

E3's Asset Valuation and Markets Practice Area

Overview of Key Capabilities and Qualifications

H1 2024



Energy+Environmental Economics

Who is E3?

Thought Leadership, Fact Based, Trusted.

120+ full-time consultants

30+ years of deep expertise

Engineering, Economics, Mathematics, and Public Policy Degrees



San Francisco



New York



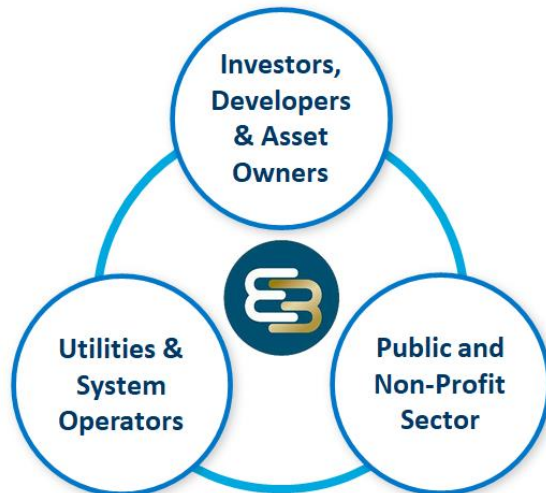
Boston



Calgary

E3 Clients

300+ projects per year across our diverse client base



Recent Examples of E3 Projects

Market price forecasts for every U.S. market (wholesale and retail), supporting billions of dollars of capital deployment;

Buy-side diligence support on several successful investments in electric utilities (~\$15B in total);

Assessment of east coast and west coast offshore wind opportunities (multiple clients);

Hydrogen policy and market support for State of Colorado, Mitsubishi Americas, ACORE, and multiple developer and utility clients;

Supporting investment in several stand-alone energy storage platforms and individual assets across North America (15+ GW | ~\$5B);

Evaluation of electric vehicle and V2G markets in North America for several large automakers;

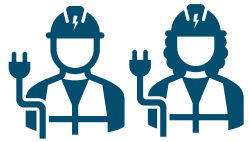
Supporting NYSERDA across Climate Leadership and Community Protection Act topics;

Supporting investment in 5+ GW of community solar and distributed energy resource projects;

Supporting several electric vehicle infrastructure and automakers with strategy.

E3 Evaluates the Assets and Technologies Needed for a Clean and Decarbonized Future

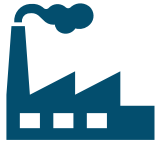
E3's Asset Valuation and Strategy Team leads the market on working in the Top 10 Asset Classes needed for a more decarbonized, decentralized, and digitized energy system



1. Utilities



6. Software and IoT



2. Thermal Resources



7. Decarbonized Fuels (H2/RNG)



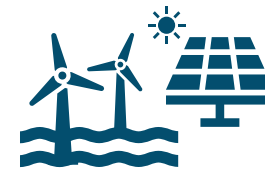
3. Transmission



8. Energy Storage



4. Emerging Technologies



9. On/Off-Shore Renewables



5. Electric Vehicles and Infrastructure

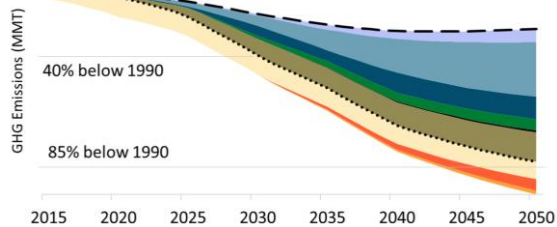


10. Distributed Generation and Flexible Loads

E3's Comprehensive and Best-in-Class Modeling Toolkit

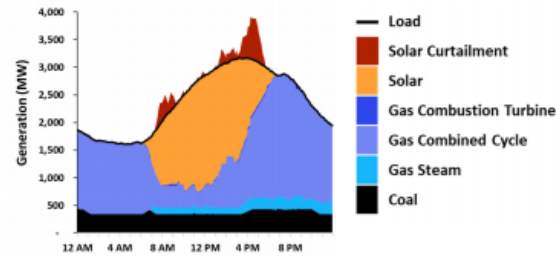
PATHWAYS

Economy-wide accounting of energy supplies and demands under deep decarbonization scenarios



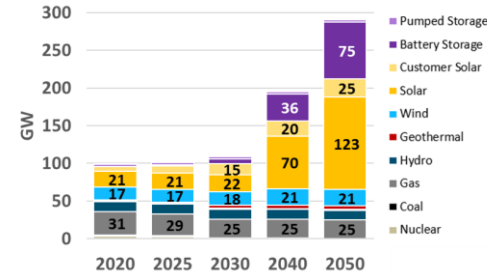
Production Simulation (PLEXOS)

