

Financing Data and Building Performance - The Appraisal Perspective



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Background

- Commercial RE professional since 1988
- Leasing, sales brokerage, investments
- Fee appraiser
- Appraisal Manager/Reviewer
 - 15 years at Wells Fargo Bank
 - Primary appraisal manager for High Perf. property
- Consulting – small balance commercial & high performance building finance/valuation



Valuation : Comm. RE and Homes

- Small commercial owners act like homeowners
- CRE appraisal/underwriting NOT like home loans
- SME Appraisal Foundation guidelines for Green Building Valuation
 - Core Competency
 - CRE valuation
 - Residential



THE APPRAISAL FOUNDATION

Authorized by Congress as the Source of Appraisal Standards and Appraiser Qualifications

Appraisal Data Collection

- Property and market focused, not borrower
- Value in Exchange; the next buyer
- As-Is value is required by regulations
 - Operations history: may be borrower specific
- Post upgrade: As-Completed, As-Proposed value

“Prediction is very difficult, especially if it’s about the future.” Niels Bohr

- Data tools, nuances, challenges & various uses

THE GREEN 14

Income, Vacancy, Expenses and Risk

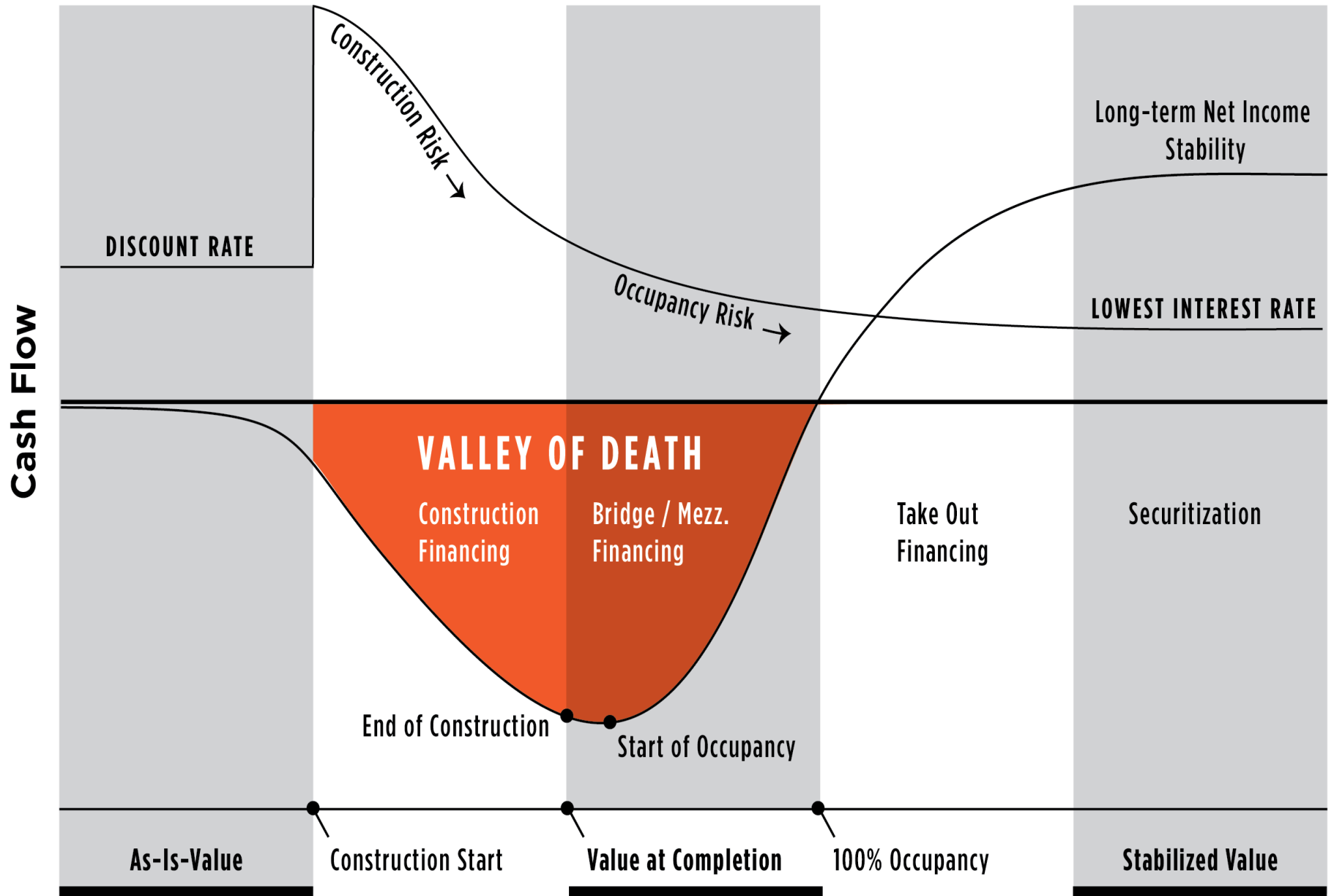
- Market Rent
- Stab. vacancy, rollover risk, lag vacancy, absorption time
- Utilities, Management, Maintenance, Tenant Improvements, Marketing, Insurance, Taxes
- Discount rate, terminal cap rate

