Overview of E3's Market Advisory and Valuation Practice Offerings

Market price forecasts, the E3 Forecast Portal and advisory support



Energy+Environmental Economics

Who is Energy and Environmental Economics, Inc. (E3)?

150+ TEAM MEMBERS

35 years OF DEEP EXPERTISE

400+ PROJECTS PER YEAR

150+ CLIENTS

MULTIDISCIPLINARY EXPERTISE | Engineering | Economics | Mathematics | Public policy


San Francisco


New York


Boston


Calgary


Denver


Chicago

EXPERTISE-DRIVEN APPROACH

Rigorous analysis
Data-driven, technically rigorous, and transparent

Powerful modeling
In-house models and third-party software tools

Real-world validation
Client, market, and stakeholder feedback

A DIVERSE CLIENT BASE

Public & Non-Profit Sector
- Planning agencies & non-profits
- Regulators & commissions

Utilities & System Operators
- Investor-owned & publicly owned utilities
- ISOs/RTOs & other system operators

Investors, Developers & Owners
- Asset owners & project developers
- Investors & financiers

WHAT WE DO

Energy Planning & Policy
System planning • Resource adequacy
Electrification • Climate strategy

Markets & Asset Valuation
Price forecasting • Large loads
Transaction diligence

Transmission, Rates & Risk
Transmission planning • Market rate design
Asset health • Wildfire risk • Siting

Distribution Planning
Grid modernization • Distribution strategy
Regulatory support

Contents and reading guide

Review E3's Market Advisory and Valuation practice, price forecast options, E3 Forecast Portal access and supporting methods.

MAIN PRESENTATION

01 E3 introduction 2-6
Firm, practice, transactions and forecast philosophy.

02 Forecast packages 7-13
Client decisions, coverage, tiers and nodal services.

03 Details on the E3 Forecast Portal 14-17
Market prices, dispatch, benchmarks and underlying data.

04 Premium service 18-21
Annual subscriptions, client-specific scope and custom cases.

APPENDICES – E3 TOOLS AND REFERENCE WORK

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D Data centers and large loads 45-51

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E3 supports strategy, development and investment decisions

WHO WE SERVE

- Project developers
- Asset owners
- Utilities and power buyers
- Technology companies
- Investors and lenders

A 360° PERSPECTIVE

Insights informed by work across E3

Energy policy
How will policy reshape opportunities for different resources?

Planning
What resources will power the grid in 2030 and 2050?

Markets
How will market design and prices evolve?

VALUE ACROSS THE ASSET LIFECYCLE

Asset, portfolio & company valuation
Across vertical, bilateral, and wholesale markets

Strategic support
From market entry and development to acquisition and operation

Analytical depth
Proprietary models and expertise in policy, regulation, and markets

TAILORED ANALYTICAL SERVICES

Transactions & Strategy
- Buy-side and sell-side due diligence
- Strategy formulation & market entry
- Board-level market outlook & asset performance reports

Forecasting & Valuation
- Customized forward-market price projections reflecting policy and technology changes
- Asset and portfolio revenue benefits analysis
- Basis spread assessment

System Modeling
- Production cost simulation & capacity expansion

In-house proprietary tools and customized commercial software

Projects & Commercial Support
- Project site evaluation
- Off-taker assessments & Power Purchase Agreement review
- Wholesale market rules & bidding strategies

Public transactions span generation, utilities and transmission



100+ GW

Renewables, storage & thermal generation evaluated and supported

Plus major investments in utilities and transmission

National Grid Renewables
U.S. onshore renewables acquisition
$1.7B enterprise value

AES Corporation
Advisor to GIP in the GIP / EQT consortium
$33.4B enterprise value
Announced transaction

Uplight
Majority stake in grid flexibility provider
Value not disclosed

Duke Energy Renewables
Acquisition support
$1.05B equity proceeds

Texas & Nevada transmission
Market and strategic advice on investment
Value not disclosed

HASI partnership
Market advisory support
$2B strategic partnership

South Fork & Revolution
Acquisition of Eversource's offshore wind stakes
$745M closing proceeds

NIPSCO
Minority equity acquisition
$2.15B investment

Puget Sound Energy
31.6% Puget Holdings stake Macquarie / Ontario Teachers
$2.7B proceeds

NextEra wind & solar
50% stake in ~2,520 MW
$849M investment

Low-carbon fuels
RNG and ethanol investment advisory
Value not confirmed

esVolta
Battery storage platform; 900 MWh contracted
Value not disclosed

Sale to Pennybacker
Low-carbon mobile distributed power provider
Value not disclosed

TotalEnergies solar portfolio
50% stake in 1.4 GW North American portfolio
$1.25B portfolio EV

Labrador Island Link
Emera's equity interest
C$1.19B transaction

EXPERIENCE ACROSS THE MARKET

Developers & capital providers

Serving developers, investors, and financiers of all sizes and ownership structures across North America.

Utilities & system operators

Experience with utilities, RTOs/ISOs, and market participants, from board strategy and resource planning to cost-effectiveness, rates, and regulatory filings.

Regulators & stakeholders

Long-standing work with state commissions and agencies, including the California Public Utilities Commission, plus environmental and non-profit groups.

Broad sector experience informs transaction advice.

Consulting experience and fundamentals inform E3 forecasts

TWO GUIDING PRINCIPLES

01

Rigorous fundamentals

Carefully developed analysis, grounded in foresight, transparency, and intellectual honesty.

02

Consultant-first engagement

An engagement platform built on broad, cross-cutting industry expertise.

HOW THE APPROACH IS PUT INTO PRACTICE

Tested in the field

Forecasts used and tested across 100+ clients and projects annually.

→ **A holistic, pressure-tested product**

Grounded in client work

Every forecasting team member stays actively involved in complex, client-facing consulting.

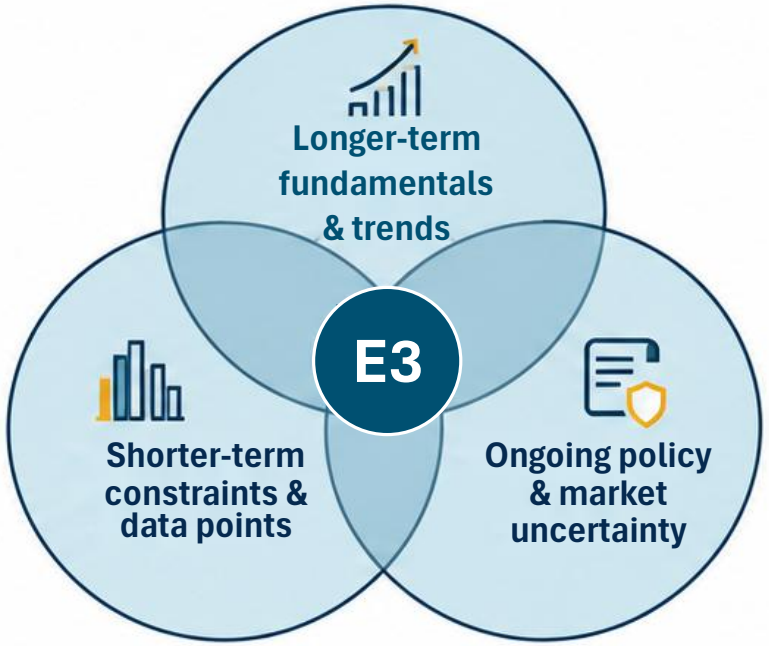
→ **Reflects both on-the-ground and modeled realities**

Informed by market context

Deep understanding of policies, markets, and constraints.

→ **Responds to new information without over-weighting recent news or data**

A BALANCED FORECASTING APPROACH



Insight to navigate power market prices and asset valuation

SECTION 02

Forecast packages

Forecast use cases, Core Case coverage, tier options and nodal services.

Pages 7-13

Energy+Environmental Economics

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Client decisions and market coverage	8-9
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Next section

E3 price forecasts support development, investment and procurement

Client challenges

Fragmented market views

Multiple data sources and assumptions can lead to inconsistent market views.

Repeated diligence effort

Teams often need to rework analysis across mandates and investment stages.

Changing market conditions

Markets evolve quickly, requiring updated analysis to inform decisions.

Independent forecasts + consulting insight

Rigor

Independently developed, thoroughly vetted forecasts backed by substantial expert effort.

Efficiency

A subscription can reduce repeated purchasing and accelerate review.

Flexibility

Tailored analysis across assets, transactions and investment stages.

Auditability

Clear links between the E3 view, house views and alternative assumptions.

Market insight

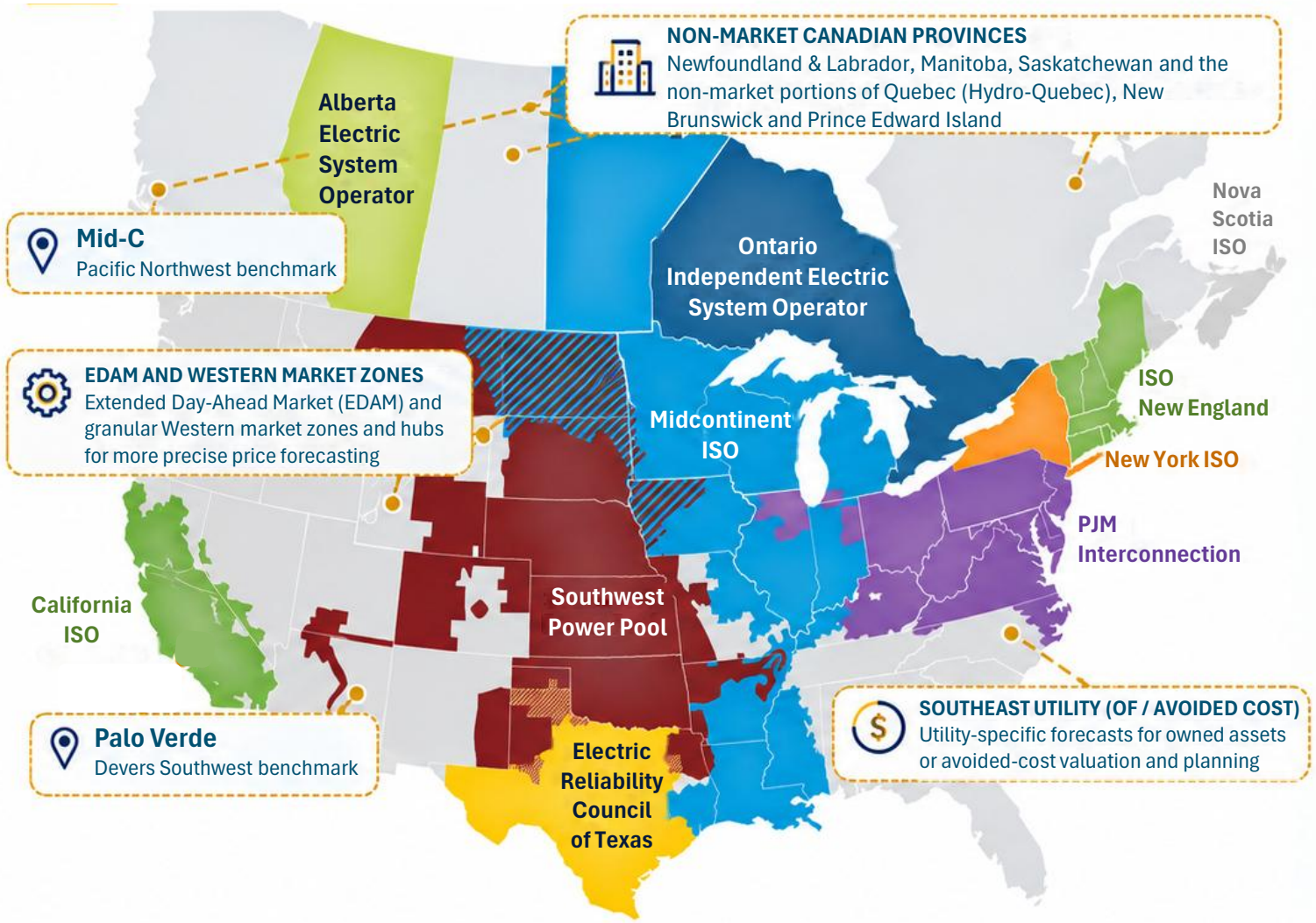
Consulting and project experience inform emerging risks and opportunities.

