

# How does green building help achieve affordable, healthy housing?



## GREEN

The case studies profiled here are composed of many shades of green. Some, such as Puyallap Place of Hidden Waters, Devine Legacy, Kumuhau Subdivision, and Penobscot LEED Homes sought Leadership in Energy and Environmental Design (LEED) certification to verify the green performance of their building. Others used the Enterprise Green Communities Criteria, developed specifically for affordable housing. All the projects exhibit comprehensive approaches to green building –looking at project location, site design, water conservation, energy efficiency, appropriate materials, healthy indoor air quality, and long-term operations and maintenance. In most cases, cultural and economic sustainability was as high a priority as environmental sustainability. Tribal enterprise and employment are crucial to economic sustainability, and many projects incorporated new materials such as Navajo Flexcrete, earth, straw, and Structural Insulated Panels (SIPs). Couer d’Alene and Northern Cheyenne feature super-insulated straw bale wall systems. Passive solar design strategies are found to be cost effective. The Mescalero Apache and the Apsaalooke (Crow) Tribe projects both optimize site orientation and design to allow for passive solar and ventilation, to reduce heat load in the winter months and provide protection and airflow during hot summer months. Indoor air quality is critical to protect residents’ health and can be incorporated with little additional cost. The project team for Kumuhau Subdivision worked to modify the Airscape whole house fan specifically for its project, to produce a quieter ventilation system called the Kohila fan. Many homes were built to be ready for renewable energy connections in the future. Penobscot, Kumuhau, Passamaquoddy, and Pinoleville Pomo all installed photovoltaic panels, and Puyallap installed ground source heat recovery. The Pinoleville Pomo Nation developed a tribal green building code as part of its two prototype homes project, which will positively affect future development.