

Koorosh Akbarnejad

Selected Works
2025

Architectural Portfolio

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1. Development of Standard Energy Label Models for Residential Buildings in different climates of Iran

Master Thesis 2021



Abstract

This research looks at how standard energy labeling methods are used for buildings in different countries. In most reliable studies, researchers use a group of real buildings as a reference database. These studies are often done using energy calculation tools or simulation software to measure energy use. The results are then turned into indicators that help create standard energy labels for buildings.

To develop a model suited to the Iranian context, I also carried out a comparative study of many high-rise residential buildings across different cities in Iran. These buildings were analyzed for key physical characteristics such as floor height, structural systems, building cores, shape, and proportions. The aim was to better understand how local design factors affect energy efficiency in various climates across the country.

By connecting this technical research to broader questions of sustainable design, my work creates a foundation for more adaptable, climate-responsive architecture. These experiences have strongly shaped my interest in

continuing research within a structured PhD program—particularly one that combines environmental performance with architectural quality and human-centered design.

Keywords:

Standard models of energy labels, residential buildings, Energy Labeling models, Sustainable Residential Design, Renovation, Climate-Responsive Architecture

2. Energy Management Based on Climate

PUBLISHED BOOK

Title: Energy Management Based on Climate. 2022

Role: Author | Language: Persian

ISBN: 978-622-5980-068



Book Cover

Abstract

This study investigates energy classification systems and practical methods for evaluating energy consumption in buildings, with a focus on the context of Iran. After reviewing key concepts, definitions, and demand models, the research explores how energy performance can be categorized and improved.

A central part of this work is dedicated to analyzing the physical and design characteristics of nine high-rise buildings across various climate zones in Iran. These include structural systems, floor heights, core types, and plan geometry. The goal is to understand how these factors affect energy use and how buildings can be better managed based on local environmental conditions.

The findings aim to support the development of more accurate energy rating methods and practical strategies for energy management tailored to the diverse climate regions of Iran.



از متن کتاب

بررسی روش‌های استاندارد برچسب گذاری مشابه برای ساختمان‌ها در سراسر جهان، نشان می‌دهد که در بیشتر موارد معتبر و فعالیت‌های تحقیقاتی جامع، جامعه نمونه‌ای از ساختمان‌ها است که به عنوان بانک داده برای مطالعات در نظر گرفته شده است. مطالعات با استفاده از ابزارهای محاسبه انرژی و یا با نرم‌افزار شبیه‌ساز انرژی انجام میشود.



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Professional Works

3. Coastal Airbnb Renovation

Location: Spain

Year: 2025

Team work

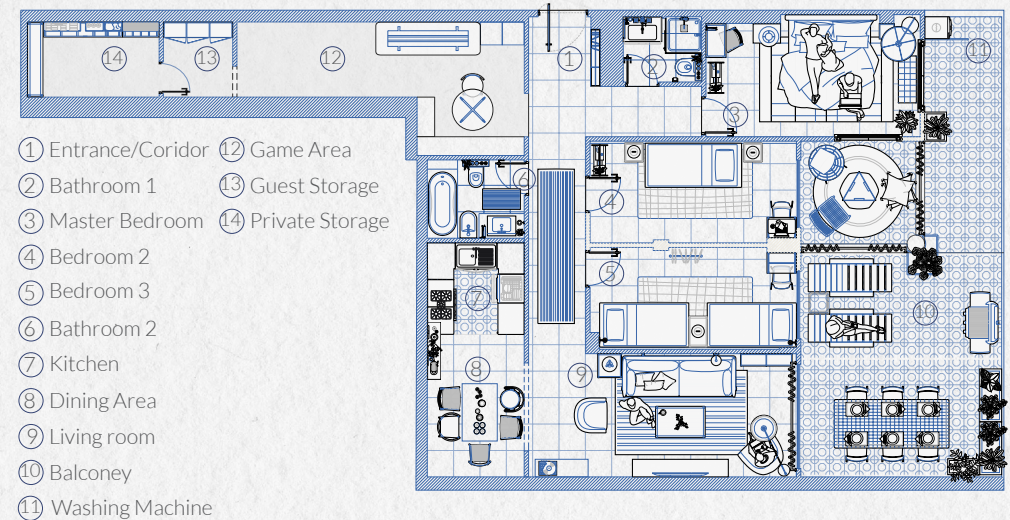
This small-town coastal renovation project was all about working with constraints and adding new value without heavy interventions. We preserved the existing materials and finishes, and worked mainly with paint, furniture, and **smart layout strategies to transform the space**.

A long, unused rectangular room was repurposed into three **flexible zones** – two for storage (private + shared) and one for family activities, encouraging guests to disconnect from screens and spend quality time together. This zoning strategy brought functionality and adaptive reuse to an otherwise neglected area.

The living and dining spaces were visually separated using flooring and a soft arch element, creating spatial identity without demolition. The furniture was kept minimal and practical to leave room for movement and extra guests, **emphasizing efficient use of space**.

Inspired by the **local seaside aesthetic**, the color palette and decor reflected the relaxed vibe of the region. The outdoor balcony – a key part of Spanish coastal living – was divided into four micro-zones: dining/barbecue, sun-bathing, shaded lounge with fan and curtains, and a laundry corner, reflecting contextual user habits.

