, senior citizens and persons with disabilities in the form of housing assistance payments to private landlords.

As HACLA is supported by public funding, much like other government entities, it is susceptible to the boom and bust cycles that are largely driven by the economy and government policies. While HACLA's interest in modernizing and greening the affordable housing stock is permanent, their effort has been gradual, when funding and other resources become available. However, the extreme draught experienced by the California since 2011 has become the latest catalyst in HACLA's efforts to green its portfolio. By 2014, HACLA was very active in pursuing cost-effective water measures, ranging from retrofitting its properties with low-flow showerheads and faucet aerators, to restricting casual water usage in common areas by installing a flow restrictor on all common-area hose bibs. To HACLA's advantage, it contacted the utilities early on in the process, which allowed HACLA, SoCalGas, and LADWP to work together to create a plan for mitigating water use. Furthermore, it also allowed the utilities to layer on their energy efficiency programs and services in addition to water-related services. Since then, HACLA has enjoyed tremendous results. Overall, HACLA has installed:

- 2,430 ultra-efficient toilets provided by LADWP;
- low-flow showerheads and aerators at 6,500 housing units by SoCalGas; and

- 8,600 hose bibs restrictors that reduce water flow from 11.7 to 1.7 gallons, with financial incentives from LADWP

The efforts above have resulted in 27% in observed water savings across HACLA's portfolio. HACLA could save approximately $500,000 in annual operating costs and more than $3 million in net operating costs over the lifetime of the projects. HACLA has continued working with the utilities to implement energy efficiency measures. While deep retrofits of the properties might be out of the question due to funding and logistical challenges, HACLA and the utilities looked at all available energy efficiency opportunities that included:

- Installing demand-based hot water circulation controllers at 13 Asset Management properties;
- Replacing 66 hot water heaters with high efficiency units
- Installing weatherization and other services through SoCalGas/LADWP joint low-income direct install program (over 1,000 units enrolled, with 150 units completed by the end of February 2016.)

HACLA's aggressive efforts to adopt water and energy efficiency at its facilities were recognized by the LABBC; HACLA received the top honor as the Portfolio of the Year at the LABBC's 2nd Annual Innovation Awards held in January 2016. This award is more than a validation of HACLA's efforts. It also serves as a great model for other housing agencies and owners to emulate. It is common knowledge that recognition is an important aspect of driving efficiency and sustainability (Kolwey 2011). The recipient, in this case HACLA, feels validated, while the influencers, such as the utilities, can use it as an example to motivate other candidates down the road to aggressively pursue energy and water efficiency.

Park La Brea

Park La Brea in Los Angeles is SoCalGas' largest multifamily master metered residential customer. Built during the 1940s, it is an extensive apartment complex with 4,245 units located in (18) - 13-story Towers and (26) - two-story garden style apartment buildings (Garden Block). It is the largest housing development in the United States west of the Mississippi River (Foster 2012). It sits on 160 acres in the Wilshire District of Los Angeles, a prime location due to its proximity to major commercial areas in the city.

While Park La Brea is a market-rate property, it is also subject to rent control, which is typical of rented residential properties in LA. Consequently, there are a significant number of long-time residents in the property, many of them retirees on fixed income. With very low turnover due to its popularity, major retrofits have always posed a logistical challenge for Park La Brea. While the desire to modernize and green the property has long been the owners' intention, Park La Brea faces similar financial, logistical and regulatory challenges that most other older multifamily properties in the City do as far as energy efficiency is concerned. On one hand, the cost of modernizing the property would be quite astronomical as building codes and city policies have continued to progress while construction costs climb. On the other, the financial return from conducting energy retrofits might be far from attractive, considering that the residents would be the ones reaping the windfall, since they are the ones usually paying the utility bills.

In 2014, the Southern California Air Quality Management District (AQMD) made an enhancement to Park La Brea's boiler emission requirements. Park La Brea's steam boilers, which had provided space heating and domestic hot water heating for all the high-rise towers

since the late 1940s, were about to run afoul of this new AQMD regulatory requirement. Park La Brea was facing the decision whether to make the retrofit replacement of the burners, or to take the big plunge of replacing the old, inefficient boilers altogether. The fact that Park La Brea had developed a strong relationship with SoCalGas and LADWP helped shape this decision. In the same year, SoCalGas began assigning a multifamily executive to work closely with Park La Brea's Mr. Chris Scroggin, Senior Vice President of Operations; Mr. Harry Helman, Director of Facilities; Mr. Bruce Manning, Director of Maintenance for Able Services; and LADWP, who collectively were successful in enrolling Park La Brea into LADWP's programs. SoCalGas assisted Park La Brea with the retrofits of low-flow showerheads and aerators throughout the property via its Direct Therm program and demand-based hot water package boiler optimization and monitoring controls at the Garden Block low-rises via its On-Demand Efficiency Program while LADWP helped with providing high efficiency toilets. SoCalGas also conducted a comprehensive audit of the facility, and identified a significant number of opportunities, including the replacement of the boilers.