Detailed operational simulations of system dispatch and flexibility needs



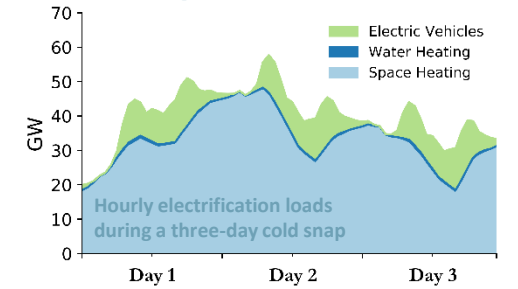
RESOLVE

Optimal capacity expansion model for electric systems



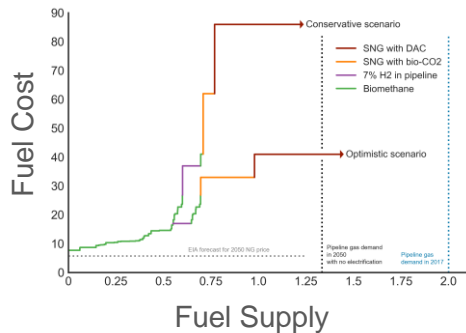
RESHAPE & EVGrid

Hourly simulations of electric loads for specific end uses



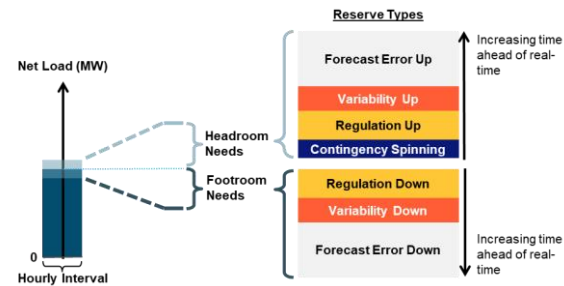
Low-Carbon Fuels and Future of Gas

Role of fuels in deep decarbonization



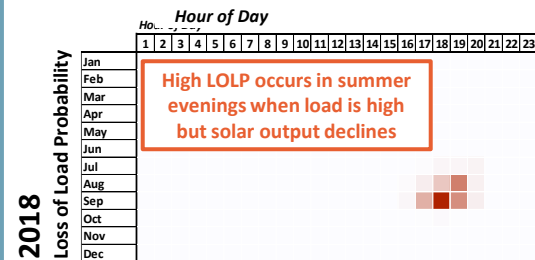
RESERVE

Dynamic operating reserves for renewable integration



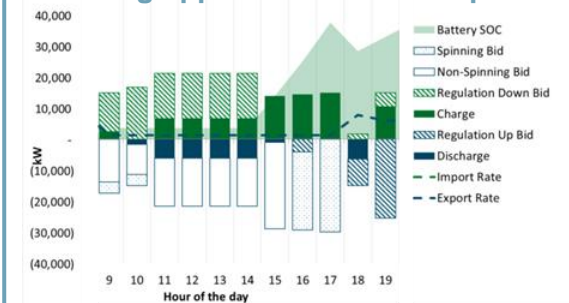
RECAP

Loss of load probability simulation to measure resource adequacy



RESTORE & IDSM

DER Toolkit for optimizing DER value stacking opportunities and adoption



Economy-wide energy systems

Bulk grid power systems

Grid edge & behind-the-meter

Asset Valuation and Markets at E3

Practice Area Details

- + The Asset Valuation practice area works primarily with project developers, asset owners, and investors
- + Insights informed by work being done across the firm that provides a unique 360-degree perspective of rapidly evolving markets
 - Market Analysis → how will market prices evolve in the grid of the future?
 - Clean Energy Policy → how will policy change the playing field for different resources?
 - Planning → what resources will power the grid in 2020? 2030? 2050?



Asset Valuation

Determines asset values and strategies from multiple perspectives

Uses proprietary in-house models and in-depth knowledge of public policy, regulation and market institution

+ The E3 Asset Valuation team provides a variety of analytical support tailored to client needs; Typical services include:

- Transaction support and due diligence on both the buy side and sell side
- Strategy formulation and market entry
- Board-level reports on market outlook and asset performance
- Customized forward-market price projections incorporating impacts of policy and technology changes
- Revenue stream/benefits analysis, either on an individual asset or portfolio basis
- Production simulation cost modeling using in-house proprietary tools or customized commercial software
- Project site evaluation
- Off-taker assessments
- Basis spread assessment
- Wholesale market rules and bidding strategies

E3's Recent Transaction and Thought Leadership Support



Blackstone

Key market and strategic advisor to Blackstone Infrastructure Partners on \$2.15 billion acquisition of minority equity interest in Northern Indiana Public Service Company



Key market and strategic advisor to Macquarie Infrastructure and Real Assets (MIRA) / Ontario Teachers' Pension Plan (OTPP) consortium in their investment into Puget Sound Energy



Key market and strategic advisor to InfraRed Capital Partners in their investment into a portfolio of Texas and Nevada transmission assets



