



Expectations and Goals for Solar in Affordable Housing

**Affordable Housing Workshop
California Energy Commission
California Public Utilities Commission**

June 13, 2006

Mary Jane Jagodzinski



Community HousingWorks

- San Diego-based nonprofit, 20-year history
- Developer / owner of 25 affordable rental apartments in urban, suburban and rural San Diego County
- 1,300 apartment units ; 300+ in pipeline
- **Nationally recognized awards:** AIA; Fannie Mae Maxwell Foundation; Urban Land Institute; Pacific Coast Builders Conference
- 14% of residents moving out became first time homebuyers



Affordable Housing and Solar

- Solara: Project Description
- Solara: Project Finance
- Why Don't Affordable Housing Developers Use Solar?
- What Do Affordable Housing Developers Need to Start Using Solar?



Solara: Project Description



Solara: Project Description

- 56 units, 2.5 acre in-fill, revitalization area
- 7 buildings – 2-story residential
- 1,2,3 bedroom affordable
- Serves residents 30-60% Area Median Income (approx \$20k-\$41k for family of 4)
- Under construction in Poway – Climate Zone 10
- Completion Early 2007



Solara: Project Description

- Approximately **90%** of electricity (units and common areas) generated on-site by PV
 - 141kw (Sharp), Individually metered
 - Roof (parapet) and carport (flat) mounted arrays (Interconnection Agreements for each unit)
- **First** affordable housing in California to use this high percentage of solar
- **First** in San Diego County to use Zero Utility Allowances (Owner pays all utilities)



Solara: Project Description

- Addresses energy demand
 - Hydronic Heating: Central gas-fired tankless boilers
 - Energy Star windows, appliances
 - Air Conditioning: 14 - 14.5 SEER
 - Pin florescent in all interior and exterior (*except where low sodium required for light pollution*)
- Exceeds Title 24 (2001) by 42%
- Exceeds Title 24 (2005) by approx 15%



Solara: Project Description

- ***First*** PV for developer, team
- Goal of CHW and City of Poway:
 - Affordable housing IS “smart growth”
 - Solar is the right thing to do for environment
 - On site generation with renewables helps energy constraints
 - Reduction of electricity expense
 - More certainty for tenants’ household budgets – help them “move up”



Solara: Project Description

- Consultant: Global Green USA
 - Early involvement during site planning, design charrette
 - CEC grant (PIER funds) to Global Green USA to work with us as replicable model
 - ZENH Goals
- SDGE's Sustainable Communities Program