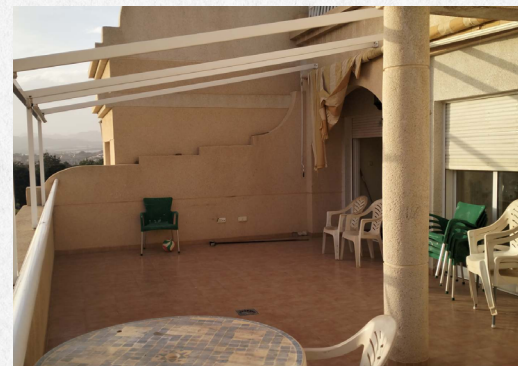
This project highlights **low-cost, sustainable transformation through creative reuse, spatial flexibility, and respect for existing structures**.



Photos by Client



Renders



Photos by Client



Renders

4. Eclectic Café

Location: Austria

Year: 2024

Team work

This project is about turning an old bar in Austria into a cozy and welcoming café. The space is now used daily for serving homemade cakes, fresh bread, and organic products, all with a **strong focus on sustainability and community.**

Since the place was rented, we had to be careful with how much we changed. We **focused on reusing what was already there**, especially the beautiful arched ceiling, which became a key feature in the final design. **Instead of removing old elements, we worked with them to add new value and give them a second life.**

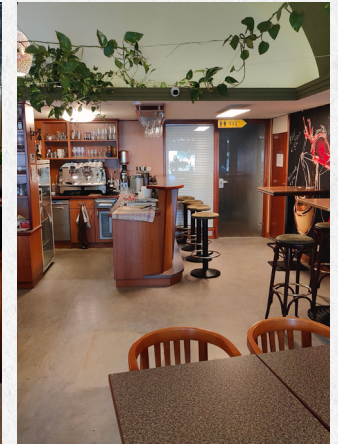
We also made use of the spatial opportunities the existing layout offered. For example, between two structural columns, we inserted a bookshelf—not only to hold books but also to define the space, playfully frame the view, and create a subtle separation without blocking light or openness. Small moves like this allowed us to shape the function without heavy interventions.

We went for an eclectic and cozy style, using light colors to make the space feel warm and bright. For furniture, we chose second-hand pieces—each with its own story—to create a **relaxed and personal atmosphere.** This also supported the café's goal of being eco-friendly and low-impact.

This project shows how thoughtful design, even with limited changes, can create a space that's sustainable, reused, and full of character.



After Design/ Actual image
(Photo by Client)



Before Design/ Actual image
(Photo by Client)



Renders



Renders

5. Fire Station Restroom Renovation

Location: USA
Year: 2025
Team work

This project involved renovating the public restrooms of a fire station in the US. The design had to meet strict technical standards—not only because of the high volume of daily users, but also due to ADA accessibility, heavy wear, and public use requirements similar to shopping centers or municipal buildings.

The main challenge? A tight budget and extreme durability needs. The client even jokingly called the users “adult boys,” which gave us a clear sense of what kind of toughness the fixtures and finishes needed to have.

We kept the material and color palette very simple—just three main tones—to maintain **clarity and reduce visual noise**. A bold green tile adds character to the space, while gray keeps things grounded, and a warm off-white waterproof paint was used to balance out the cool tones and bring some softness. Because the layout had to remain open and easy to move through, we didn't include a lot of built-in furniture.

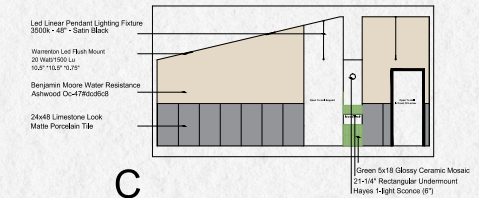
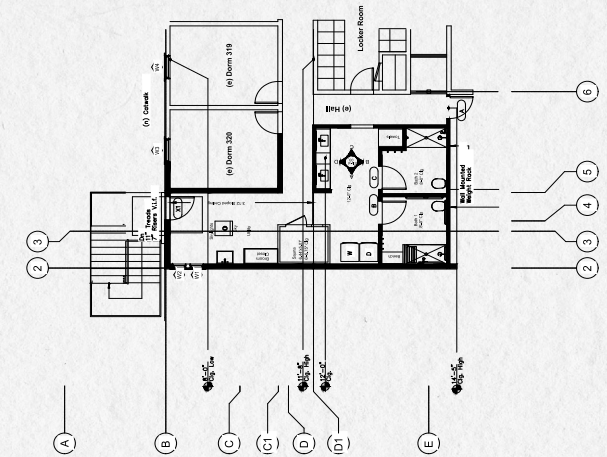


Renders

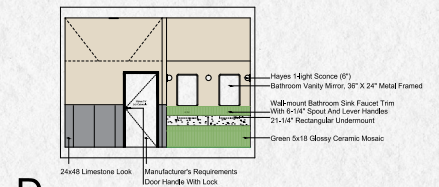
Instead, we used **patterned ceramic tiles in certain areas to add visual rhythm** and a bit of personality without cluttering the space.

The only element that didn't naturally blend in was the sauna cabin, which was a later addition. We worked hard to visually integrate it through careful material choices and placement, so it wouldn't disrupt the clean flow of the design.

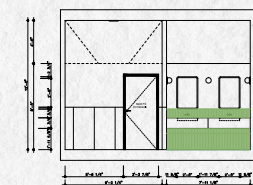
This project is an example of how minimal moves, when smartly chosen, can lead to a robust, accessible, and visually coherent space—even in tough, high-use environments.



C



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Plan & Elevation

Architectural Photography

Canon EOS
R100
1/25 sec. f/7.1
31mm
ISO 400



Canon EOS
R100
1/30 sec. f/5
18mm
ISO 125



Canon EOS
R100
1/80 sec. f/8
18mm
ISO 100



Canon EOS
R100 1/80 sec.
f/5.6 18mm
ISO 200



Thank you



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