



Section 5.22:

## Electricity and Natural Gas



## 5.22 ELECTRICITY AND NATURAL GAS

This section identifies electricity and natural gas service providers and facilities serving the City of Murrieta and evaluates potential electricity and natural gas impacts associated with implementation of the proposed General Plan 2035.

### 5.22.1 REGULATORY SETTING

#### FEDERAL

State and Federal governments extensively regulate corporate utilities. The Federal government has almost no power to regulate municipal utilities, except as they are parties to certain contracts that must be filed with the Federal Energy Regulatory Commission (FERC).<sup>1</sup>

#### STATE

The California Public Utilities Commission (CPUC) regulates privately owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies. Assembly Bill 1890, enacted in 1996, deregulated the power generation industry, allowing customers to purchase electricity on the open market. Under deregulation, the production and distribution of power that was under the control of investor-owned utilities was decoupled. Deregulation allowed other providers the ability to supply electricity to consumers.

The Energy Efficiency Standards for Residential and Nonresidential Buildings were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods.

#### LOCAL

Electric power supply and distribution to the City of Murrieta is furnished by Southern California Edison (SCE). The Southern California Gas Company (SCG) provides natural gas service to the City of Murrieta. Electrical and natural gas services must be provided in accordance with SCE and SCG policies and extension rules on file with the CPUC at the time contractual agreements are made.

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<sup>1</sup> <http://www.econlib.org/library/Enc1/ElectricUtilityRegulation.html>



On July 17, 2008, the Murrieta City Council adopted Ordinance No. 408-08 establishing standards for regulating non-commercial wind energy conversion systems in the Rural Residential District.<sup>2</sup>

## 5.22.2 ENVIRONMENTAL SETTING

### ELECTRICITY

Electrical power is provided within the City of Murrieta by SCE. There is a local SCE office located at 27450 Ynez Road, Suite 124 in Temecula. There are a total of six existing substations that service the area, of which three are within the City of Murrieta.

SCE maintains and operates the transmission and distribution infrastructure necessary to provide electricity to end users throughout its entire service area. SCE provides electricity to approximately 13 million people, 180 cities and communities in 50,000 square miles of service area, encompassing 11 counties in central, costal and southern California, excluding the City of Los Angeles and certain other cities. Electricity can be generated from a combination of natural gas, hydroelectric, nuclear or renewable sources (wind and solar). SCE facilities include hydroelectric, nuclear, and coal power plants as identified below:<sup>3</sup>

- Big Creek Hydroelectric Facilities is located in Shaver Lake, California. This hydroelectric facility began operating in 1911, and consists of 23 hydroelectric generating units in nine powerhouses with a generating capacity of approximately 1,000 Megawatts, and six major reservoirs with a storage capacity of more than 560,000 acre-feet.
- San Onofre Nuclear Generating Station (SONGS), located in San Clemente, California, is jointly owned by SCE (75 percent share), San Diego Gas & Electric (20 percent share), and the cities of Riverside and Anaheim (remaining interests). In operation since 1968, SONGS is one of the largest nuclear generating stations in the United States. SONGS' two active units can serve 2.2 million households. Unit 1 of the facility was decommissioned in 2007.
- Four Corners Generating Station is located in Fruitland, New Mexico. Arizona Public Service and SCE jointly own this facility. SCE owns 48 percent (approximately 754 Megawatts) in shares. The plant is fueled by coal and has a generating capacity of approximately 2,048 Megawatts.

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<sup>2</sup> City of Murrieta City Council Meeting Minutes, June 17, 2008, <http://www.murrieta.org/uploads/minutes/council/cm061708.doc>, accessed January 14, 2010

<sup>3</sup> Southern California Edison Company, *Our Company*, 2008, <http://www.edison.com/ourcompany/sce.asp>, accessed December 11, 2009.