Forecasts are a foundation for client decisions

An expert market view that evolves with fundamentals and supports broader project needs.



E3's develops an "off-the-shelf" Core Case forecast that is released semi-annually and covers 9 ISO/RTO wholesale markets



STANDARD CORE CASE MARKETS

CAISO	ERCOT	SPP
MISO	PJM	NYISO
ISO-NE	AESO	IESO

ADDITIONAL CUSTOM FORECAST CAPABILITY

EDAM + WESTERN MARKET ZONES
Granular zones and hubs across the West.

SOUTHEAST OF / AVOIDED COST
Utility-specific forecasts for owned assets or avoided-cost planning.

NON-MARKET CANADIAN PROVINCES
Province-specific forecasts leveraging on-the-ground relationships and local expertise.

30 years
Standard 30-year forecast horizon.

Hourly
Hourly resolution across all markets

MAP NOTES
Boundaries are approximate and for illustrative purposes. Market coverage and offerings are subject to change. For full details, contact E3 or visit www.ethree.com.

E3 has four distinct tiers of market price forecast offerings

Our hub-level / zonal forecasts support a wide and diverse range of clients and use cases, and our tiered offerings are meant to provide a flexible range of options to fit client needs and budgets.

TIER 0
One price stream

$5K / zone

WHAT YOU GET

- Hourly day-ahead prices
- One standard zone or hub
- Download through the E3 Forecast Portal

Best for: Early-stage screens and budgets

TIER 1
Market price bundle

$10K / market

WHAT YOU GET

- Standard price streams for one market
- Short methods overview
- E3 Forecast Portal access and downloads

Best for: Market comparisons and early project work

TIER 2
Standard market package

$20K / market

WHAT YOU GET

- Price streams, outlook and key assumptions
- Standard E3 Forecast Portal views and files
- 4-6 hours with the E3 team

Best for: Development, valuation, procurement and planning

TIER 3 / PREMIUM
Custom annual package

From $100K / year

WHAT YOU GET

- Multiple markets and regular updates
- Tailored E3 Forecast Portal views and outputs
- Ongoing sessions with E3 experts

Best for: Portfolios, recurring needs and larger teams

Asset-specific analysis and custom cases are separately scoped unless included in the agreed package or subscription.

Mix and match across markets. Multi-market and bulk-purchase discounts are available and generally range from 10% to 30%, depending on package selection and scope of services.

E3 has expanded our market price forecast offerings and capabilities with a new interactive platform → the "E3 Forecast Portal"

New online platform adds easier access, greater data depth, stronger visuals, and more transparency / flexibility.

Who uses E3 forecasts? Developers and asset owners | Investors and lenders | Utilities and public agencies | Data centers and large energy users | Technology companies and corporate buyers

WHY E3 IS EXPANDING THE OFFERING

Clients have long used our forecasts as part of E3's core consulting work. We are making the same forecast foundation easier to access and use, with more ways to match the product to the need and budget.



MORE INTERACTIVITY

View, compare and download through the new platform, which ties directly into our modeling databases and analytical engine.



MORE CHOICE

Buy one stream, one market, a mix of packages or an annual relationship.



MORE TRANSPARENCY

See key assumptions, available cases and release notes.

THREE COMMON WAYS TO USE IT

The new offering is built to fill a gap we see in the market: efficient digital access and product choice without losing the E3 experts behind the work.

1. **START SMALL**
   Tier 0 or Tier 1 for an early-stage project, budget, benchmark or first market screen.
2. **MIX AND MATCH**
   Use Tier 2 in a core market and add Tier 0 or Tier 1 access in adjacent markets.
3. **ADD E3 SUPPORT**
   Add scoped consulting to Tier 2 or Tier 3 / Premium for transactions, procurement and recurring portfolio work.

The same E3 market view can support a first screen, an active project decision or a multi-billion-dollar financing.

How to assess which tier is appropriate?

For a given market and vintage, the Core Case is shared on an enterprise-wide basis; coverage and E3 support varies by tier.

	EXPLORE	SCREEN AND REFINE	ANALYZE AND TRANSACT	MANAGE AND OPTIMIZE
	Understand market fundamentals and opportunity	Compare markets and prioritize opportunities	Evaluate assets, strategy and transaction options	Track markets and adapt to new opportunities



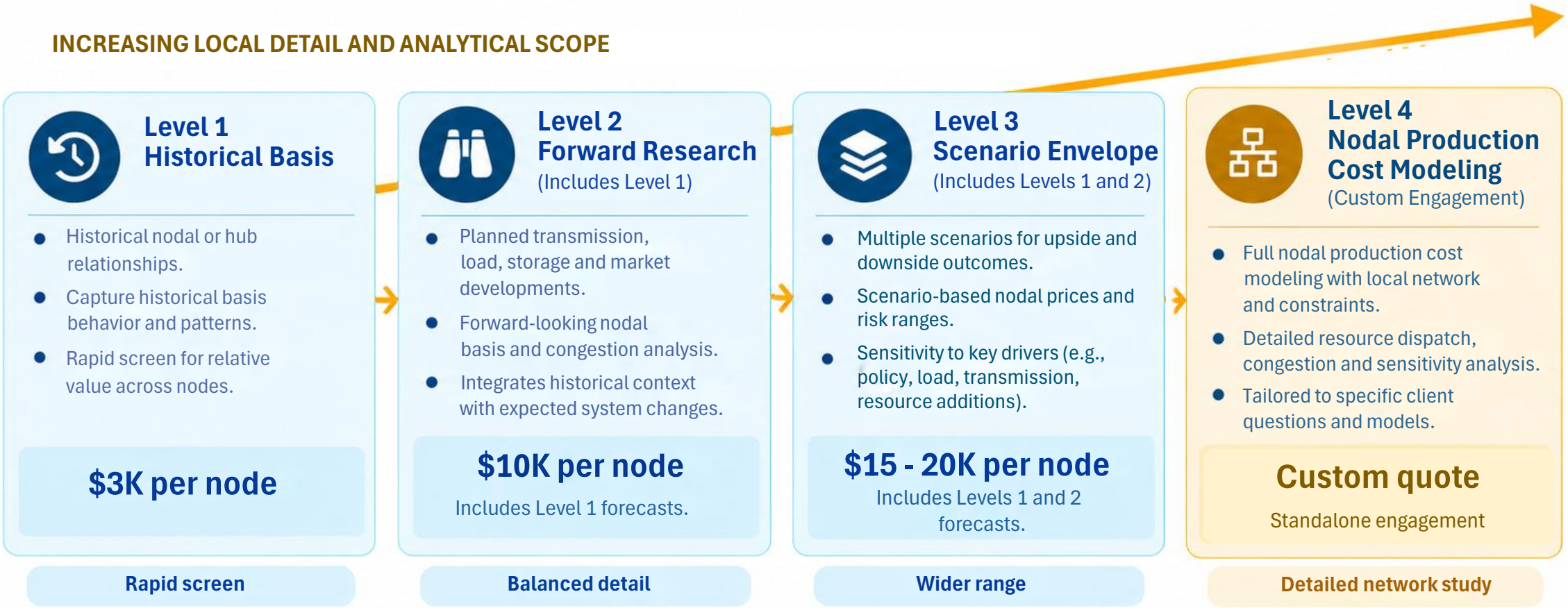
TYPICAL CLIENT QUESTIONS				
	• What is the market outlook over the next 5-10 years? • Which markets suit our assets or technology?	• Which projects or markets should we prioritize? • Which drivers and scenarios change value?	• What market view should underpin diligence? • How do prices, basis and contracts affect returns?	• How do policy, load and technology affect our portfolio? • What opportunities and risks are emerging?

Clients can enter at any tier. Coverage and support follow the decision, not a required sequence.

HOW TO MAP TO THE E3 TIERS				
	0 Early-stage insight Selected forecasts to explore markets and sense-check early opportunities.	**1 Market foundations** Core market forecasts to compare opportunities and support initial development.	**2 Decision support** A documented outlook for diligence, valuation, procurement and strategy.	**3 Tailored subscription** A tailored subscription with custom analysis and senior E3 support.

E3 also offers nodal / asset-level forecasting across four distinct levels calibrated to a client's analytical needs and budget

Levels 2 and 3 include the preceding forecast levels. Level 4 is usually a separate stand-alone engagement.



Bulk discounts of 10-30% are available depending on the number of nodes examined.
Pricing is indicative for 2026. Scope, assumptions, deliverables and timelines are defined in the agreement.

SECTION 03

Details on the E3 Forecast Portal

Interactive market prices, dispatch, asset benchmarks and underlying data.