Prior to Park La Brea's retrofits, SoCalGas did not have any customized incentives for residential properties. Due to the unique nature of the project, SoCalGas accelerated the launch of its custom Multifamily Home Upgrade program to accommodate the project. The significant incentives offered through this program helped tip the scale and convinced Park La Brea to replace the antiquated boilers with new 84%-efficient Burnham low-pressure steam boilers. Park La Brea is also implementing additional measures such as insulating all steam condensate and hot water lines in the boiler rooms, installing domestic hot water recirculation pump controls at the high-rise Towers and auditing and replacing steam traps. The property is also still considering additional measures recommended in the SoCalGas energy audit, such as LED lighting upgrade and temperature reset for the boilers in the future. The custom retrofit project, expected to be completed in the middle of 2016, will gain more than 250,000 Therms in energy savings, making it the single largest residential project in SoCalGas' history of implementing customer energy efficiency programs.

Other Multifamily Properties in LA

The Single-Point-of-Contact strategy implemented by SoCalGas (Lukito 2014) has produced substantial results since its inception. SoCalGas' first multifamily account executive started in 2014, and a second position was added in early 2016. This endeavor has resulted in enrollment of more than 5,300 units in SoCalGas' low-income direct install program across its territories, with over 1,800 units in LA alone. The SoCalGas multifamily account executive is currently working with 13 portfolios, with over 320 properties representing over 50,000 units across Southern California, and approximately 25% of those are within LA. Many of there properties are enrolled in SoCalGas' programs that provide free low-flow showerheads, faucet aerators, and demand-based hot water circulation pump controllers. The account executive's role, however, goes beyond connecting multifamily customers with SoCalGas' programs. He also helps connect the property owners with the electric and water utilities, including LADWP in the city of LA, Southern California Edison, and other municipal utilities such as the Cities of Riverside, Anaheim and Pasadena.

SoCalGas' strategy of implementing a holistic approach in the multifamily sector is predicated on working with, and not on, property owners. SoCalGas acknowledges that there are many barriers that a property owner faces in modernizing their buildings, which call for a multi-

layered approach. Not every property can undergo a major building rehab due to financial, logistical and regulatory constraints. Therefore, property owners that are just getting introduced to sustainability and efficiency could benefit from lighter touches in the form of less extensive, often no cost, solutions that can be implemented right away. This helps build the owners' confidence, and proves out the concept of energy efficiency through lower utility bills for both owners and tenants. This level of introduction can help lay the foundation for when the major projects are coming down the pike. When that time comes, the utility's energy efficiency programs will be there to upsell energy efficiency.

There are many reasons why a multifamily property undergoes a major retrofit. Policies and regulations serve as important drivers for major improvements. As noted in the Park La Brea example, a change in boiler emission requirement helped launch a major retrofit project. Property refinancing, usually but not always due to change in ownership, is often a trigger for major property upgrades. Refinancing is another opportunity where government policies can provide positive influence. The California Housing Finance Agency, for example, requires a Green Physical Needs Assessment from applicants to its multifamily programs that provide permanent financing for the acquisition of multifamily rental housing. Furthermore, the California Tax Credit Allocation Committee (CTCAC) that awards tax credit status for low-income housing in the state, scores and ranks its applicants based on sustainable building measures. All of these policies help create an environment where energy efficiency is the expectation. While the policies are intended to push property owners to embrace efficiency and sustainability, the job of pulling the property owners to achieve more than baseline falls on voluntary efforts such as the utility programs or those by other private and non-profit organizations.

The role of housing advocacy groups in advancing energy efficiency and sustainability cannot be understated. Organizations such as the California Housing Partnership Corporation (CHPC) have been very active and vocal in supporting affordable multifamily properties in California in their efforts to green and modernize. These organizations serve as an important piece in the overall puzzle, and they are part of a network that helps push or pull property owners toward energy efficiency and sustainability, as illustrated in in Figure 1.

