It is clear that decarbonizing our built environment is an essential strategy to meeting state-wide climate action targets. This means transitioning to delivering 100% electric, net zero buildings. The challenge will be to shift design and construction practices to adopt new approaches to building design. This includes elimination of gas as a heating source, and gas-fueled cooking appliances. This also means allowing enough solar and other renewable energy to supply 100% of energy needs.

Cities committed to meeting their climate action commitments are developing tools to encourage—and eventually require—new buildings to be 100% electric and net zero. Community Choice Aggregation programs are making renewable energy accessible at an unprecedented scale. The Decarbonization Coalition’s recently-released roadmap defines a pathway to a decarbonized future. This includes identification of challenges, and solutions for overcoming barriers. Decarbonization is not a new concept; in fact, there is a growing number of examples of decarbonized buildings here in California. Integral Group uses key design concepts to achieve significant reduction in energy loads to save capital costs and deliver financially feasible 100% electric net zero buildings.

California’s GHG Emissions Today

Gas Leakage by Various Production Zones

- Bakken Shale 10.10% Leak
- Los Angeles Basin 17.0% Leak
- Texas, Oklahoma, Kansas Region 2.2% Leak
- Eagle Fpd Shale, Gulf Coast 9.10% Leak
- San Juan Basin, Rocky Mountains 3.1% Leak
- 4 Corners Region 17.7%
- Marcellus Shale, Appalachian 2.80-17.30% Leak
- Denver - Julesburg Basin 4.0 % Leak
- Unita Basin, Utah 6.20-11.70% leak

Barriers to Electrification

- Low Awareness + Interest
- Low Perceived Customer Value
- Low Perceived Contractor Value
- Low Availability
- Misaligned Policy

A Pathway to Change: Policy

Highway Zero Net Projects

- Pitzer College Redford Conservancy | ILFI + LEED Platinum Certified | Claremont, CA
- Boulder Commons | Zero Net Energy Target | Transit Village Boulder, USA
- Kaiser Santa Rosa Medical Office Building | LEED Platinum + Net Zero Targets | Santa Rosa, CA
- Campbell Union High School District Photovoltaic Projects | Campbell, CA

Design for Decarbonization

- Design a Great Envelope
- Maximize Natural Light and Fresh Air
- De-Couple Ventilation with Space Conditioning
- Effectively Manage Electrical Energy
- Right Size Renewable Energy