Pages 14-17

Energy+Environmental Economics

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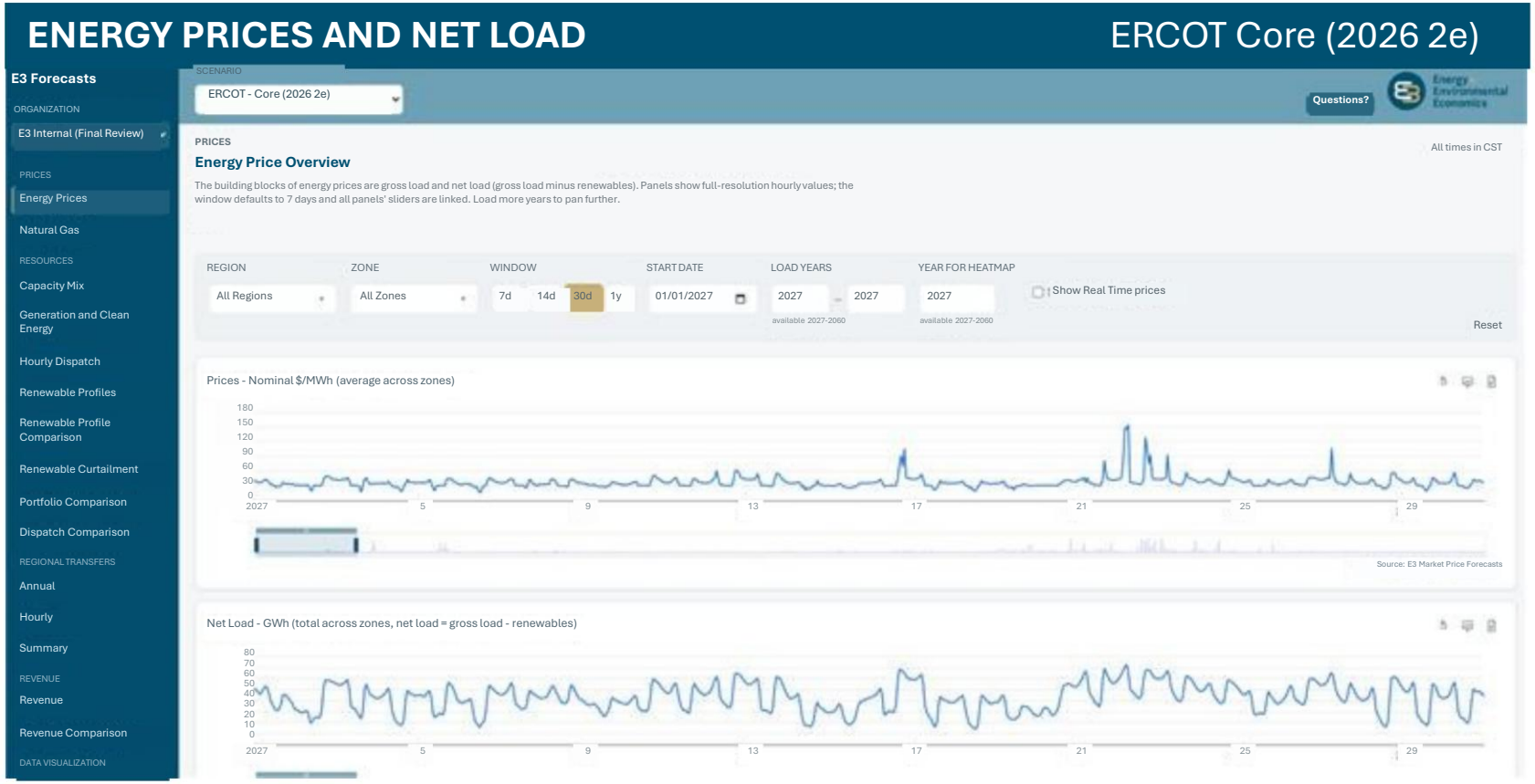
Market prices and underlying data	15
Hourly dispatch and custom-case workflow	16
Net energy revenue and capture prices	17

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Next section

The E3 Forecast Portal connects market prices to underlying data

Explore market prices and system fundamentals, with access to the data behind each included view.



Choose the view

Select the market, zone, case, year and time interval.

Link prices to drivers

Inspect energy prices and net load through linked views.

Access the data

Export chart and table data for use in your own models.

Explore a chart, compare cases and export its data without changing platforms.

Actual E3 Forecast Portal view: ERCOT Core (2026 2e). Views and data access depend on the agreed package.

The E3 Forecast Portal enables depth and breadth → understand how hourly dispatch and system fundamentals drive prices

Review E3 Core Cases or custom forecast cases in a consistent format and reuse the underlying results.

01 View the inputs → **02 Explore Results** → **03 Customize Views** → **04 Review and export**

- **View the inputs**: Load, resources, and fuel prices by zone / region
- **Explore Results**: Dispatch and prices by hour, month, and year
- **Customize Views**: Inputs, results and underlying data
- **Review and export**: Export data directly from customized charts

E3 Forecast Portal example: hourly generation by resource



Actual E3 Forecast Portal view: ERCOT Core (2026 2e); generation in GWh. Custom cases and access are scoped.

CLIENT REVIEW AND REUSE

Compare cases

Review the Core Case and agreed custom cases by market, zone and year.

Inspect the system response

Explore dispatch, renewables, charging, transfers and price drivers.

Reuse the source data

Export the results for investment, procurement and operating analysis.

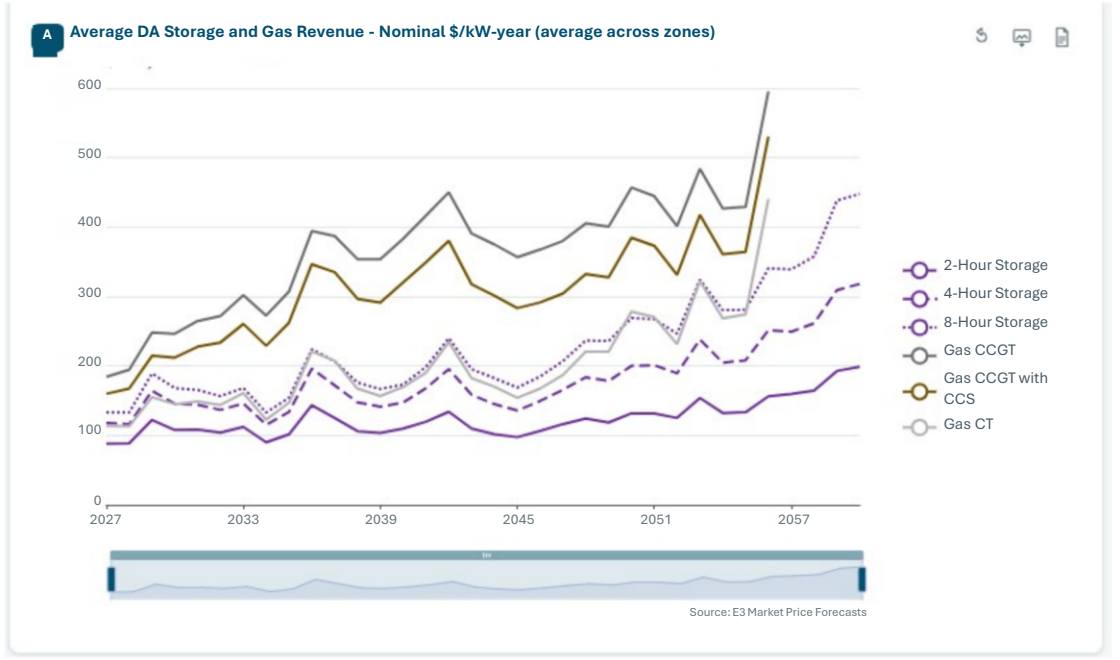
Compare asset benchmarks across zones and markets

Net energy revenue = energy revenue less variable costs.

Gas: fuel and variable operations and maintenance (VOM). Batteries: charging costs, accounting for losses.

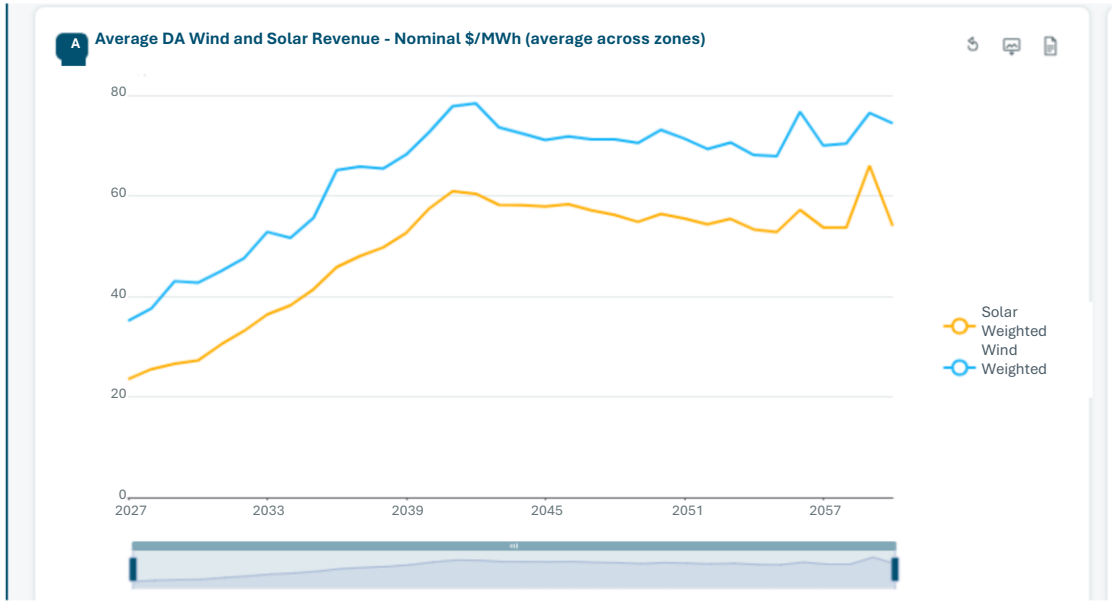
Storage and gas generation

Day-ahead net energy revenue | nominal $/kW-year



Wind and solar capture prices

Generation-weighted day-ahead price | nominal $/MWh



Compare within each benchmark | **Download chart and table data** | **Review agreed custom cases**

Actual E3 Forecast Portal charts: ERCOT Core (2026 2e). Hub-level benchmarks, not site-specific valuations.

SECTION 04

Premium service

Annual forecast coverage, client-specific scopes and custom cases.

Pages 18-21

Energy+Environmental Economics

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Annual forecasting relationship 19

Client-specific scope and support 20

Custom cases and sensitivities 21

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Next section

E3's Tier 3 or Premium service offering combines forecast updates and scoped custom work

	Individual project purchases	Annual subscription
Buying	Scope and price each project	One annual agreement for agreed markets and products
Deliverables	Price book, assumptions and market report in Excel / PDF	Recurring E3 Forecast Portal access, agreed Premium views and custom outputs
Updates	Each refresh purchased separately	Released vintages for subscribed markets and products, within term
Support	Consulting scoped by engagement	Workshops and forecast readouts; cadence and topics agreed
Across decisions	Limited continuity between engagements	One shared market view across projects, decisions and teams

Less repeated purchasing.
Greater consistency. Direct access to E3.

Coverage and support are defined in the annual agreement.



Tier 3 scopes are all highly customized to each specific client and usually combine market coverage and consulting support

Market coverage

Agreed markets and products under one annual fee.



Subscribed vintages

Released vintages for agreed markets and products during the term.



E3 Forecast Portal access

Premium views and custom outputs with underlying data.



Senior engagement

Workshops, readouts and issue-specific sessions. Cadence and topics agreed.



Custom cases

Scoped sensitivities; dispatch, curtailment, flows and emissions.



Team use rights

Client teams across investment, procurement and planning; affiliates as agreed.



Typical indicative range



$100,000 - $300,000
per year

Price reflects coverage, users and the agreed advisory work program.

Prior purchases of Tier 0-2 products count as “credit” against any Tier 3 offering.

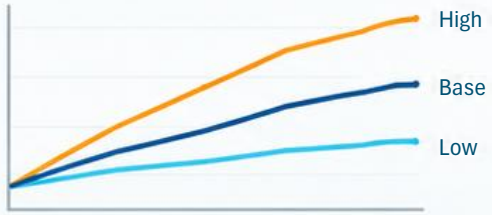
Illustrative annual program. Markets, products, cadence, users, rights and custom deliverables are agreed in advance.