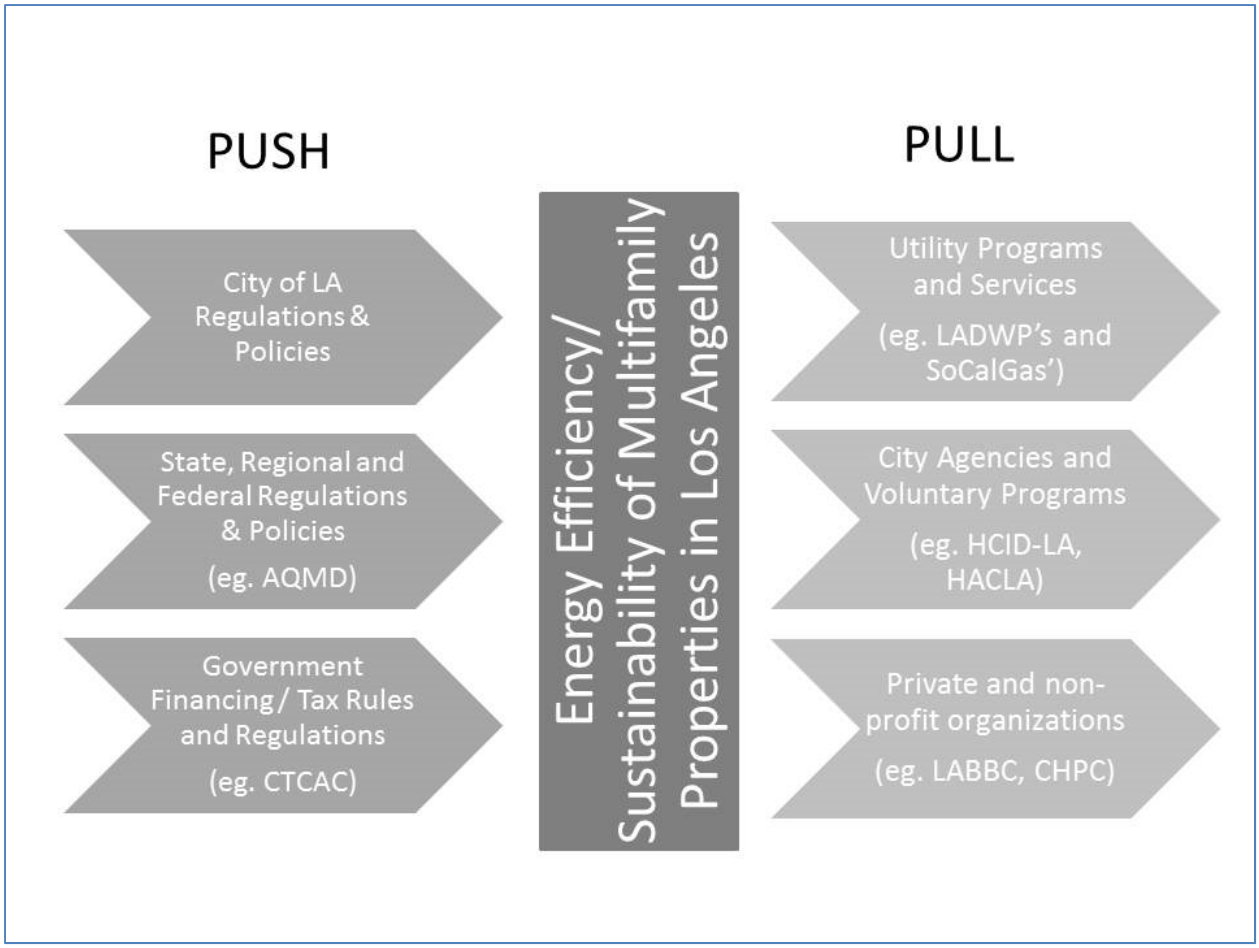

Figure 1: The Push-Pull Mechanism for Energy Efficiency/Sustainability Effort in LA's Multifamily Sector

Conclusion

As described in this paper, in a city as large as Los Angeles, it takes many market actors to create an environment where energy efficiency and sustainability is the rule rather than an exception. What a city needs first is leadership. When city officials make a commitment to pursue energy efficiency, it enables other actors to succeed. The city policies should complement the existing regional and federal regulations in efficiency and financing that help propel the market forward. Private and non-profit partners play an important role as well, reaching customers and savings that might not otherwise be reached. In turn, utilities can implement well designed programs that turn interested customers into energy saved. Similarly, the firm commitment to efficiency and sustainability from city leaders empowers and validates city agencies in their fight for the cause. Working together, these market actors play an important role in pulling the market forward, creating an environment where energy efficiency and sustainability is not an obligation, but a reward in and of itself. We look forward to a future where owners and residents see energy efficiency as a standard method of operation, saving them scarce resources to be deployed for other uses.

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