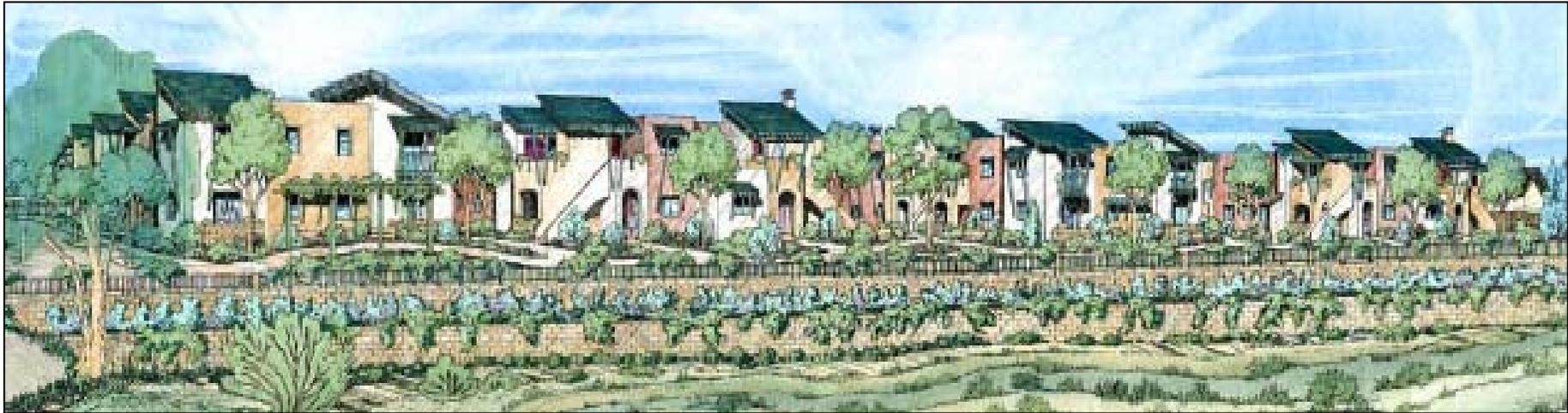


Solara: Project Description

- Sustainable Development including:
 - Water Conservation
 - Native Plants; no mown grass
 - Citrus grove
 - Double Flush toilets
 - Site water treated and released to adjacent green belt floodway
- Art integrated into design
- Learning Community, computer room



Solara



Design and Construction Team

<i>Architect:</i>	Rodriguez Associates Architects and Planners
<i>Green Consultant:</i>	Global Green, USA
<i>General Contractor:</i>	Sun Country Builders
<i>Solar Subcontractor:</i>	DSCI / Sundance



Solara: Project Finance



Solara: Project Finance

Loan (soft): City of Poway	\$ 775,000
Loan (soft): San Diego County HOME	1,000,000
Loan: Union Bank of California	2,370,000
Rebate: CEC's ERP	409,000
Deferred Developer Fee	150,000
Misc. Reimb / Interest	152,000
Equity:	
Business Tax Credits: NEF	208,000
LIH Tax Credits (9%): NEF	<u>11,266,000</u>
TOTAL	\$16,330,000

(excludes Land, 99-yr ground lease)



Solar: Recap of Sources

- CEC Rebate: Emerging Renewables Resources
- TCAC Tax Credits: Basis Boost
- Federal Business Tax Credits
(but, expires after 2007)
- Additional Loan supported by higher rents
(Zero Utility Allowance)





Why Don't Affordable Housing Developers Use Solar?



Why Don't Developers Use Solar?

- Unknowns
 - Technical – how to do it? Who to trust?
 - Finance – where to find additional funds?
 - Entitlements – more complicated, delayed
 - Construction – more complicated, delayed
 - Utilities – more complicated, delayed



Why Don't Developers Use Solar?

- Assumption that's too costly
 - System costs
 - Construction upgrades (e.g., carports)
 - Additional Soft Costs – design, permitting, consulting
 - Construction delays result in lost equity
 - Entitlements
 - Delivery / installation
 - Acceptance by utilities



Why Don't Developers Use Solar?

- Complexity of Operations
 - Maintenance – what to do with them? who services?
 - Replacements – will they last?
 - Operating Expenses:
 - Fear of exposure to utility expenses if use Zero Utility Allowances
 - Can't raise rents if expenses increase – HUD limits



Why Don't Developers Use Solar?

- “Below the radar”
 - Projects are hard to find / pencil
 - Local Entitlements and NIMBYism
 - Increasing construction costs, but not rents
 - Very complex financing (e.g. 13 sources)
 - Architects and contractors – specialists in affordable housing do not have experience in “green”



What Do Affordable Housing Developers Need to Begin Using Solar?



What Do Developers Need?

- Successful examples
 - Success stories
 - Known colleagues in industry



What Do Developers Need?

- Education and Technical Assistance
 - Speak each other's language
 - Outreach to Affordable Housing “industry”
 - Education of City Building / Planning / Fire Departments re solar
 - User-friendly Local Utilities – Regulators can encourage local utilities to provide incentives by giving preference in planning / processing for projects with solar



What Do Developers Need?

- State Agency Coordination
 - Applaud CEC and PUC
 - Continue Coordination with:
 - TCAC
 - CDLAC
 - HCD
 - CHFA



What Do Developers Need?