Custom cases test individual drivers and alternative market outlooks

Connect market assumptions to local prices and asset value

01 Load & demand

What if load grows faster or slower?

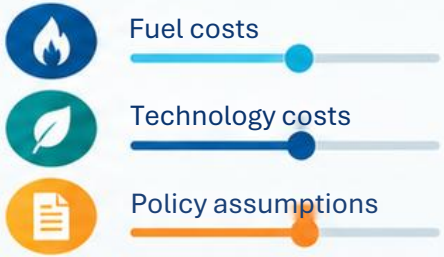


CUSTOMIZE
- Regional load growth
- Large-load timing

COMPARE
- Resource builds
- Energy prices
- Dispatch & transfers

02 Costs & policy

How do assumptions change value?



CUSTOMIZE
- Fuel & carbon costs
- Technology costs
- Policy assumptions

COMPARE
- Market prices
- Resource economics
- Asset revenue exposure

03 Grid & location

What changes at the project location?

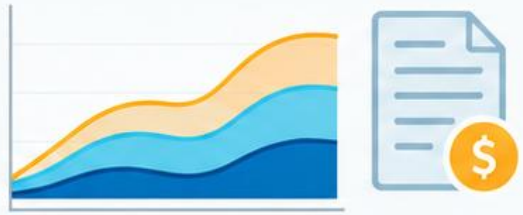


CUSTOMIZE
- Transmission & generation
- Storage & local load

COMPARE
- Nodal basis
- Capture prices
- Curtailment exposure

04 Assets & contracts

How do asset terms shape revenue?



CUSTOMIZE
- Operating parameters
- Production profiles
- Contract terms

COMPARE
- Generation
- Revenues & margins
- Valuation sensitivities

Tailored scenarios. Connected forecasts. Decision-relevant insights.

APPENDIX A

Forecast methods and products

Inputs, resource builds, market price formation and illustrative simulations.

Pages 22-29

Energy+Environmental Economics

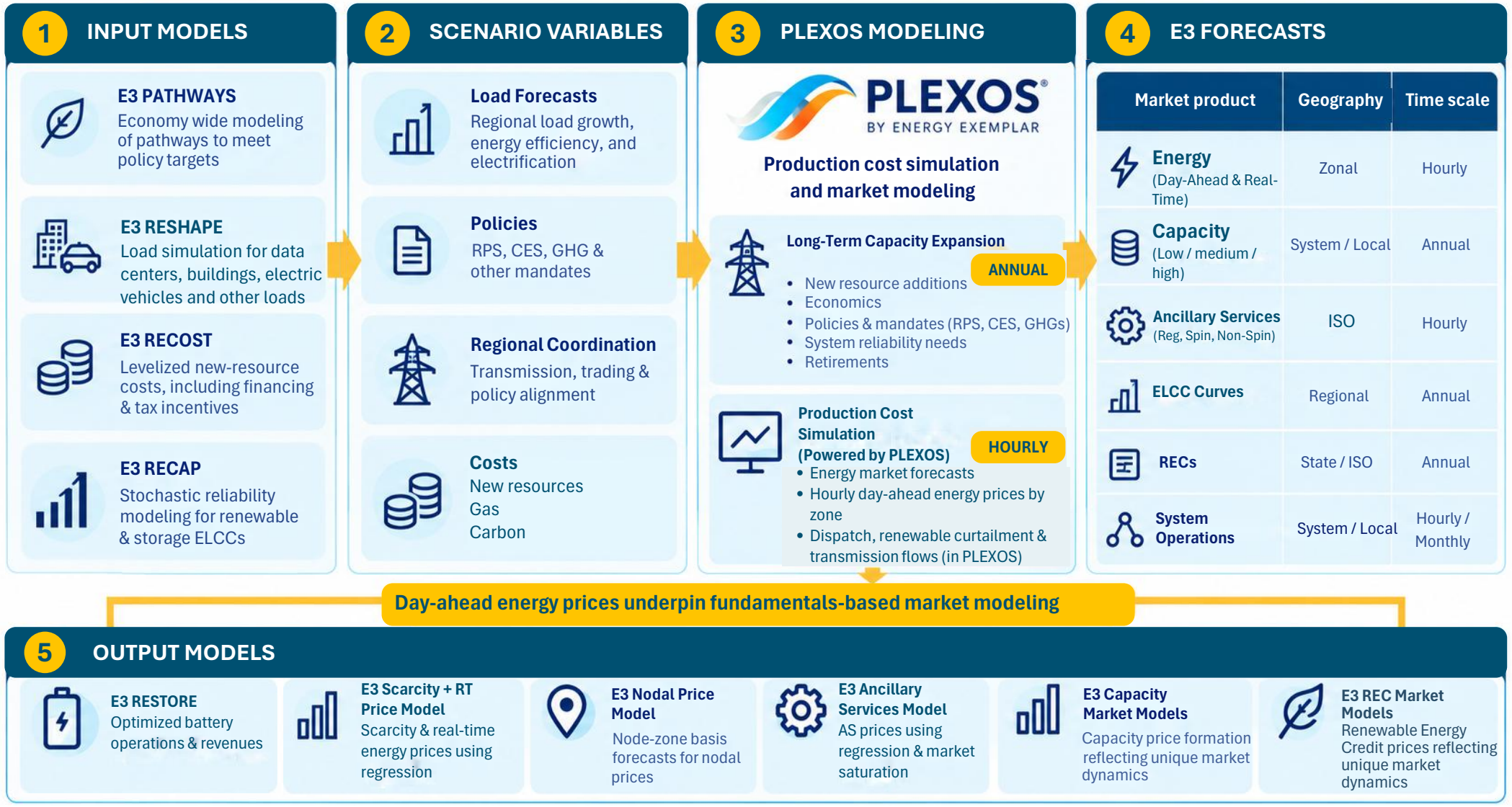
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Resource builds and price products	25-28
Illustrative simulations	29

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E3 Model inputs connect to market and asset outputs



Energy forecasts link dispatch to energy market price formation

Market fundamentals

Inputs and assumptions that shape system conditions

Load and resources
Demand growth such as from data centers, resource buildout, and retirements

Fuel and carbon costs
Natural gas, coal, CO_2, fuel price scenarios

Policy and transmission
Market rules, resource accreditation, transmission expansion

PLEXOS® BY ENERGY EXEMPLAR

Least-cost production simulation

Hourly dispatch, system conditions and regional flows across 20+ years

- Unit commitment
- Transmission and transfers
- Renewables and storage

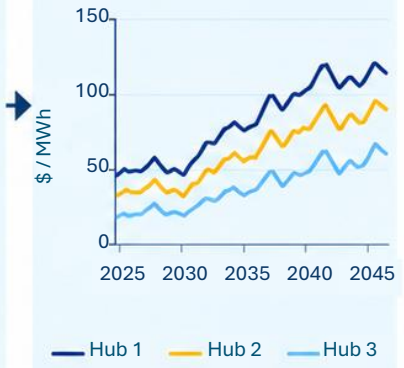
E3 adjustments

Market-specific scaling and post-processing

- Market design and rules
- Resource accreditation
- Price and scarcity adjustments

Day-ahead price forecast

Energy prices by zone or hub



Historical DA and RT behavior

Empirical market behavior informs modeling and price relationships



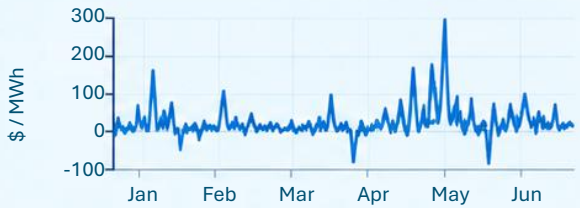
E3 real-time and scarcity methods

Statistical price relationships and adjustment methodologies

- Linking dispatch results to market prices
- Capturing scarcity conditions
- Incorporating historical DA/RT behavior
- Forecasting real-time prices and scarcity outcomes

Real-time price forecast

Energy prices by zone or hub



Negative-price post-processing applies to both day-ahead and real-time prices

Schematic charts; not a market forecast.

Resource builds and hourly operations inform market prices

MODEL INPUTS

Baseline Data

Current load • Existing resources • Planned retirements • Transmission

Scenario-specific Assumptions

RPS policies • Gas prices • Load growth • Technology costs • Renewable shapes



MODEL OUTPUTS

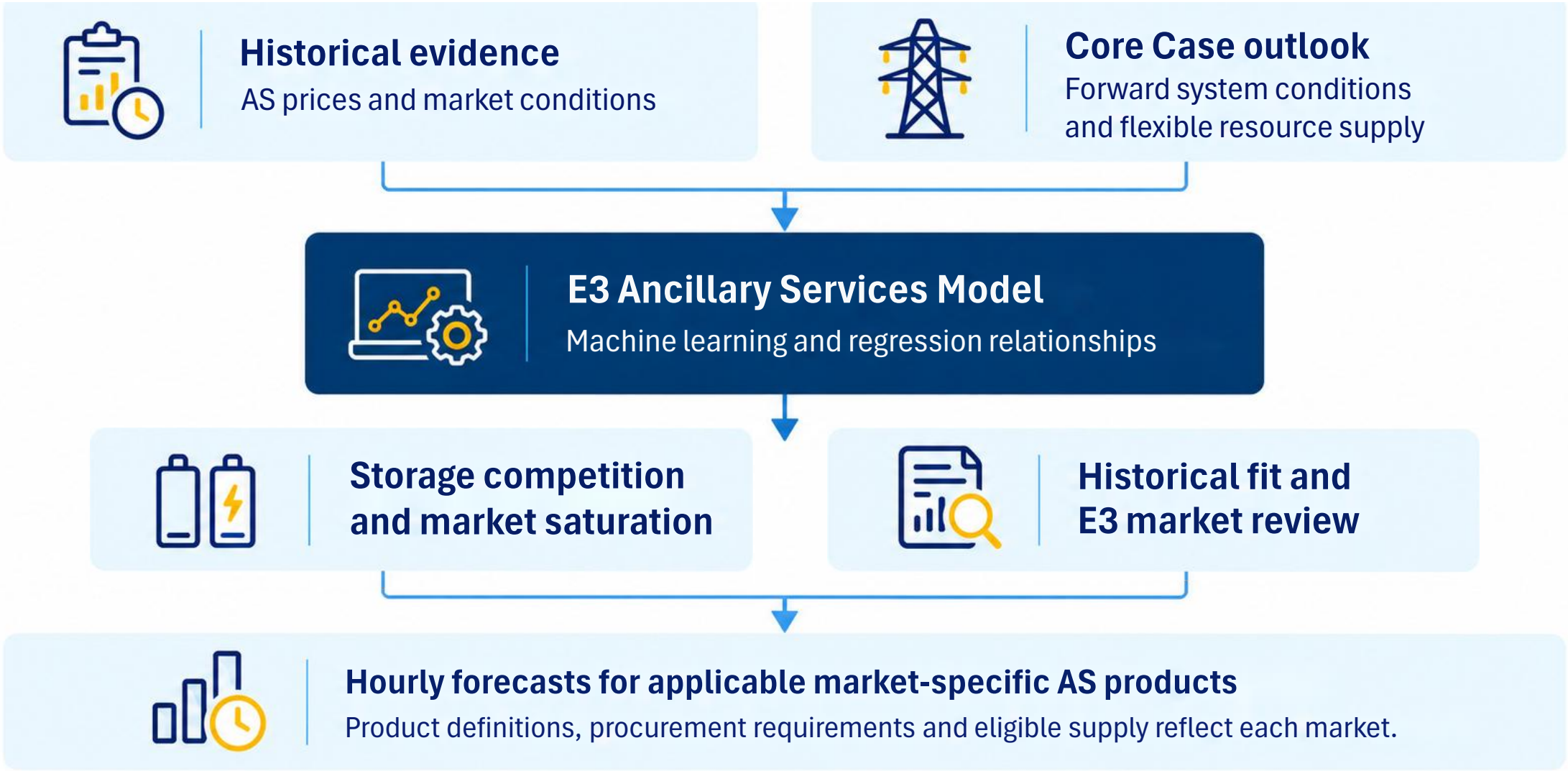
Energy Market Price Forecasts

Energy
- Day-ahead by zone: hourly
- Real-time by zone: 15-minute & hourly

Ancillary Services
- Regulation Up & Down
- Spin & Non-Spin (FRS)
- Energy Imbalance Reserves (EIR)

System Operations
- Zone and ISO-wide
- Hourly / monthly / yearly

Ancillary prices reflect system conditions and flexible supply



Capacity prices reflect resource economics and market rules

Auction-based markets and bilateral procurement require different price-formation methods.