Buyers and Sellers drive the market

- Appraisal process mimics buyers & sellers
 - Does not drive or create “the market”
- Bank’s follow appraisals
- Tell the story: What, when, how much, history



VALLEY OF DEATH IN CONSTRUCTION LENDING

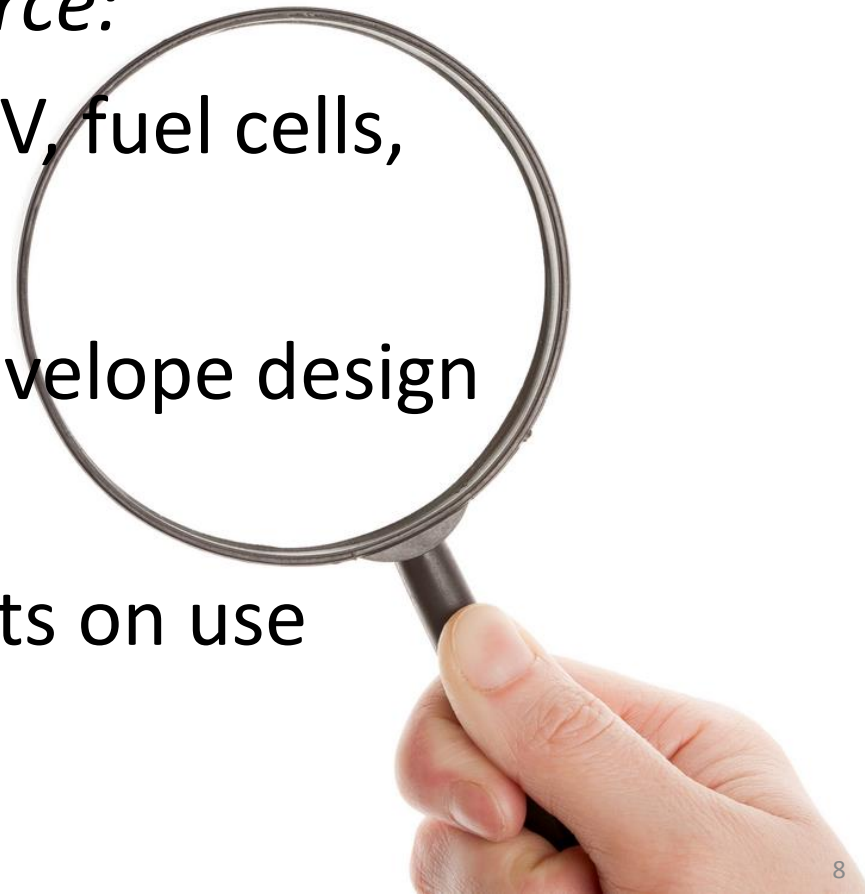


Building Performance Data Analysis

- Energy cost savings + value beyond cost saving
 - More than just energy: water, waste, air, daylight

Different risks per data source:

- Dist. Generation - Solar PV, fuel cells,
- Efficiency: lighting, HVAC
- Avoided cost: building envelope design
- Humans: behavior impacts on use
 - But are they durable?



