



**E3 CA INC**

# **AN ARCHITECT'S HANDBOOK ON CALIFORNIA'S 2016 ENERGY CODE**



## An Architect's Handbook on California's 2016 Energy Code

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# CONTENT

- Performance Compliance Path
- Prescriptive Compliance Path



# 1. INTRODUCTION

Today's architects in California are not only challenged to create spaces that satisfy clients' needs, but are also increasingly being asked to incorporate yet another consideration into their design projects: rising mandates for building energy efficiency.

Architects who understand building energy performance, and can evaluate the energy consumption of projects early in the design process, are more capable of creating buildings that meet local regulations.

What should you, as an architect, know in order to ensure that your blueprints perform?

In this eBook we provide a basic introduction to some of the varied and complex issues associated with California's building energy codes, and the new role architects need to play.









## 2. REIMAGINING THE DESIGN PROCESS

Designing residential houses and commercial buildings has become a highly demanding task for architects and designers in California. While these professionals had to comply with some building regulations in the past, now, for the first time, they must take energy efficiency compliance into full consideration right from the design stage.

These regulations are commonly perceived by architects and designers as an obligation that does not contribute to, and potentially hinders, good design.

It is clear that a far-reaching shift has taken place within the design industry; one that has forced architects across the Golden State to reimagine the entire design process.

# 3. FACILITATING ENERGY CODE COMPLIANCE FOR ARCHITECTS

There are multiple ways to demonstrate that a commercial or residential project meets the requirements of the updated energy efficiency standards that took effect on January 1, 2017. To this end, design teams can choose from two broad compliance path categories: prescriptive or performance.

## Prescriptive Path

The prescriptive path is a comprehensive checklist of the building components whose characteristics can affect energy consumption.

The prescriptive compliance path is straightforward but inflexible. Some residential and small-scale commercial projects with a basic layout, or those where creativity and innovation are not primary objectives, will benefit from the simplicity of the prescriptive path.

## Performance Path

The performance path uses energy modeling software to calculate annual energy consumption and costs. Instead of setting minimum standards for individual building components, the performance path conceptualizes the building as a single complex organism rather than as a kit of assemblies.

The performance option is one where designers and architects can incorporate innovations in many ways, be it materials, design and even technologies.







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It is the action of testing design options and assumptions that makes energy modeling a powerful and critical design tool for architect and design teams.

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## 4. ENERGY MODELING AS A DESIGN TOOL

Energy modeling is a design tool used to estimate the energy consumption of a building and all of its components such as heating, ventilation, air conditioning, hot water, and lighting/electrical systems.

The major benefit of design-performance modeling is that it can enable the design team to make strategic and best-value design decisions based on factors such as cost and energy use.

Unfortunately, not all architects across California are using energy modeling to show code compliance, and probably a handful are using this valuable tool to make decisions during the earliest phases of projects.





# 5. THE ROLE OF ARCHITECTS IN SUPPORTING THE ENERGY CODE

Architects are responsible for designing residential homes and commercial buildings that adhere to the updated California energy code.

They are in a unique position to help their clients make design and construction decisions that will produce energy efficient buildings that cost less to operate, and are thus perceived as worth more in the market.

California's net zero energy goals for all new residential buildings by 2020, and all new commercial buildings by 2030, demands the profession's dedication to energy efficiency and sustainable design.

Architects across California need to become more active in supporting the 2016 Energy Code.





## 6. HOW CAN ENERGY CONSULTING FIRMS HELP YOUR PROJECT?

Energy consultants can prove helpful to architects and architecture firms in a variety of ways, and engaging one early on in the process may be one of the best strategic partnerships you can make.

1. Consulting firms with a focus on sustainability and energy efficiency are well versed in all available technologies, strategies, regulations, and incentives.
2. They are better equipped to advise clients about their options regarding energy efficiency.
3. They are better suited to anticipate problems with construction documents, as well as developing roadmaps to ensure compliance at every level.
4. They have the expertise to walk you through the best options available for your specific needs and budget.







# ABOUT E3 CALIFORNIA

E3 CA, Inc. has been providing Sustainability and Energy Efficiency solutions since 2007. We are a full-service consulting and verification firm specializing in multifamily and mixed-use developments in both the affordable and market-rate sectors.