Resource economics



- Annualized investment and fixed costs (RECOST)
- Net energy and ancillary-service margins (dispatch; RESTORE as applicable)
- **Net cost of new entry** benchmark

Reliability and supply balance



- Load and capacity requirements
- Additions, retirements and timing
- Accreditation and deliverability

Market and contract evidence



- Auction results and bilateral observations
- Location, term and performance obligations.

Market-Specific Capacity / Resource Adequacy (RA) Price Formation

Capacity auctions



- Demand curves
- Offer economics
- Market rules and price limits

Bilateral / regulated procurement



- Capacity shortfalls
- Procurement timing
- Contract rights and local needs

Capacity / RA price outlook



Annual, seasonal or monthly as applicable



System and locational products



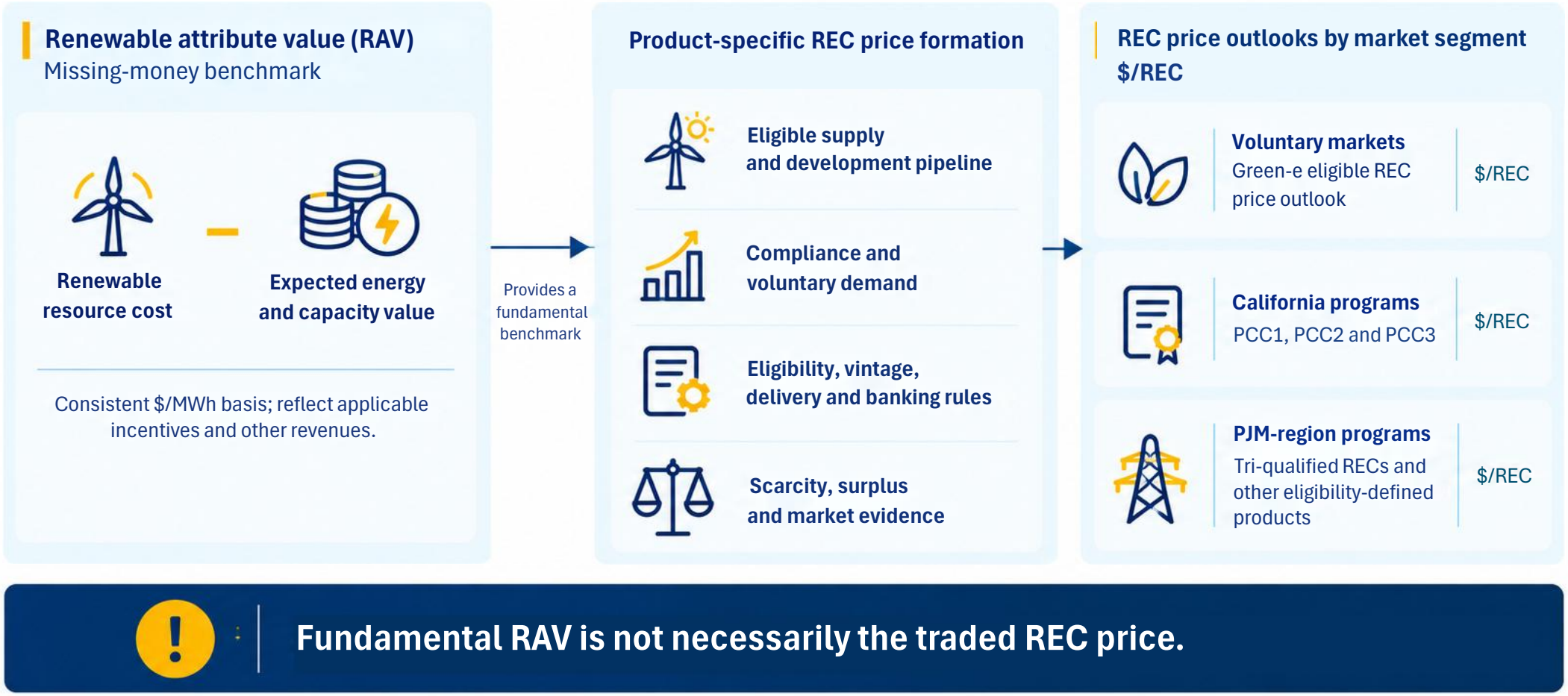
$/kW-month or $/MW-day with consistent accredited capacity basis



Net cost of new entry is a benchmark, not an automatic clearing price.

Where a capacity or RA product exists; market structure determines the method.

Renewable attribute value differs from the traded REC price



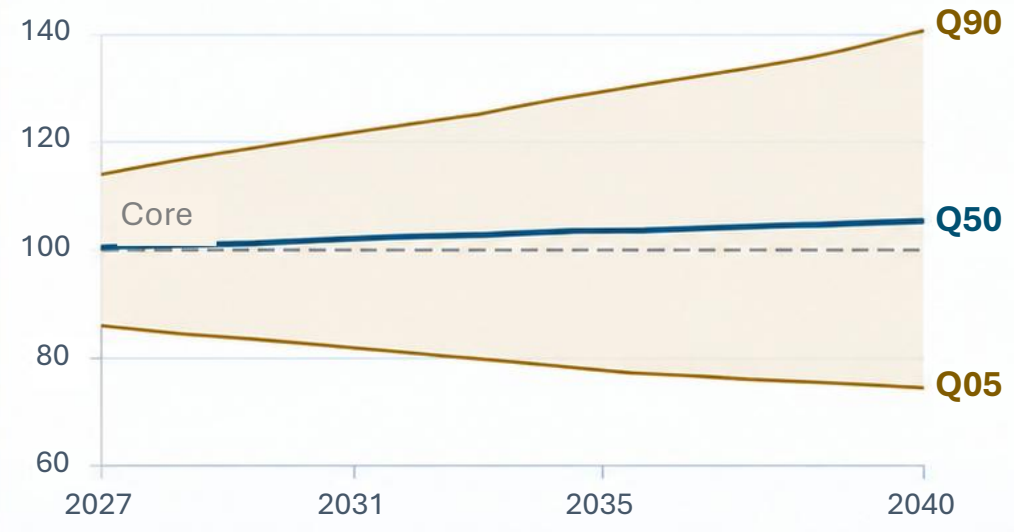
One REC represents 1 MWh of eligible renewable generation. Product eligibility and program rules define the market.

Illustrative simulations show price ranges and distributions

Synthetic illustration - not a market forecast or calibrated probabilities

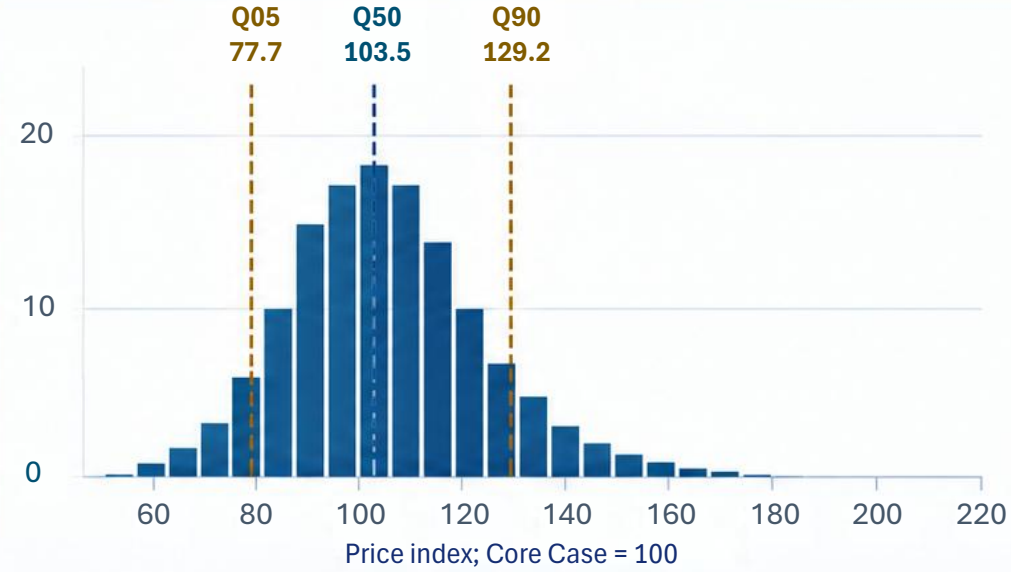
Annual average price range

Price index; Core Case = 100 each year



2035 annual average price distribution

Share of simulated draws (%)



2035 index	Q05 77.7	Q50 103.5	Q90 129.2

- Q90: 90% of draws are at or below this value; 10% are above.
- Conditional on the modeled structural case; alternative structural scenarios are evaluated separately.

APPENDIX B

Nodal forecasting and project value

Analytical levels, historical and forward basis, and capture value.

