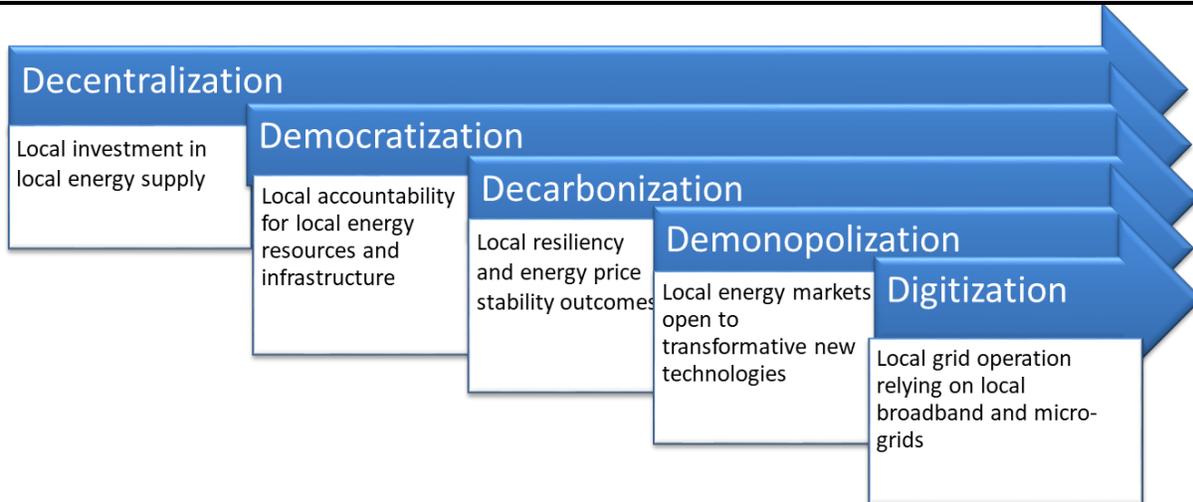




# Integrated Renewable Energy

IRESN is organizing a committee to advise a one-year effort to develop a vision for teamwork between cities and utilities to improve local energy resilience. Please consider serving as an advisor. For more information, and to volunteer, please click [here](#).



## Year End 2017 Report – Resilient Solar Communities

### **The Climate Emergency: The Five D's of Emergency Response**

Global statistics and trends say we are speeding directly toward a cliff. When we reach 2 degrees C above pre-industrial global temperature levels, we will be in territory no one knows how to map. Simple arithmetic tells us we have about twenty years left to apply the brakes, slow down and stop at the brink.

Either way, we won't all die. Some parts of the planet may still support life as their current human populations know it. We just don't know which ones.

We inhabit the planet on nature's terms. Our resource and energy consumption habits are cancelling the terms. Our choice is to adapt a little now or a lot later. Nature will continue with or without us.

Nationally organized decarbonization is obviously an avoidable choice. The US is making a virtue of avoiding it. Locally though, we can stop throwing gasoline on the fire. A recent IRESN report discusses five locally adaptive strategies that can work together to starve the fire of the oxygen it needs to continue to grow and spread. See above, and to read more, click [here](#).

## **Resilient Solar Communities**

Integrative change is possible at many levels. As the US government dismantles its climate related programs, our main integrative focus must turn to resilience, especially local energy resilience. It's the cheapest climate insurance available. Consider the difference it makes to a local economy to have electricity service in the wake of a disaster vs. having to make do without it. Imagine realities on the ground today in Puerto Rico.

The incremental cost of adding energy storage to a fleet of on-site or community solar arrays may be repaid many times over in terms of post-disaster economic activity that would otherwise be delayed. To the extent that solar with storage pencils out as an energy investment, the insurance it provides is a no-cost upgrade.

Fortunately, solar PV arrays, properly integrated, deliver least-cost electricity on a life cycle basis. The decision facing local jurisdictions should be not whether, but where and how to deploy it to capture additional economic benefits beyond routine electricity supply. For example, critical local infrastructure should be equipped with battery coupled solar sized for long term operation in the wake of a disaster.

Click to open a [presentation](#) or [webinar](#) on the subject.

## **Smart Cities: Net Zero Carbon Housing**

While there must be a push for local resilience, we can't get there from here on a pathway paved with carbon. New investments in housing and transportation infrastructure are opportunities to decarbonize cost-effectively.

Traditional housing development isn't necessarily cost-efficient or smart for the buyer. For land developers, it's a matter of designing for minimum first cost. Smart cities and smart home buyers can help shift this paradigm toward design for minimum life cycle costs. At a minimum, cities should educate home buyers to consider utility bill impacts and retrofit costs they incur when a developer chooses not to make rooftop solar a standard feature.

We think there is a need for both a sense of urgency and willingness to connect big local dots. Click [here](#) to read more and decide if you agree.

## **The Year of "Retail and Customer Choice"**

2017 was the year the California Public Utilities Commission engaged on the topic of Community Choice. In January commissioners met to take input on a [staff background paper](#). IRESN offered [input](#). In June and November commissioners met to take input on possible market structures that would expand "retail choice" and "customer choice". Enabling legislation would presumably curtail Community

Choice expansion and/or give the CPUC authority to supplant local jurisdictions as regulators of Community Choice service.

The CPUC appears to view Community Choice with skepticism and concern. IRESN commented that *“Community choice energy promises to be California’s breakthrough opportunity to remove or at least lower the barriers to local energy resilience. The organizational triad necessary to create resilient solar communities in California includes grid owners, local jurisdictions and local energy service providers.”* Click [here](#) to read more and [here](#) for Lorenzo Kristov’s thoughtful perspective

## **Integrated Resource Planning**

An [integrated resource plan \(IRP\)](#) is a utility plan for meeting forecasted annual peak and energy demand, plus some established reserve margin, through a combination of supply-side and demand-side resources over a specified future period. Current integrated resource planning is a transitional step from planning that addressed only supply-side resources. The next step will be integrated planning of supply and demand affecting high voltage transmission systems in parallel with planning for local supply-side and demand-side resources.

Community Choice programs in California may evolve to assume responsibility for local integrated resource planning while regional grid owners and operators continue to do integrated resource planning of centralized resources to meet net aggregated local demand, i.e. local demand not served by local supply.

Renewable energy and energy storage technologies are an important but still relatively unfamiliar factor in integrated resource planning proceedings. Fortunately, there is a network of organizations and experts that weigh into IRP approval proceedings. For an example of some of the issues clean energy experts and environmental advocates are raising, even in the most politically conservative states, click [here](#).

## **Community Choice Update: Valley Clean Energy Alliance**

Einstein’s observation, “Nothing happens until something moves”, comes to mind. Community Choice in California moved from idea to action. Changes in California’s energy universe happened. Click [here](#) for an update. In 2017 our local Community Choice aggregator, the [Valley Clean Energy Alliance](#), hired the neighboring municipal utility, SMUD, to staff its launch. Click [here](#) for more.

Meanwhile, the CPUC projects that California’s investor owned electric utilities are now on track have 50% renewable resource portfolios by 2050. Click [here](#) for the CPUC’s forecast. What happened? Existing renewable supply contracts are projected to serve a larger share of net IOU demand, i.e. the diminished demand

not being served by CCAs. This is a big win for climate action, because the CCAs are still setting the renewable deployment pace. They are also picking up the slack in local integrated resource planning. Click [here](#) for RPS comparisons and more.

Gerry Braun

**Integrated Resources Network**

gbraun@iresn.org

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