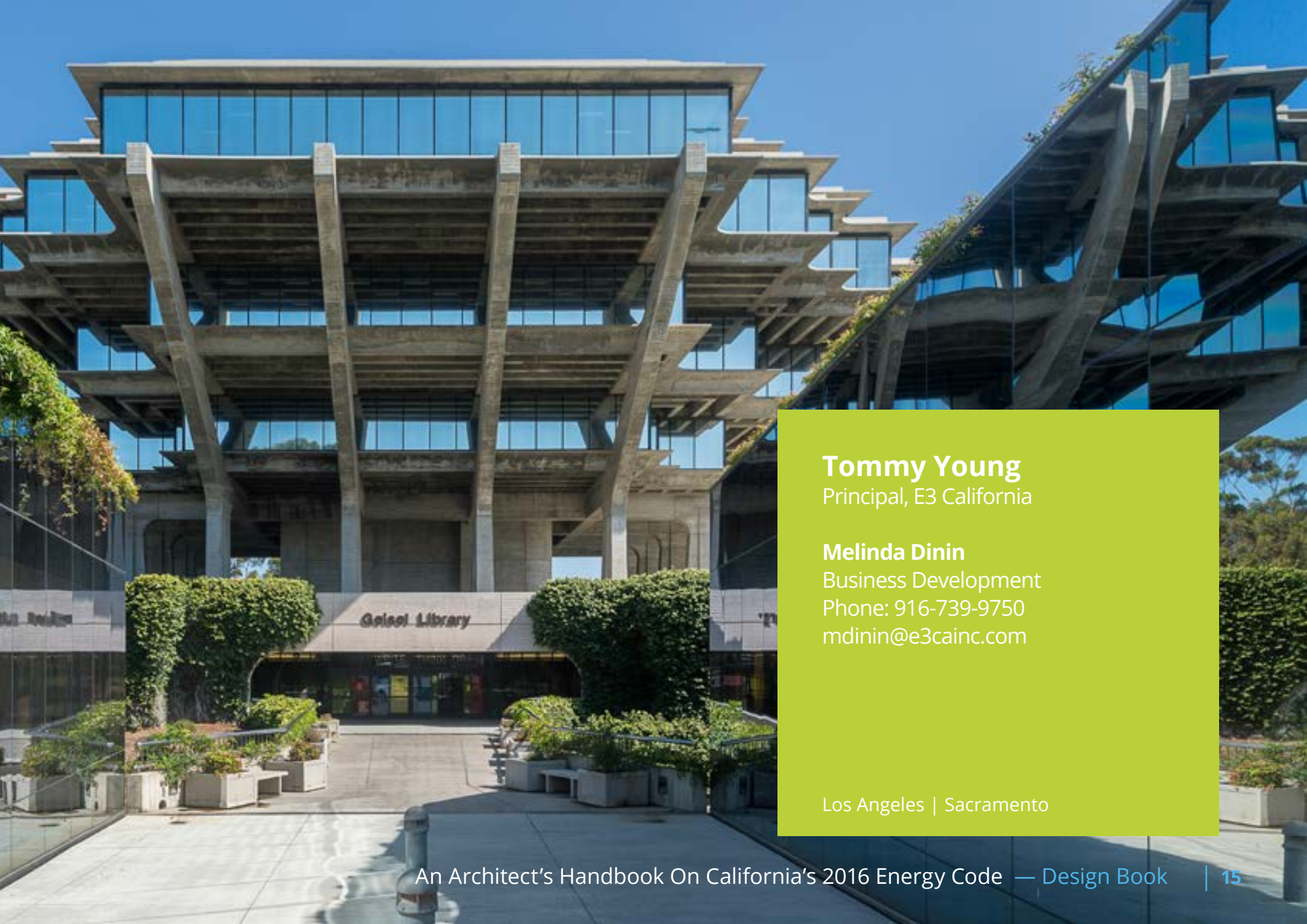
With over 50 years combined experience as sustainability and energy consultants, our staff offers a unique blend of expertise and credentials. Our real-world experience and knowledge of building codes and programs are the foundation for the specialized services we offer.

We assist our clients in ensuring their projects achieve sustainability and energy goals, and provide a strategic plan for navigating the complexities inherent to building codes and programs.

We Were Built for Compliance.







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