Pages 30-34

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Nodal methods and basis resolution 31

Historical and forward basis 32-33

Generation-weighted value 34

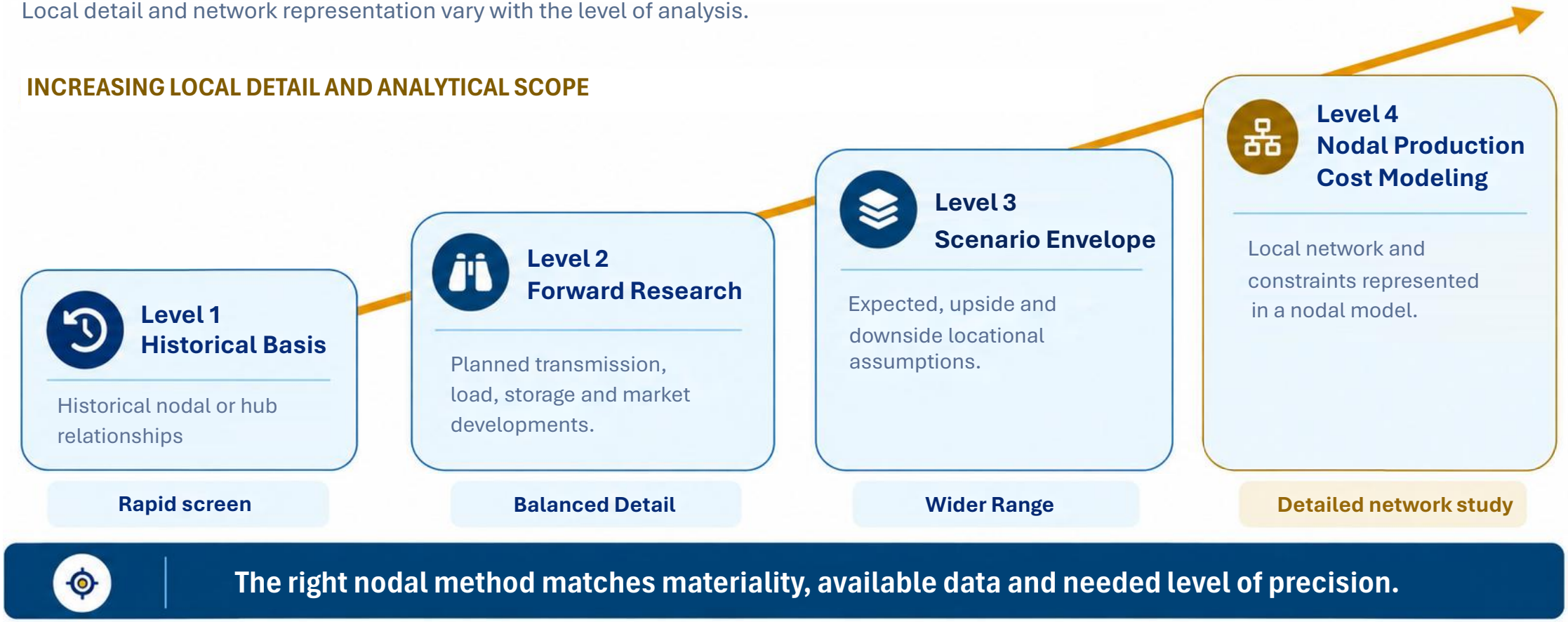
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E3's nodal methods range from historical basis to network models

Four levels of nodal and basis resolution

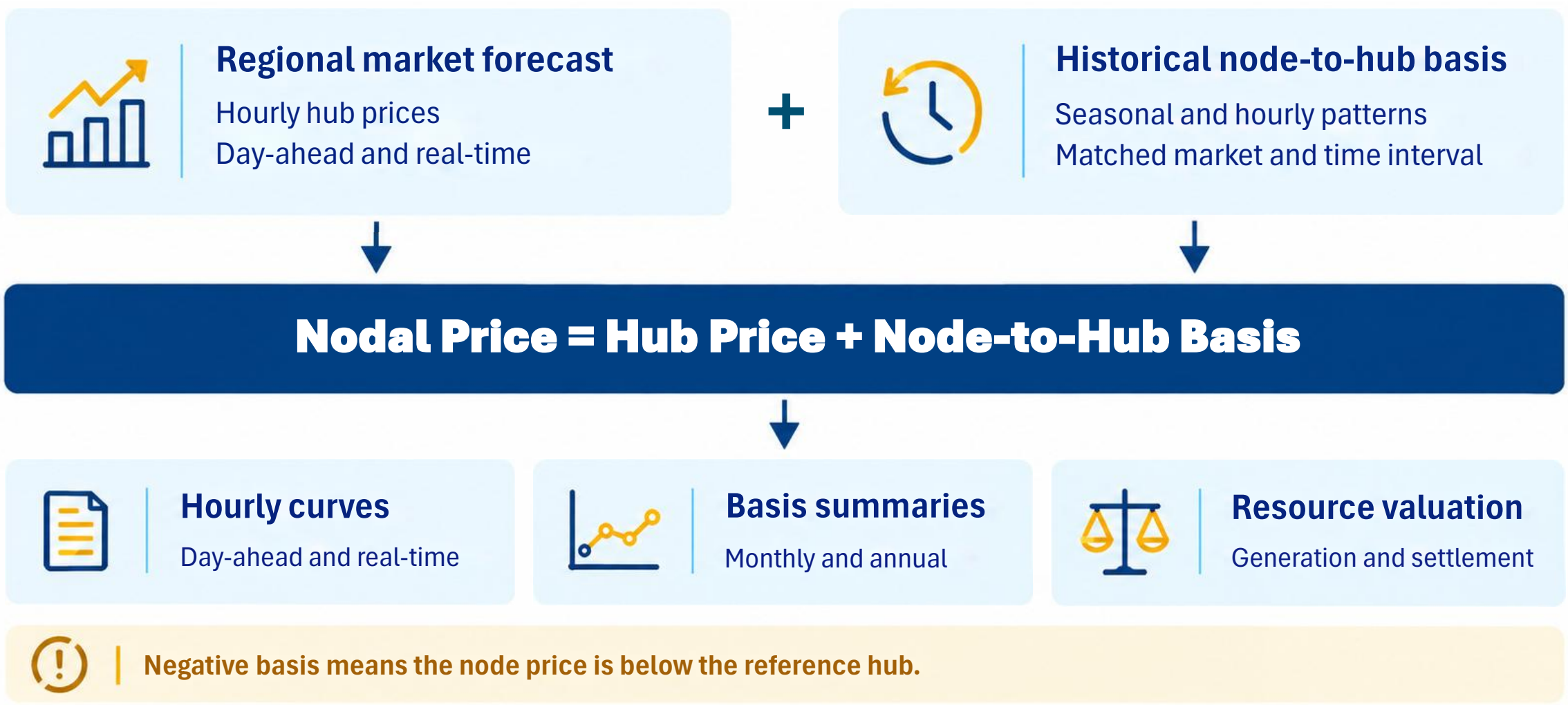
Local detail and network representation vary with the level of analysis.



The right nodal method matches materiality, available data and needed level of precision.

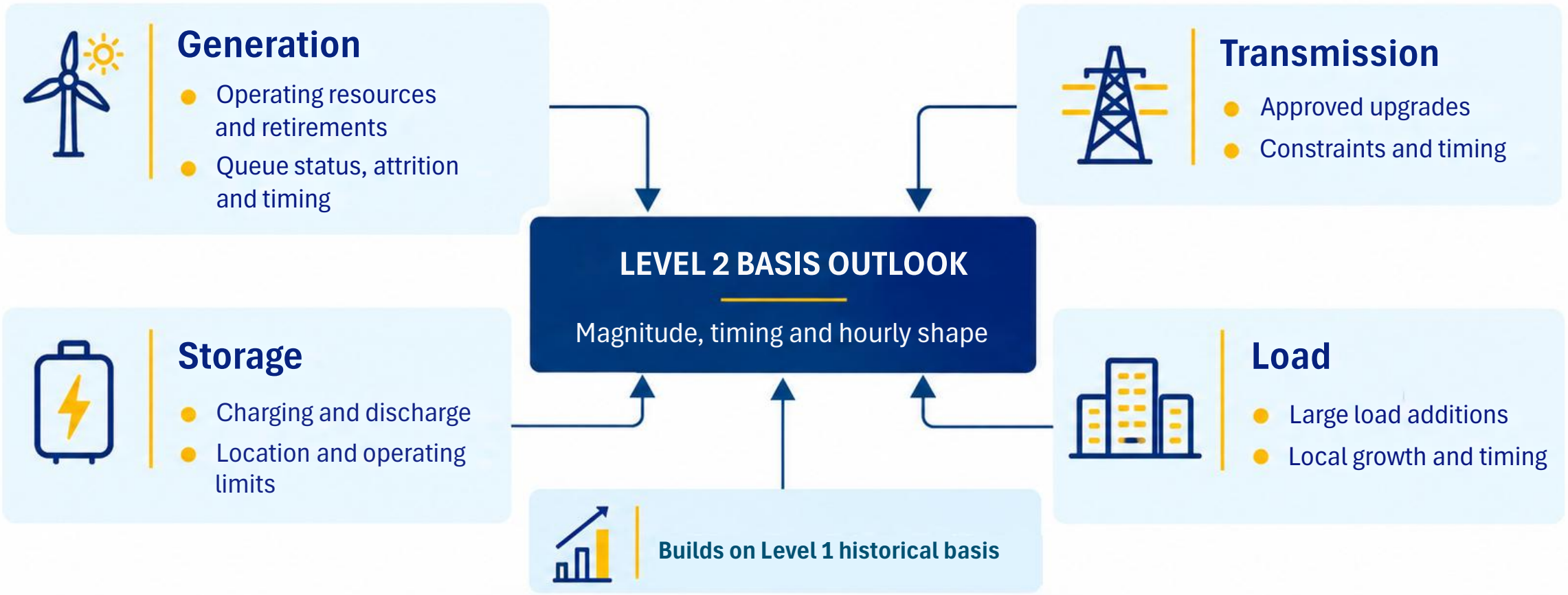
Nodal analysis levels 1-4 are separate from forecast service tiers 0-3; added detail does not guarantee accuracy.

Historical basis translates hub forecasts to the project node



Full LMP basis includes congestion and loss differences. Level 1 preserves historical relationships; it does not model future network changes.

Forward basis analysis reflects local system developments



E3 evaluates the combined effect at the project location.

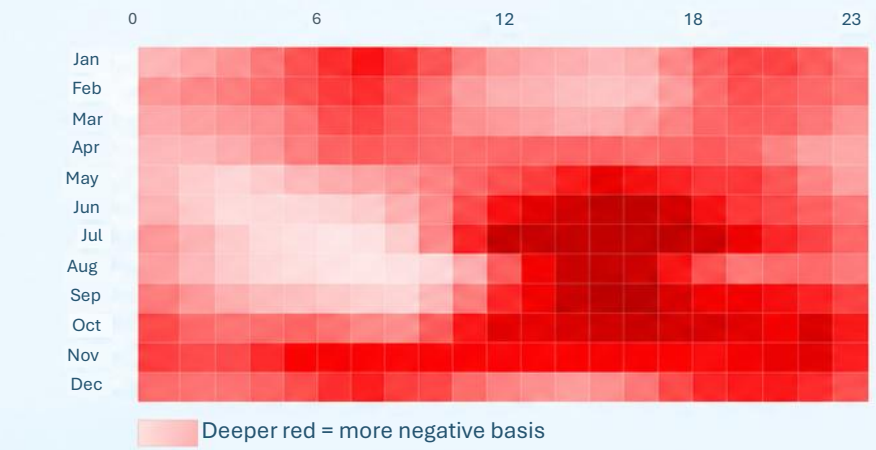
Forward research and market judgment; detailed nodal production cost and power-flow modeling are separate analyses.