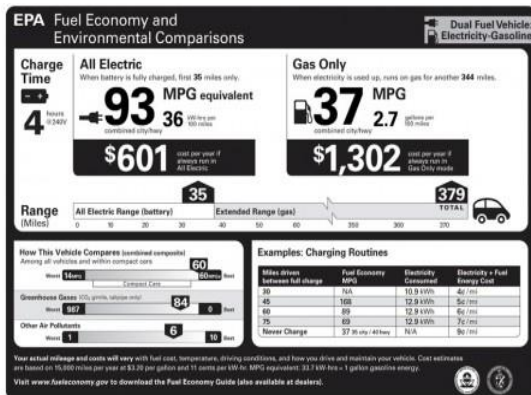
Data impacts are nuanced

- Sophisticated tech improves feedback & impact
- Better mileage, performance, useful life, fault avoidance, safety, comfort



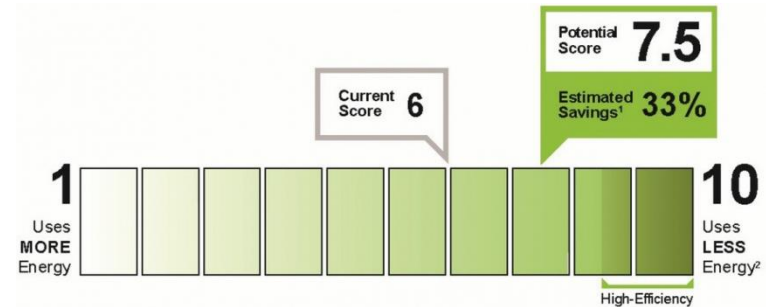
Lessons from due diligence documents

- Learn and leverage existing data models
 - Phase 1, Property Condition Assessment, energy report
- *Big Data* from operations: BMS, sensors, controls
- Good efforts already:
 - Investor Confidence Project, Energy Star, ASHRAE, MLS ASTM-BEPA, Green Button, DOE Energy Asset Score
 - SEED, BEDES : Rosetta Stone dictionary/translator





Nutrition Facts	
Serving Size 1/2 cup (115g) Servings Per Container About 4	
Amount Per Serving	
Calories 250	Calories from Fat 130
% Daily Value*	
Total Fat 14g	22%
Saturated Fat 9g	45%
Cholesterol 55mg	18%
Sodium 75mg	3%
Total Carbohydrate 26g	9%
Dietary Fiber 0g	0%
Sugars 26g	
Protein 4g	
Vitamin A 10%	Vitamin C 0%
Calcium 10%	Iron 0%

* Percent Daily Values are based on a 2,000 calorie diet.