- Mohave Generating Station, located in Laughlin, Nevada, is jointly owned by the SCE (56 percent share), the Salt River Project (20 percent share), Nevada Power (14 percent share), and Los Angeles Department of Water and Power (10 percent share). The Mohave Generating Station temporarily ceased operations on December 31, 2005 in order to make significant upgrades to the plant and its emissions control systems. The plant owners are working to bring the plant back online as soon as possible. Prior to the facility ceasing operations, the plant's generating capacity was approximately 1,580 Megawatts and utilized low-sulfur coal. Coal was mixed with water off-site and delivered to the Mohave plant via a 275-mile pipeline, the only pipeline coal delivery system in the world.
- Palo Verde Nuclear Generating Station, located in Wintersburg, Arizona, is owned by both SCE (16 percent share) and Arizona Public Service (84 percent share). This facility is fueled by nuclear power and has a generating capacity of 3,600 Megawatts.

Locally, SCE is in the process of developing the Triton transmission substation. The substation project consists of constructing a new 115/12 kilovolt substation that would serve the cities of Temecula, Murrieta, and unincorporated southwestern Riverside County. The substation would be located in the City of Temecula with the purpose of strengthening SCE's electrical network in order to maintain reliability and meet the area's forecasted electrical demands due to population and density growth. The Triton transmission substation had an expected in-service date of June 2010.<sup>4</sup>

## NATURAL GAS

The City of Murrieta receives its natural gas service from SCG, a subsidiary of Sempra Energy. Currently SCG is the nation's largest natural gas distribution utility, serving approximately 20.5 million consumers throughout 20,000 square miles of central and Southern California.<sup>5</sup>

The City is located within SCG's Ramona District of the Inland Empire. SCG provides the City with customer and distribution services. The City does not have any natural gas storage facilities. Natural gas is brought to the City through an existing network of gas transmission pipelines. Natural gas is distributed through existing mains located under City streets which can be extended to serve new projects. When new gas supply lines are required, SCG obtains encroachment permits from the City in advance of construction.

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<sup>4</sup> Southern California Edison, Project Update Triton 115/12 Kilovolt Substation, October 2008; [http://www.sce.com/NR/rdonlyres/7787C52B-A994-455E-8FD2-157955FC8BFF/0/081009\\_TritonSubProjectUpdate.pdf](http://www.sce.com/NR/rdonlyres/7787C52B-A994-455E-8FD2-157955FC8BFF/0/081009_TritonSubProjectUpdate.pdf), accessed January 14, 2010.

<sup>5</sup> Sempra Energy, *Companies*, 2008, <http://www.sempra.com/companies/utilities.htm#scg>, accessed, December 11, 2009.



For service meter installation and maintenance procedures SCG possesses a “blanket permit” agreement with the City where the work is performed and SCG notifies the City after the work is completed.<sup>6</sup>

In areas of the City where natural gas infrastructure is not available, homes or businesses use propane gas. Individual propane tanks are located on the property and the owners or occupants execute private agreements with propane companies to maintain and refill the tanks.

## RENEWABLE ENERGY

### Southern California Edison

In 2008, SCE delivered approximately 12.6 billion kilowatt-hours of renewable energy to its customers, representing approximately 16 percent of the total energy delivered. Based on current renewable energy contracts, SCE expects that upon delivery, 20 percent or more of its customers energy needs will be met with renewable energy. *Table 5.22-1, Southern California Edison, 2008 Renewable Energy Summary* provides a summary of the renewable energy SCE generated in 2008.

**Table 5.22-1  
Southern California Edison  
2008 Renewable Energy Summary**

	Capacity (MW)	Delivered in 2008 (MWh)	Percentage of SCE's Renewable portfolio (%)
Wind	1,137	2,572,011	21
Geothermal	906	7,839,726	62
Solar	356	730,712	6
Biomass	185	904,465	7%
Small Hydro	200	526,193	4
<b>Total</b>	<b>2,784</b>	<b>12,573,107</b>	<b>100</b>
Source: SCE, <a href="http://www.sce.com/PowerandEnvironment/Renewables/">http://www.sce.com/PowerandEnvironment/Renewables/</a> accessed January 14, 2010			

SCE has signed two wind-energy contracts. One agreement, with Puget Sound Energy signed in January 2009, calls for 2 billion kilowatt-hours over the next two years. The projects are located in Columbia and Kittitas counties in Washington State. The other, with AES Mountainview, calls for 66.6 megawatts from a wind farm in the San Geronio Pass near Palm Springs. This 10-year contract was signed in November 2008.