Key market and strategic advisor to Ontario Teachers' Pension Plan (OTPP) in their acquisition of certain NextEra assets



Key market and strategic advisor to Amber Infrastructure Group in their investment in low carbon fuels (RNG and ethanol)



Key market and strategic advisor to Generate Capital in their investment in a battery energy storage platform (esVolta)



Hydrogen emissions accounting analysis for the American Council on Renewable Energy (ACORE)

Various
(Confidential)

- Project development advisory support for clean hydrogen electrolysis
- Development and advisory support for Distributed Generation assets across the U.S.
- Diligence support for large multi-state utilities and renewable+storage platforms
- Strategic Planning support for electric and gas utility

E3 Informs the Largest Global Infrastructure Investors

- + E3 is a go-to consultant for market intelligence and transaction support
- + Investors turn to E3 for due diligence on a wide variety of asset classes
 - Electric and gas utilities
 - Energy generation
 - Energy storage
 - Transmission
 - Demand-side resources
 - Electric vehicle charging infrastructure

E3 Client. 2020 - 2024

THE 2020 INFRASTRUCTURE INVESTOR 50

Rank	Manager	Headquarters	Capital raised (\$m)
1	Macquarie Infrastructure and Real Assets	London	73,577
2	Global Infrastructure Partners	New York	62,664
3	Brookfield Asset Management	Toronto	49,537
4	Stonepeak Infrastructure Partners	New York	23,740
5	KKR	New York	22,643
6	IFM Investors	Melbourne	21,300
7	AMP Capital	Sydney	19,525
8	EQT	Stockholm	18,972
9	First Sentier Investors	Sydney	15,523
10	BlackRock	New York	15,183
11	Blackstone	New York	14,000
12	Antin Infrastructure Partners	Paris	12,837
13	Ardian	Paris	12,742
14	Morgan Stanley Infrastructure Partners	New York	11,700
15	I Squared Capital	Miami	10,510
16	Copenhagen Infrastructure Partners	Copenhagen	9,149
17	ArcLight Capital Partners	Boston	8,990
18	Actis	London	8,230
19	DIF	Schiphol	8,198
20	Partners Group	Baar	7,858
21	The Carlyle Group	Washington DC	7,800
22	Energy Capital Partners	Summit	7,511
23	AIP Management	Copenhagen	6,553
24	Greencoat Capital	London	6,514
25	Ping An Asset Management	Shanghai	6,148

Sample of E3's Recent Due Diligence Clients

Brookfield



Blackstone



MACQUARIE



Morgan Stanley

CIP

Copenhagen Infrastructure Partners

CapitalDynamics



ROCKLAND CAPITAL

E3's Due Diligence Service Offering Leverages Our Consulting expertise

- + E3 works closely with all types and sizes of utilities across North America from the smallest to the largest under all ownership structures**
 - Our work spans C-suite/Board strategy to utility resource planning, program cost-effectiveness analysis, ratemaking, and regulatory filing support
- + E3 also supports many utility regulators and key stakeholders**
 - We have been trusted consultants to numerous state regulatory commissions and agencies like the California Public Utilities Commission and the New York Department of Public Service for years
 - We also work for several key utility stakeholders such as environmental and non-profit groups
- + Clients often approach E3 for difficult or “non-standard” due diligence exercises such as evaluating new asset classes like energy storage or electric vehicles or working in one-of-a kind situations, i.e. the conversion of a public utility to an investor owned one**

E3 Works With Clients to Create Custom Analysis Aligned With Internal Views

- + **E3 strongly believes that in today's regulatory, political, and market environment any acquisition or major investment requires a bespoke approach tailored specifically to the asset and investment thesis**
 - The clean energy transition will reshape every market in a unique way
 - Understanding the multi-faceted local implications is critical for any major investment
- + **E3 works closely with investment teams to define and answer key questions, whether testing the investment thesis, supporting the regulatory case, or performing a deep technical analysis around impact to utility customers**
- + **E3 is the only consulting firm with comprehensive, internally consistent views on the clean energy transition and the analytical tools to back them up**

No other firm combines a deep understanding of policy, technology, and markets like E3

E3's Asset Valuation Practice Uniquely Leverages Best-in-Industry Technical Learnings Across the Firm

Integrated System Planning

Developing technically robust solutions and road maps for the safe, reliable, and least cost implementation of the clean energy transition including determining capacity, energy and reserve requirements, and providing full-suite system planning services (generation, transmission, distribution, customer programs)

Asset Valuation and Markets

Balancing supply and demand at all levels of the market to forecast the impact of the clean energy transition on assets, portfolios and businesses
(market evolution, transmission value, project economics, pricing forecasts, strategy and risk analysis)

Climate Pathways and Electrification

Best-in-class modeling of end-use transformation required by decarbonization across all sectors including load forecasts, technology implications, and economic and affordability impacts

Technical insights and understanding form the basis of our market views

Thank You

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