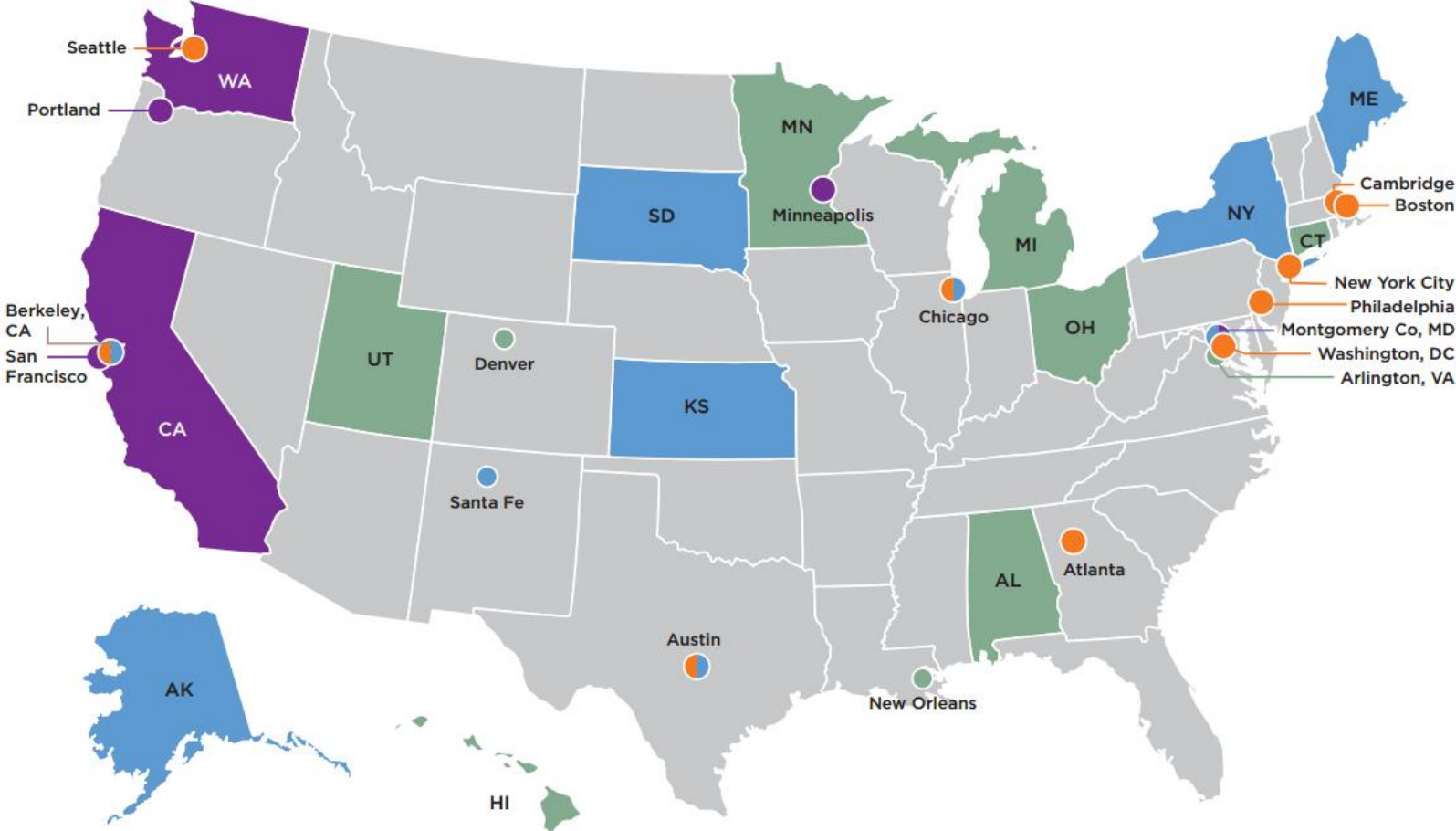
Appraisal Institute Property Data Forms

 <p>AI Reports®</p> <p>Form 821*</p>	Client File #:		Appraisal File #:	
	<h2>Commercial Green and Energy Efficient Addendum</h2>			
	Client:			
	Subject Property:			
	City:		State:	Zip:
<p>Additional resources to aid in the valuation of green properties and the completion of this form can be found at http://www.appraisalinstitute.org/education/green_energy_addendum.aspx</p>				
<p>The appraiser hereby acknowledges that the information provided within this addendum:</p> <ul style="list-style-type: none"> • has been considered in the appraiser's development of the appraisal of the subject property only for the client and intended user(s) identified in the appraisal report and only for the intended use stated in the report. • is not provided by the appraiser for any other purpose and should not be relied upon by parties other than those identified by the appraiser as the client or intended user(s) in the report. • is the result of the appraiser's routine inspection of and inquiries about the subject property's green and energy efficient features. Extraordinary assumption: Data provided herein is assumed to be accurate and if found to be in error could alter the appraiser's 				

 <p>AI Reports™</p> <p>Form 820.04*</p>	Client File #:		Appraisal File #:	
	<h2>Residential Green and Energy Efficient Addendum</h2>			
	Client:			
	Subject Property:			
	City:		State:	Zip:
<p>Additional resources to aid in the valuation of green properties and the completion of this form can be found at http://www.appraisalinstitute.org/education/green_energy_addendum.aspx</p>				
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Energy Use Disclosure Impact