Generation timing and location determine capture value

Node-to-hub basis

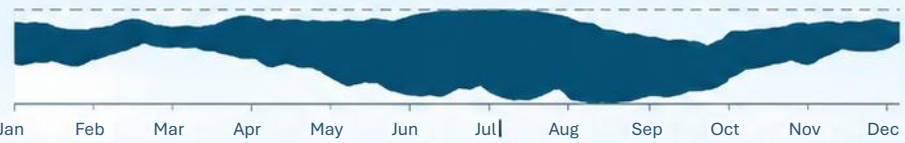
Historical pattern schematic

SPP South reference; $/MWh



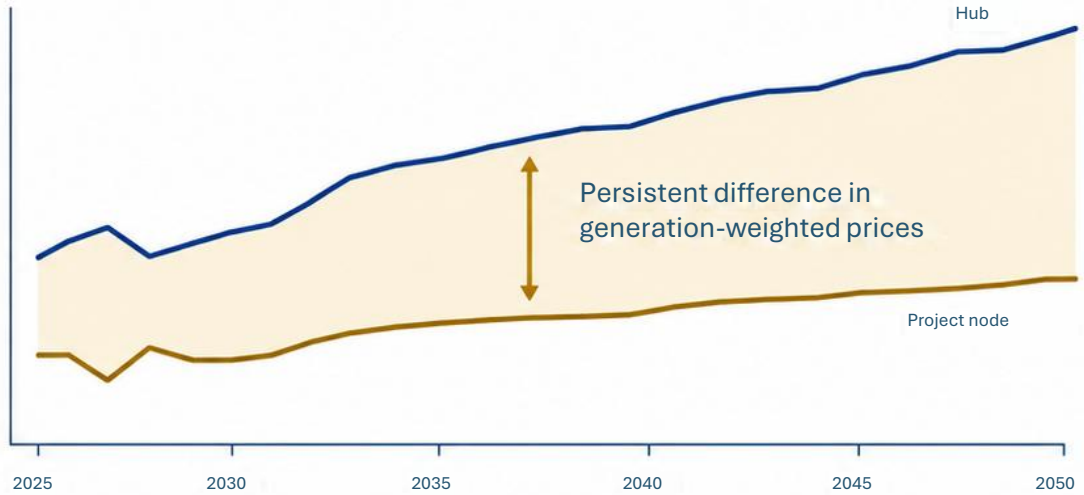
Seasonal and hourly patterns

Historical pattern; schematic



Generation-weighted price outlook

Values redacted schematic



Generation profile and settlement location determine the resource's energy value.

Illustrative SPP wind example; no economic curtailment assumed. Not a market forecast.

APPENDIX C

E3 experience and asset advisory

Asset coverage and applications, including emerging technologies, utilities and flexible loads.

Pages 35-44

Energy+Environmental Economics

IN THIS SECTION | PAGE

Asset coverage, sectors and modeling tools	36-38
Selected public studies	39
Renewables, storage and emerging technologies	40-41
Utilities and regulated investment	42
Flexible loads and customer economics	43
Thermal generation	44

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Next appendix

E3 supports power assets across the investment lifecycle

Power-sector focus
Power-sector consulting across North America

Industry thought leadership
Market design | System planning | Reliability analysis
Price forecasting | Data centers

SUPPORTED ASSET CLASSES

- Utilities
- Thermal generation resources
- Transmission & grid-enhancing technologies
- Data centers & other large loads
- Onshore & offshore renewables
- Energy storage
- Distributed generation & flexible loads

SELECTED AREAS OF EXPERTISE

- Asset valuation & market price forecasting
- Resource planning & procurement
- Distributed energy resources
- Transportation electrification
- Energy & environmental policy
- Cost of service & rate design
- Transmission planning & pricing
- Large energy user services
- Regulatory strategy & litigation support

E3 work spans market design, assets and grid investment



Market Design

Capacity Accreditation

pjm
MISO
ercot
ISO new england

Energy Markets

aeso

Generation and Storage

Global Infrastructure Partners (a part of BlackRock)
Brookfield
SIXTH STREET PARTNERS
KKR
BECHTEL
Intersect Power
ConocoPhillips
ENGIE

Transmission & Grid Enhancing Technologies

Bidder and developer support for transmission solicitations in CAISO, MISO, SPP, ISO-NE, and NYISO.

Grid operator transmission planning in CAISO, MISO, and ERCOT.

Public studies for the Maine PUC and NARUC.

State of Maine Public Utilities Commission
National Association of Regulatory Utility Commissioners

Data Centers / Large Loads

Support for investors, data center developers, and regulators.

DATA CENTER COALITION
amazon
Google
JLARC (Joint Legislative Audit & Review Commission)

Utility Due Diligence & Strategic Support

KKR
PG&E
aps
SRP
SB Energy (SoftBank Group)

Expertise Supported by Software & Analytical Tools

E3 combines economic, strategic, and technical expertise with software and analytical tools tailored to each client, market, and question.

Established software
Third-party platforms, including PLEXOS, support rigorous analysis.

In-house models
E3-developed models and tools address specialized analytical needs.

AI-enabled applications
Selective use of AI supports vetted applications, including interactive dashboards.

E3 uses distinct tools for system, market and asset analysis

MARKET LEVEL



PLEXOS

Third-party software

Granular operational simulations of markets and utilities, including capacity expansion.

PATHWAYS



Economy-wide accounting of potential role for emerging technologies in the energy transition.

RECAP



System-wide reliability assessment and resource-by-resource assessment of capacity value.

RESOLVE



Optimal capacity expansion for electric systems, including emerging technology candidates.

PROJECT LEVEL



RESTORE



Optimizes energy storage, hybrid renewables, and thermal generation assets value stack via operations.

REMATCH



Load matching and flexibility for power supply and system planning.

RECOST



Forecasts the total financed cost of emerging technologies (LCOE, etc).

RELOCATE



A geospatial site screening tool that evaluates electricity, land, and other conditions.

Public studies inform our view of system change

New York State Energy Plan

December 2025

- Comprehensive, multi-sector analysis supporting New York's 2025 Energy Plan for NYSERDA.
- Integrated multi-sector pathways balancing decarbonization, reliability, affordability and equity.

Client Sponsored: NYSERDA

Illinois Resource Adequacy Study

December 2025

- Evaluates load growth, retirements and evolving capacity needs under clean energy policies.
- Informs planning approaches and investment needs to maintain reliability and meet future demand.

Client Sponsored: ICC, IPA & IEPA

CPUC Integrated Resource Planning

Since 2016

- Long-standing support for CPUC's Integrated Resource Planning process.
- Framework development, modeling and procurement support spanning multiple planning cycles, with a focus on reliability and transmission planning.

Client Sponsored: CPUC

MISO Reference Technology Study

September 2026 news; August study filing

- Compares eight technologies using lifetime costs, revenues and qualitative criteria to inform capacity-market benchmarks.
- Final technology selection rests with MISO.

Client Sponsored: MISO

New Jersey Utility Business Model Reform

July 2026

- Phase 1 evaluates financing, incentives, spending oversight and system utilization.
- Distinguishes cost reductions from cost shifts.

Client Sponsored: NJBPU

Vehicle-Grid Integration Value

July 2026

- Models managed and bidirectional EV charging across U.S. markets.
- Includes integration with home solar and storage.

Client Sponsored: GM Energy

Renewables and storage analysis links prices to asset revenues

Wind and solar

- Generation-weighted capture prices
- Curtailment and hourly production profiles
- Nodal basis and PPA review
- Project and portfolio valuation

Storage and hybrids

- Optimized operations and revenue stacks
- Duration and technology comparisons
- Energy and ancillary service revenues
- Capacity value and market saturation



Energy prices | **System fundamentals** | **Asset characteristics** | **Custom scenarios**

E3 combines market outlooks with the operating economics of each asset

Emerging technologies expand options for a resilient, clean and cost-effective energy system

Technology and market economics

- Technology costs, performance and learning curves
- Market value, revenue stack and offtake options
- Project and portfolio economics
- Policy, incentives and regulatory pathways

System integration and value

- Resource adequacy, capacity value and reliability
- Operational flexibility and grid services
- Transmission, siting and infrastructure needs
- Emissions, decarbonization and system impacts



Enhanced Geothermal | **Advanced Nuclear (SMRs and Fusion)** | **Long Duration Energy Storage** | **Hydrogen Turbines** | **Other Emerging Technologies**

Technology profiles | **Costs and market value** | **Integration and system analysis** | **Scenarios and sensitivity analysis**

E3 evaluates emerging technologies to inform investment, policy and system planning decisions

Utility analysis connects planning, rates and investment

System planning & operations

- Load growth and demand scenarios
- Resource planning and procurement
- Hourly dispatch and portfolio costs
- Resource adequacy and reliability

Rates, regulation & investment

- Cost of service and rate design
- Customer bill and affordability impacts
- Policy and regulatory scenarios
- Utility and portfolio valuation



Load outlook | **Resource portfolio** | **Market prices** | **Rates & policy**

E3 connects system planning with utility costs, customer impacts and investment decisions

Flexible loads connect customer and system economics

Resource & customer economics

- Distributed resource operating profiles
- Retail tariffs and customer bill impacts
- Technology costs and supply options
- Project and portfolio economics

Flexibility & system value

- Load shifting and demand flexibility
- Hourly matching of loads and supply
- System planning and grid impacts
- Policy and program scenarios



Load & generation profiles | **Tariffs & prices** | **Technology characteristics** | **Program scenarios**

E3 connects customer resource economics with flexibility and system planning

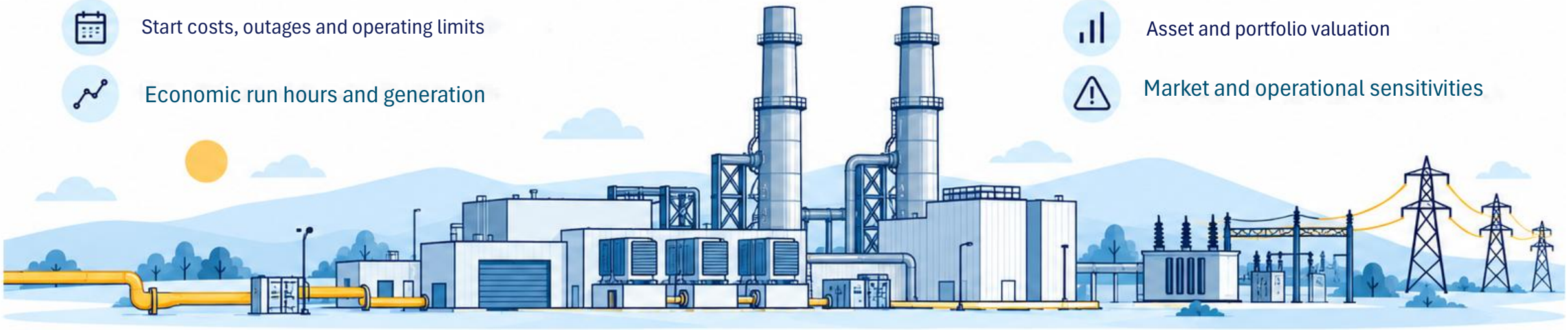
Thermal generation analysis connects dispatch to market value

Dispatch & operating economics

- Hourly power, fuel and carbon prices
- Heat rate, capacity and fuel basis
- Start costs, outages and operating limits
- Economic run hours and generation

Revenue, valuation & risk

- Energy revenues and operating margins
- Capacity revenues and contract terms
- Asset and portfolio valuation
- Market and operational sensitivities



Market forecasts | **Plant parameters** | **Fuel & operating costs** | **Contract terms**

E3 links hourly dispatch economics to thermal asset revenues and value

APPENDIX D

Data centers and large loads

Experience, client services, analytical tools, public research and site risk.

