

# LANCASTER NET ZERO ENERGY LIVE/WORK TOWNHOMES

Oakland, California



NET ZERO  
Projected Energy Metrics  
kWh/yr

**7852** Projected Energy Consumption

**7882** Renewable Energy Production

**0** Net Energy Use

Home Energy Rating (HERS) performed by RESNET certified rater to measure projected energy efficiency of ZETA's demonstration unit.

## FACTS

Density: 33 units/acre  
2bd/2ba live/work

Green Certifications: LEED Platinum, 206 GreenPoint, EPA Indoor airPLUS, Energy Star, DOE's Builders Challenge

ZE TA produces net zero energy multifamily housing and mixed-use structures for sustainable communities. ZETA's precision-built structures, produced in our clean-tech off-site production facility, exceed the performance of site built at no additional cost while minimizing resources, waste and CO<sub>2</sub> emissions. We deliver the next generation of housing and communities today.

Located in a colorful mixed industrial/artist/residential urban neighborhood near the Oakland Estuary, BART and services, ZETA launched the first net zero energy, urban infill, multifamily project. Each of the two 1,540 square foot, zero lot line, live/work townhomes provide a ground floor work studio, 2-bedrooms, light-filled great rooms, decks and sustainable landscaping, in addition to one car parking garage. As a participant in the U.S. Department of Energy's Building America Research Program, ZETA is demonstrating an affordable solution to achieving net zero energy and LEED Platinum multifamily housing through advanced building energy systems and energy efficient technologies.

ZETA's first net zero energy live/work townhome achieved a LEED Platinum rating, a 206 Green Point Rating, and EPA's highest indoor air rating, Indoor airPLUS. Additionally, this project has qualified for the DOE's Builders Challenge Program that sets a high bar for building energy efficiency.

think zero



## LANCASTER NET ZERO ENERGY LIVE/WORK TOWNHOMES

Oakland, California

### Unit Features

#### Zero Energy System:

- Passive solar design
- zTherm: automated energy controller
- Thermal storage conditioned basement
- Ultra-efficient envelope: R-39 Roof, R-25 Walls, R5 exterior rigid foam, R-22 Floor, Serious Materials Windows: R-5 & R-7 Energy Star Rated
- Air-to-air heat exchanger
- High efficiency heat pump
- Heat recovery ventilator
- Wastewater heat recovery system
- High efficiency lighting – LED and CFL
- EnergyStar™ appliances
- 100% photovoltaic power
- Rigid insulation wrapped building system
- High performance cellulose and spray foam insulation
- “Free” cooling system
- Testing performed by DOE Building America (Building Science Corporation) and National Renewable Energy Labs (NREL)

#### High Indoor Air Quality:

- Whole-house integrated fresh air system
- Merv 13 filters
- Natural ventilation & natural lighting
- Low VOC finishes including Green Seal certified zero 0% VOC paint (interior & exterior)
- No added formaldehyde
- Sound attenuation
- Mold & moisture prevention strategies:
  - Rain-screen siding system
  - Mold resistant and dry lumber
  - GreenGuard-certified insulation board – Mold Resistant, R-.5/in
  - Commercial flashing techniques
- Hardwood and flyash/low-cement concrete floors
- Garage exhaust fan

#### Resource Conservation:

- FSC certified lumber
- Resource efficient framing
- Low cement, high flyash concrete (25% flyash foundation)
- Recycled cellulose insulation
- Engineered lumber
- Sustainable finishes including locally produced artisan ceramic tiles, 100% recycled glass & cement composite countertops, locally fabricated casework and salvageable and recycled materials
- Fiber cement siding
- Low flow plumbing fixtures
- Drought resistant landscaping
- Waste diversion and recycling



Department of Energy



Building Science Corporation



Energy Star



DOE Building America Program



EPA AirPLUS



Modular Building Systems Association



LEED for Homes



GreenPoint Rated



City of Oakland

Housing Innovation & Production:  
ZETA

Architecture:  
DSA Architects & ZETA Design Team

Engineering:  
Tipping Mar

Building Sciences:  
Building Science Corp,  
Dept of Energy Building America

Projected LEED:  
Platinum