U.S. Building Benchmarking and Transparency Policies

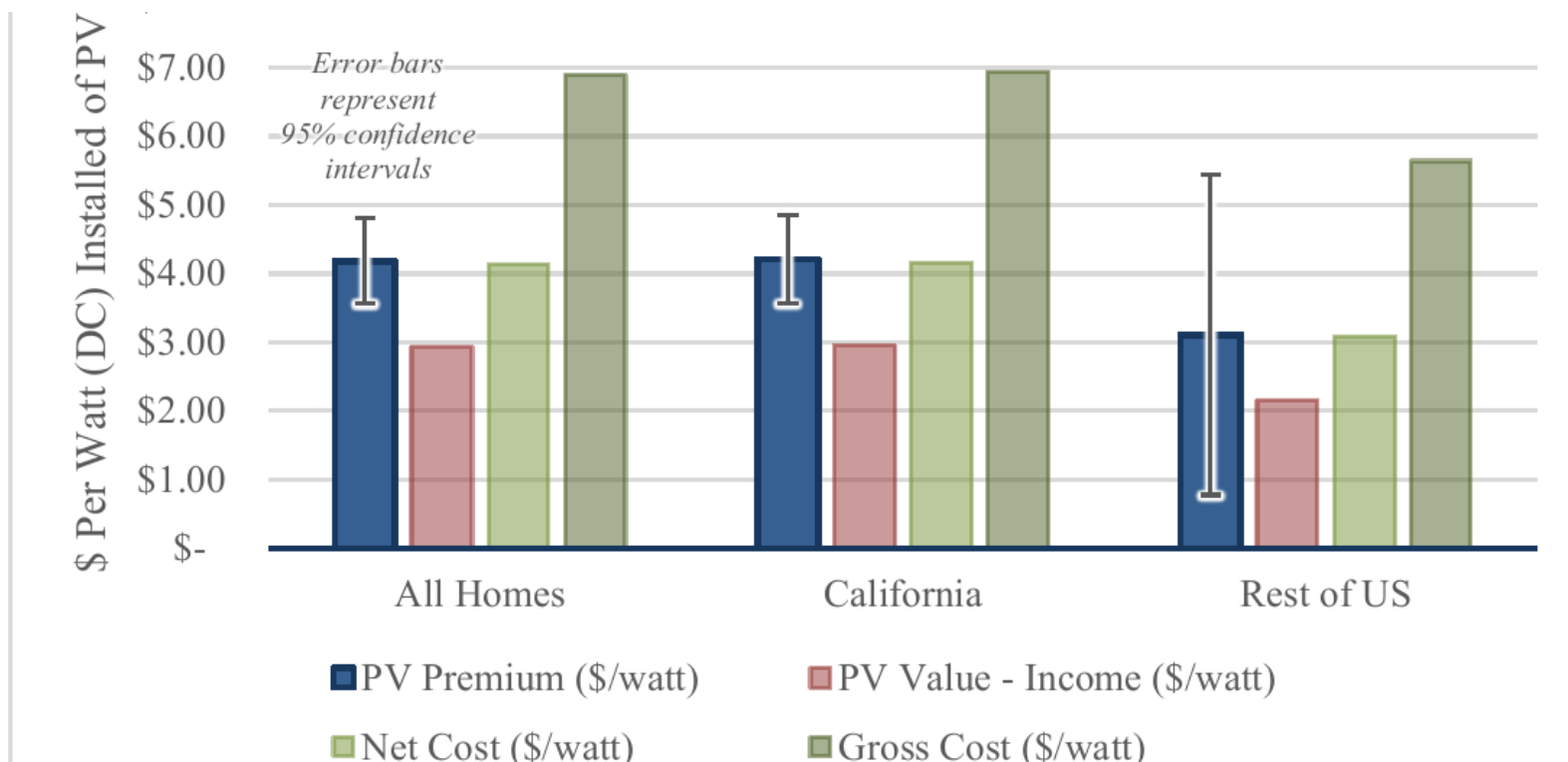


- Commercial policy adopted
- Commercial & multifamily policy adopted
- Public buildings benchmarked
- Single-family transparency adopted

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Landmark study: Impact of solar PV on home values

- Lawrence Berkeley National Labs
- 3,951 homes with solar PV, eight states
- New and existing homes; same value impact
- Net cost best proxy for value !

