



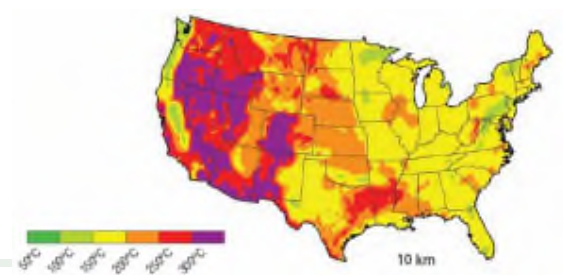
About Van Horn Consulting

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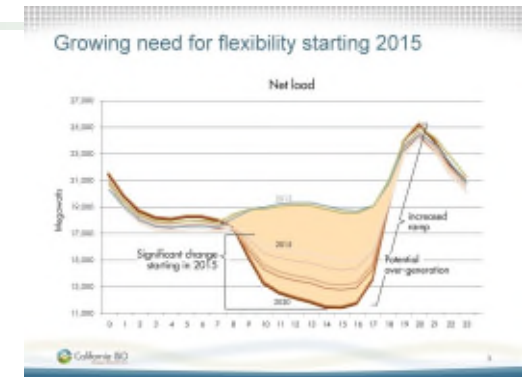


- Founded in 1987, Van Horn Consulting (VHC) examines energy and environmental markets and contracts, analyzes competitive and regulatory issues, reviews proposed projects and technologies, and devises business strategies.
- We have conducted major studies for public and private market participants, EPRI, EPA, electric and natural gas utilities, independent power producers and pipelines.
- VHC provides independent reviews, evaluations, litigation support and expert testimony regarding electricity, emissions and natural gas markets and contracts.
- From 2007-2014, VHC served as Independent Evaluators for two major electric utilities in California, examining bidding and contracting for renewables, combined heat and power, conventional and demand-side resources, and natural gas.
- VHC serves on the Advisory Board for GreenFire Energy, the developer of an innovative geothermal power technology.



VHC Has Decades of Experience

- Evaluating electricity markets, technologies and regulations:
 - Analysis of market behavior and rules,
 - Assessment of
 - Future technology costs and performance, market penetration, effects of regulations and R & D for EPRI, EPA, DOE, market participants and interested parties,
 - Integrated resource planning processes and results,
 - Property tax valuation
 - Commercialization and market strategies.
 - Evaluation, monitoring and reporting of
 - Requests for Offers for renewable generation, demand response, CHP and conventional electric generation, and natural gas supplies, including economic & valuation methods, short-listing, and the fairness of bids and auctions,
 - Negotiations, contract terms and conditions.



VHC Experience^{cont'd}



- Designing, analyzing and implementing emission performance standards, environmental regulations and cap-and-trade markets:
 - Delivered a seminar/training course for the Korea Power Exchange on carbon trading markets around the world,
 - Examined and recommended changes to California ARB rules for CO₂ and greenhouse gases (GHG), allowance trading, auction behavior & holding limits under AB 32,
 - Performed studies of New Source Performance Standards (NSPS), New Source Review, CEQA, GHG performance standards and carbon taxes,
 - Helped develop cap-and-trade markets for emission allowances – set the price for the first U.S. SO₂ allowance trade in 1992, and
 - Forecasted allowance prices, compliance strategies and technology cost and performance for EPRI, TVA, Southern Company & others.



VHC Experience^{cont'd}



- Forecasting and evaluating electricity, fuel, and technology markets and prices:
 - Assisted developers of innovative technologies,
 - Conducted reasonableness reviews & prepared expert testimony,
 - Reviewed contracts, operations & fuel switching,
 - Projected market behavior, prices, economics and effects of regulation,
 - Evaluated pipeline alternatives for FERC and PUC hearings, and
 - Provided ongoing advice, analysis and counsel as an Advisory Board member.



VHC Senior Consultants

- **Michael Katz, M.S., P.E.**, Senior Consultant,

Mike Katz has over 25 years experience in electric and natural gas markets, risk management, strategic planning and operations of physical assets. Mike conducted Independent Evaluator assignments for renewable, conventional, and combined heat and power contracts for Southern California Edison and San Diego Gas & Electric. He provides advice regarding independent power production and energy storage. At Pacific Gas & Electric Company he led PG&E's Power Generation Department and was Director of Generation Portfolio Management and Power Generation Business Planning, after holding positions in Electric Resources Planning. Mike provides analysis, advice regarding power procurement, operations, group management, planning, contracts, technologies and strategy.

- **Edward Remedios, Ph.D., MBA**, Senior Consultant,

Ed Remedios formerly worked for Chevron Research Company and for Pacific Gas & Electric Company (PG&E). While at PG&E, Ed coordinated PG&E's long-range planning and was head of the Economics and Forecasting Department with responsibilities for economic and sales forecasts, project and budget evaluations, including financial, economic and technical assessments. Ed analyzes, reviews and provides evaluations of projects, financial arrangements, tariffs, contracts and regulations.



VHC Senior Consultants

- **Andrew Van Horn, Ph.D.**, Managing Director, has 35 years' experience examining electricity, natural gas, coal and emissions markets, analyzing new technologies and contracts, and evaluating energy and environmental policies and regulations.
- He advises clients about
 - Electricity and natural gas markets, procurement and contracts,
 - GHG and SO₂ emission markets and regulations,
 - Technology cost and performance and impacts of R&D,
 - Price forecasting, plant valuation and strategic planning.
- Andy has
 - Served as an Independent Evaluator of Requests for Offers for procurements by two major California utilities, including SDG&E's 2009 All Source RFO and SCE's 2010 Spring Gas RFO auctions,
 - Delivered seminars on emissions trading and global carbon markets,
 - Scrutinized California's cap-and-trade allowance market for greenhouse gases (GHG), including auction simulations, holding limits and effects of ARB rules,
 - Developed EPRI's first Integrated Resource Planning model,
 - Provided the price for the first public U.S. SO₂ emissions allowance trade in 1992,
 - Analyzed the 1977 and 1990 Clean Air Act Amendments and carbon taxes,
 - Projected impacts of energy & greenhouse gas (GHG) policies from 2000 to 2050,
 - Helped PG&E divest its natural gas-fired and geothermal power plants,
 - Testified before the FERC, state agencies and courts.



Selected Clients



Alberta Department of Utilities
American Electric Power
Amgen
Arizona Public Service Company
Cinergy
Cogeneration Association of California
Colorado Independent Energy Association
Consolidated Edison of New York
Consolidated Natural Gas Transmission
CIGNA Insurance
City of Huntington Beach
Drummond Coal
Duke Energy
Electric Clearinghouse (Dynergy)
Electric Power Research Institute (EPRI)
GreenFire Energy
Harvard Management Corporation
National Acid Precipitation Assessment Program
Northern California Power Agency

Orinda Union School District
PacifiCorp Power Marketing
PPL Corp
Pacific Gas and Electric Company
Pacific Gas Transmission
Pinnacle West
Port of Long Beach
San Diego Gas & Electric Company
Sithe Energies
Southern Company
Southern California Edison Company
SeaWest Wind Corp
Tennessee Valley Authority
The Emissions Exchange
Utility Air Regulatory Group
Universal Studios
U.S. Environmental Protection Agency
U.S. General Accounting Office
Wellhead Power Solutions, LLC.

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U.S. Natural Gas Consumption 1990-2050
(Quads per year)
Business As Usual - Reference Case