- Exert any influence with manufacturers
 - Late Deliveries can financially ruin a project
 - Loss of tax credit equity
 - “Placed in Service” date for tax credits
 - Couple of bad deliveries can ruin solar for affordable housing industry



What Do Developers Need?

- Funding for Capital Costs
 - Rebates work best
 - Certainty of reservation – lenders need this!
 - Reservation – need to last minimum of 24-30 months
 - Average construction period runs 18 mo – financing set 6+ months before
 - Quick processing of rebates
 - Lenders / investors anxious if total loan is “out of balance”
 - Payment – need before conversion to Perm loan



What Do Developers Need?

- Regulators to help : Pooled Billing
- Need pooled billing of meters when zero utility allowances
 - Individual meters - electricity is not “free”
 - But, discrete billing ignores offsets in complex
 - Example:** Net metering results in \$0 refund for conserving tenants --- but \$\$\$\$ for tenants using more than their array
- Requested of SDGE in October
- PUC Rulemaking 06-03-004 ?

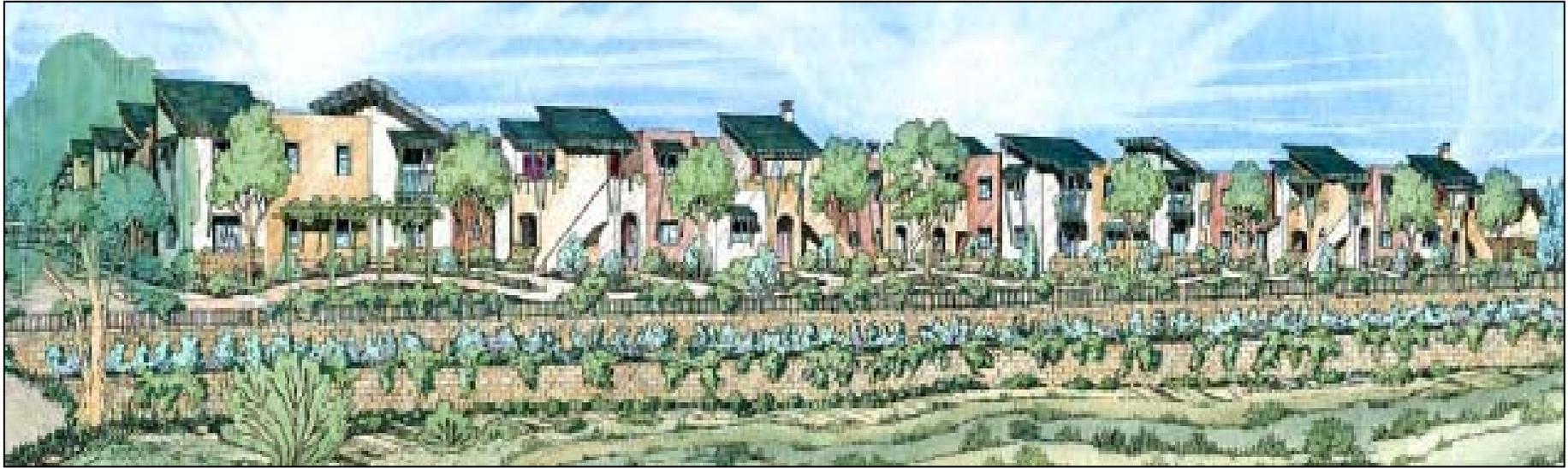


What Do Developers Need?

- Involvement of Affordable Housing Developers As New Policies Conceived
 - Appreciate opportunity
 - Applaud this effort today
 - Use developers as litmus test of new ideas



Solara



Mary Jane Jagodzinski

Senior Project Manager

619 282.6647 Ex 309

mjjag@chworks.org



**Community
HousingWorks**

**Community HousingWorks is a San Diego non-profit that helps
people and neighborhoods move up in the world
by providing a full range of housing options**

www.chworks.org