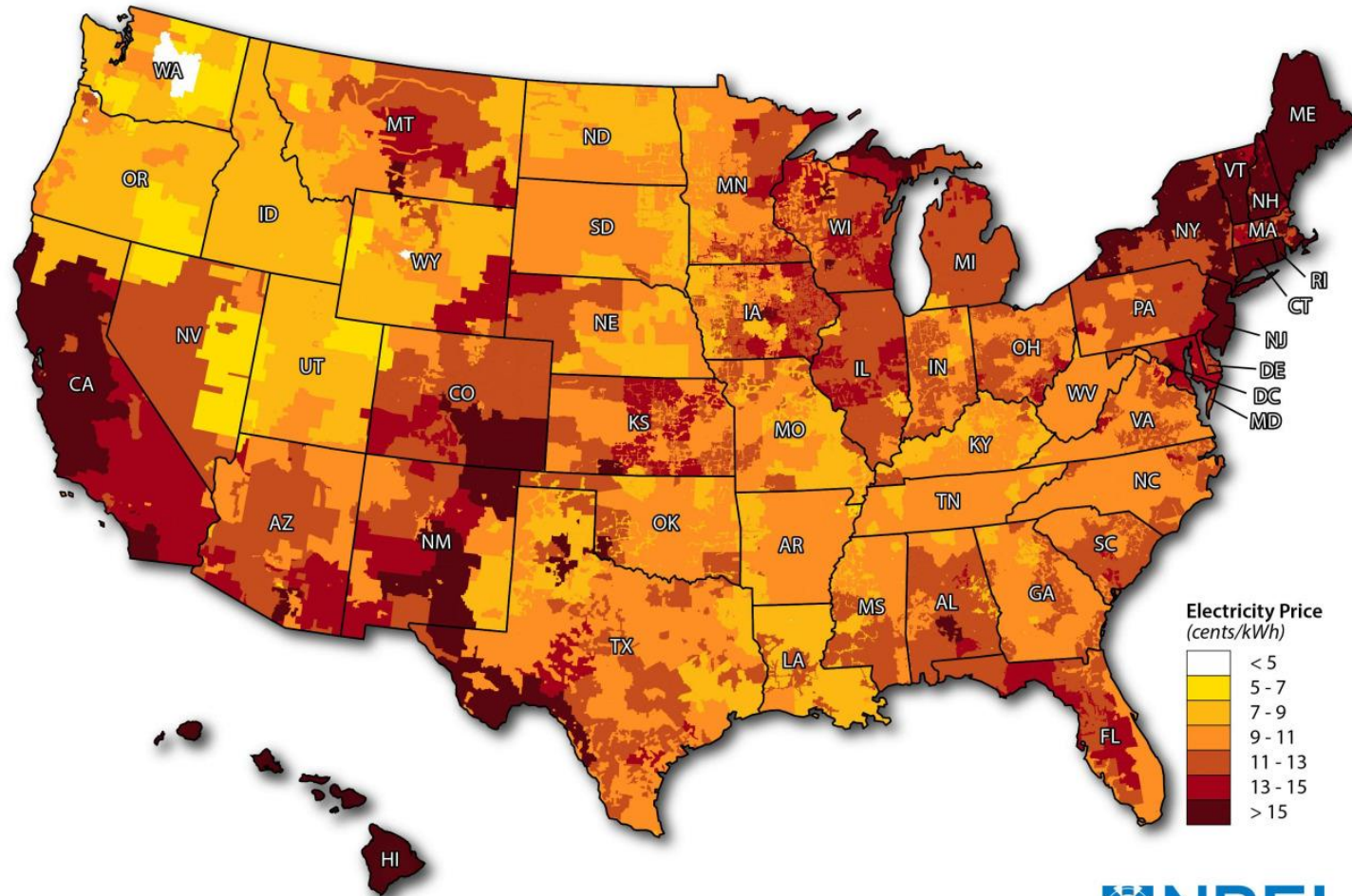


Users of Data are Different

1. Loan processing standards for workflow efficiency
 - Securitization, underwriting
2. To help appraisers, owners analyze investments
3. Change Behavior - Increase investment levels
4. Behavioral Economics: impact beyond numbers
5. Unified data standards worthy, but a challenge
6. Different property, different owners, different locations plus Time = different data and solutions