Pages 44-50

Energy+Environmental Economics

IN THIS SECTION PAGE

Experience and client services 46-47

Tools and public research 48-49

Development and geographic risk 50-51

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Data center work spans sites, power supply and load growth

75+ GW
of data center sites assessed

50+ GW
in advanced-stage development

25+ GW
using behind-the-meter generation

Navigating an expansive set of market players through a wide array of risks and opportunities

- Sponsors assessing greenfield properties late-stage development investments focused on near-term energization timelines
- Policy navigation, utility/ISO study processes, contract negotiations, bridge power & onsite generation, construction & long-lead time equipment timelines



Data Center Experience Across the U.S.

Supporting projects in primary, secondary and emerging markets nationwide



Sources: McKinsey, CBRE, JLL & Newmark (2025-H1 2026). Selected markets; tiers are a synthesis. Symbols do not identify E3 project sites.

National experience. Local market insight.
Siting | Power supply | Utility coordination | Transaction diligence

Illustrative site-level analysis



E3 experience totals overlap; map shows markets, not individual project sites.

Data center services address distinct client decisions



Data Centers, IPPs, & Investors

- **Strategic and tactical support on** data center siting, power supply options / configurations / economics including wholesale market price forecasting, operations, financing options, tariff / contract negotiation, etc.
- Digital and power infrastructure **transaction / diligence support**
- **Regulatory / stakeholder support at the state and federal level** including ISOs/RTOs ranging from expert witness testimony, filed economic analyses, public whitepapers, etc.



Regulators & Policymakers

- **System planning and grid impact analysis around data** center load growth
- **Ratepayer impact /affordability analysis** associated with data center load growth
- **Policy analysis** associated with data center specific incentives, various power supply requirements, changes to market design, and other relevant policies
- **Proceeding support on data** center specific issues such as novel utility proposals



Utilities & ISOs/RTOs

- **Rate, tariff, and/or contract design** and negotiation support
- **Data center load forecasting and** interconnection process improvement support
- **Integrated resource / system planning** and bid evaluation
- **Regulatory/stakeholder support**
- **Execution, marketing, and/or site selection support**
- **Reform / innovation support for** new approaches to financing, cost recovery, rate design, power supply, market design, etc.

Data center tools link project pipelines to site-level economics

E3's integrated toolkit can provide insights and analytics from a macro national level down to a specific site. E3 customizes every engagement to use the appropriate level of analysis.



Load Inventory + Data Center Forecasting

- Operating, under-construction, and planned facilities
- Top-down compute trends reconciled with bottom-up project pipelines and forecasts
- Scenario ranges with location-specific hourly profiles



RELOCATE: Geospatial Siting + Screening

- Parcel-to-service-territory mapping for interconnection and power supply
- Constraint overlays (grid, land, policy) for site feasibility
- Screening across primary and emerging markets



REMATCH: Load Matching + Flexibility

- Workload-specific load shapes (AI training, inference, enterprise IT)
- Flexibility envelopes (shift, shed, shape)
- Matching to supply resources for planning, operations, interconnection, and sustainability goals



Power Cost and Retail Tariff Modeling

- Tariff and bill impacts under alternative structures
- Supply option economics (market power, utility service, self-supply, hybrid procurement) powered by our robust power markets forecasting (PLEXOS-based ecosystem)
- Program and partnership evaluation for power strategy

Public studies examine data center load and customer rates

Dominion Residential Rate Backcast

August 2026

- E3 follow-up analysis to “Beyond the Headlines”.
- Modeled 2023 residential rates without prior five-year incremental data center growth.
- Rates were higher without that load in 98% of 2,000+ scenarios—a Dominion-specific modeled result.

Sponsored by: CloudHQ

Beyond the Headlines

June 2026

- Sponsored by CloudHQ.
- Examines grid utilization, cost of service, and tariff protections.
- A hypothetical 100 MW GS-5 customer covers service costs in most modeled scenarios.

Sponsored by: CloudHQ

Understanding Rising Electricity Rates

May 2026

- Sponsored by Data Center Coalition; independently authored by E3.
- Reviews 11 studies and original PJM analysis.
- Separates load growth from fuel, supply, infrastructure and market-design effects.

Client Sponsored: Data Center Coalition

Tailored for Scale

December 2025

- Sponsored by Amazon.
- Large-load rate and tariff framework with facility case studies.
- Revenues met or exceeded service costs at the studied sites.

Client Sponsored: Amazon

Forecasting Large Loads in the Age of AI

December 2025

- E3 sponsored analysis.
- Dynamic forecasting combines baselines, scenarios and project pipelines.
- Pace and durability of growth remain uncertain.

E3 sponsored analysis

Demand Response Capacity Value in SPP

October 2025

- Sponsored by Google.
- Compares 4-hour and 10-hour products.
- Longer duration increases capacity value; call limits matter at higher participation.

Sponsored by: Google

Data Center development progress changes risk profiles

Data center project development has many critical stages

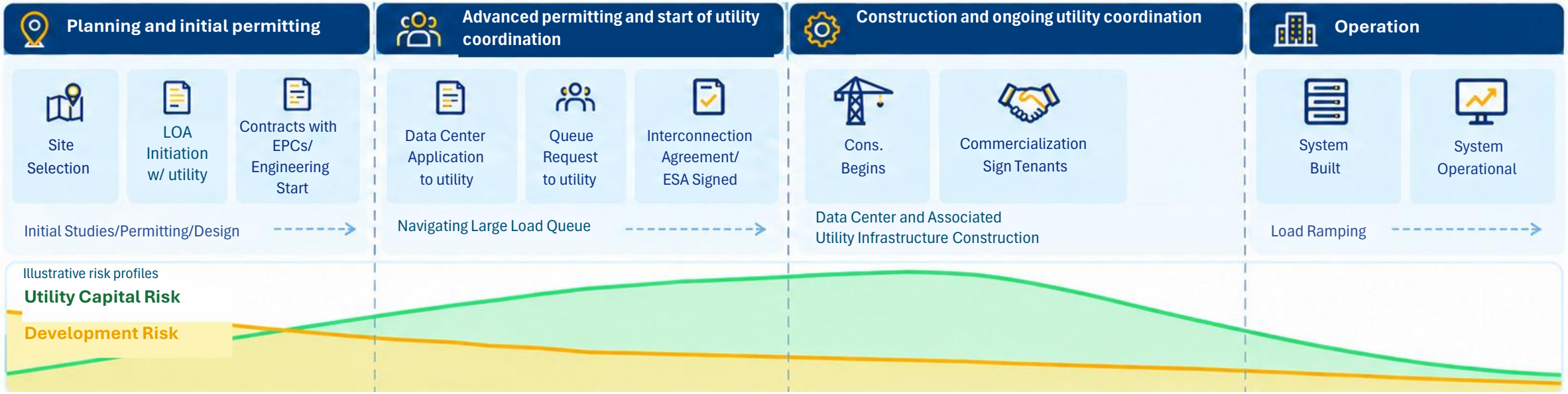
Each stage presents unique challenges and risks.

Development risk of the project developer generally goes down over time as each milestone is passed

As a project moves "further along" in the process, odds of completion increase, with moderate derisking as it works its way through early development stages and navigates the queue and larger derisking as construction begins.

Utility capital risk can rise during development, then fall as completion becomes more certain

Risk is highest when a combination of large capital has already been spent and the project is in a stage with existential risk (e.g., finalizing utility coordination or signing tenants) and lowest when little capital has been spent (early on) and/or the project is in late stage with less/no existential risk (the construction & operating periods) where the project and utility capital spend is materially derisked.



Site risk extends beyond the regional market

Local (community)

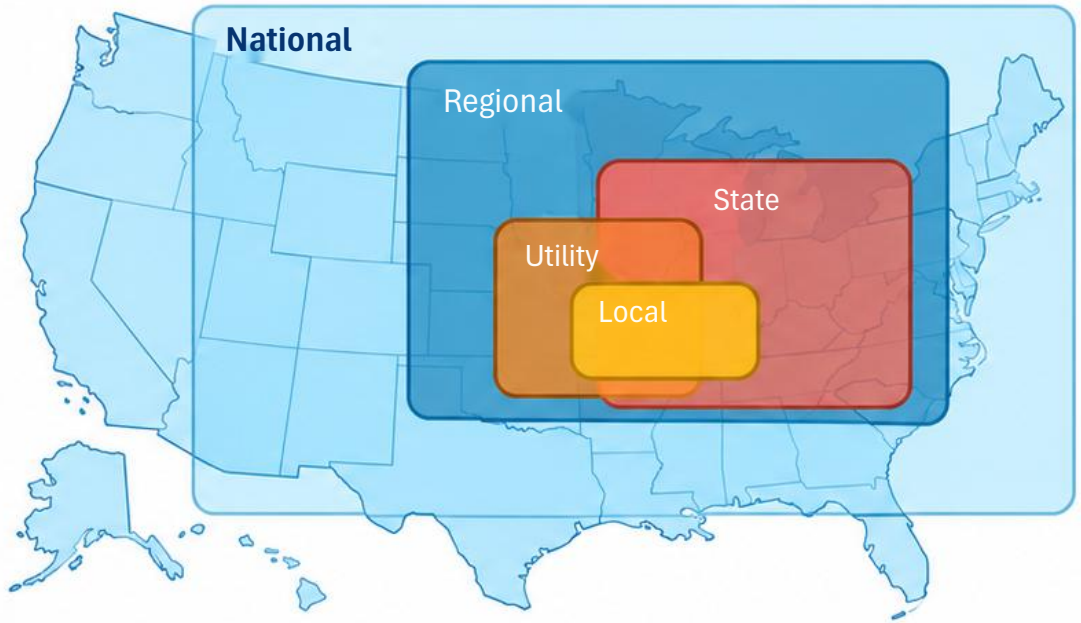
Jurisdictional pushback & opposition

- Environmental justice, water use, and air quality concerns
- Local tax/revenue expectations vs. perceived cost burden

Utility (service territory / local grid)

Study timelines & network limitations

- Interconnection queue delays & upgrade cost uncertainty
- Distribution/substation capacity limits & local reliability impacts
- Power & grid investment impact on rate base



State (policy / regulators)

Policy achievement & ratepayer concerns

- Policy uncertainty and regulatory scrutiny of large loads (clean energy mandates, emissions rules, water constraints)
- Retail rate impacts regarding cost allocation and tariff design
- Economic development incentives, siting approvals, environmental review timelines, and land-use conflicts

Regional (ISO / RTO)

Reliability considerations & market impacts

- Resource adequacy / planning requirements, operational constraints, and forecast risk
- Interconnection study assumptions & reform, network upgrade timing
- Transmission congestion and deliverability hurdles
- Market price volatility & uplift / scarcity exposure