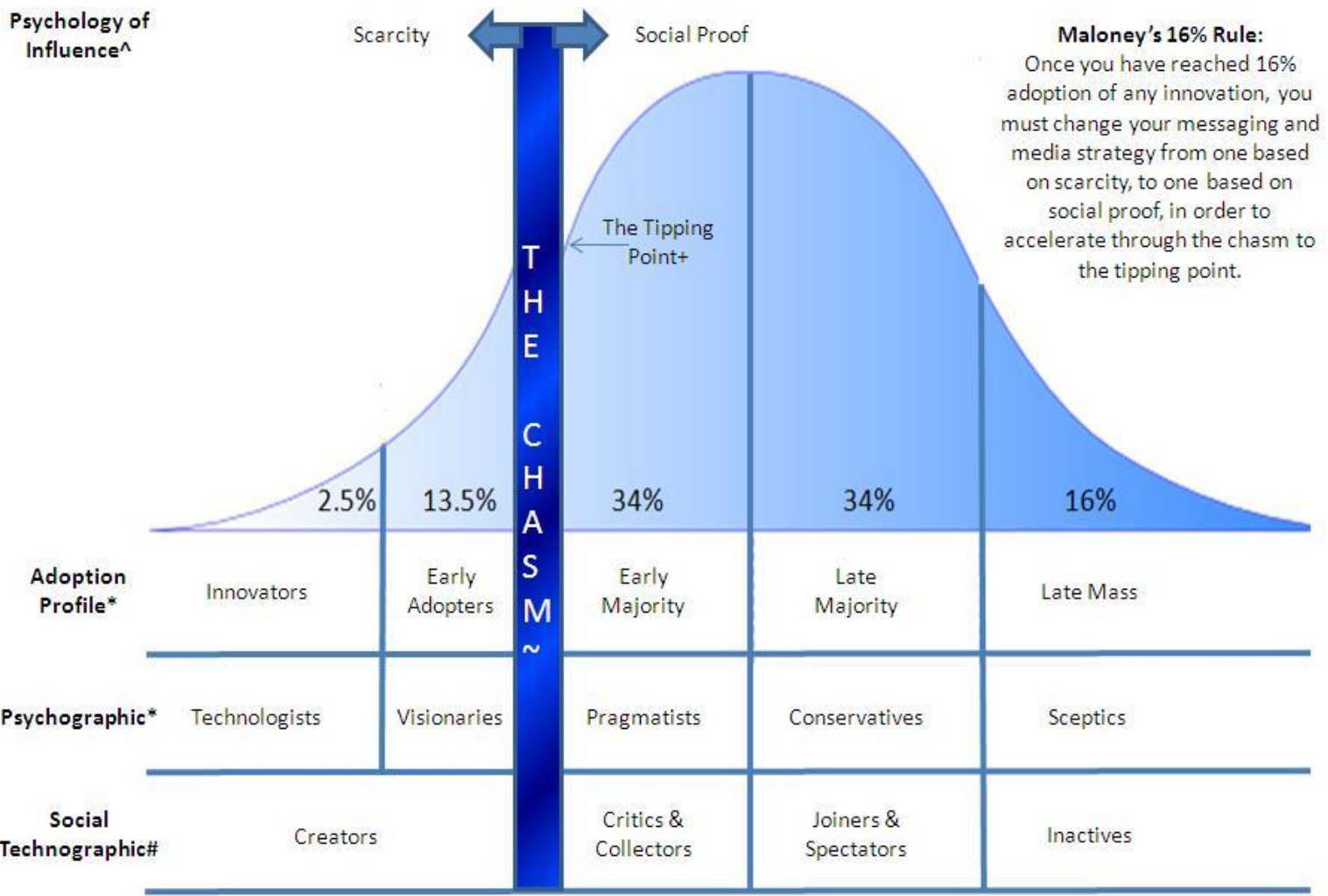
DATA VARIES BY LOCATION

- 3,292 electricity providers, 50 states



Stage of change: Building Data vs People Data

Accelerating Diffusion of Innovation: Maloney's 16% Rule©



[^] Robert Cialdini *Everett Rogers #Forresters ~Geoffrey Moore + Malcolm Gladwell

Thank you !

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