<sup>6</sup> City of Murrieta Master Environmental Assessment, October 28, 1992



In addition, SCE has implemented the *Renewables Standard Contract Program*, which is available for all renewable technologies of 20 megawatts or less. This program is designed to help smaller renewable generators contribute to reaching California’s renewable energy and environmental goals. It also provides a faster, simpler way for renewable projects under 20 megawatts to sell their power to utility customers.

### Southern California Gas Company

SCG participates in the Self-Generation Incentive Program (SGIP), which was established in 2001 in response to Assembly Bill (AB) 970. This legislation required the CPUC to initiate certain program activities that allowed customers of the utility to generate their own power and sell it back to a utility. The first SGIP application was accepted by the CPUC in July 2001. Today, the SGIP represents the single largest incentive program of its kind in the country. Approximately 860 facilities representing slightly over 200 megawatts of rebated generation capacity have been installed and received rebate checks under the program.<sup>7</sup> *Table 5.22-2, Southern California Gas Company Self-Generation Incentive Levels*, outlines the incentives provided by SCG for participating in the program.

**Table 5.22-2  
Southern California Gas Company  
Self-Generation Incentive**

Incentive Levels	Eligible Technologies	Incentive Offered (\$/Watt) <sup>2</sup>	Minimum System Size	Maximum System Size <sup>3</sup>
Level 2 (Renewable)	Wind turbines	\$1.50/W	30 kW	5 MW
	Renewable fuel cells	\$4.50/W		
Level 3 (Non-Renewable)	Non-Renewable fuel cells <sup>1</sup>	\$2.50/W	None	5 MW
Advanced Energy Storage	Coupled with eligible self generation technology and four hour discharge period rate capacity	\$2.00/W	None	5 MW

Source: SCG, <http://www.socalgas.com/business/selfGen/>

- System must utilize waste heat recovery meeting Public Utilities Code 218.5.
- 0 - 1 MW -- 100% of incentive  
1 - 2 MW -- 50% of incentive  
2 - 3 MW -- 25% of incentive
- Maximum incentive payout capped at 3 MW.

<sup>7</sup> CPUC Self-Generation Incentive Program Fifth Year Impact Evaluation, Final Report, prepared by Itron, Inc, March 1, 2007



### 5.22.3 SIGNIFICANCE THRESHOLD CRITERIA

The issues presented in the Initial Study Environmental Checklist (Appendix G of the *CEQA Guidelines*) have been utilized as thresholds of significance in this Section. Accordingly, impacts to electricity and natural gas facilities and service resulting from the implementation of the proposed General Plan 2035 may be considered significant if they would result in the following:

- The project would create demands on electricity or natural gas supply and/or infrastructure which exceed the capacity of the utility serving the project area.

Based on these significance thresholds and criteria, the proposed General Plan 2035's effects have been categorized as either "no impact," a "less than significant impact," or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant unavoidable impact.

### 5.22.4 PROJECT IMPACTS AND MITIGATION MEASURES

#### ELECTRICITY

- **IMPLEMENTATION OF THE PROPOSED GENERAL PLAN 2035 COULD RESULT IN INCREASED DEMAND FOR ELECTRICITY PROVIDED WITHIN THE CITY.**

**Level of Significance Before Mitigation:** Less Than Significant Impact.

**Impact Analysis:** Implementation of the proposed General Plan 2035 would result in an increased demand for electricity supplies. As indicated in Table 5.22-3, *Net Increase in Electricity Demand* the proposed General Plan 2035 would result in an increased electricity demand of approximately 529,324,154 MWh/year over existing usage. However, SCE has indicated that it would be able to serve the projected buildout resulting from implementation of the proposed General Plan 2035.<sup>8</sup> SCE has existing electricity infrastructure located throughout the City, which would serve future development associated with the implementation of the proposed General Plan 2035.

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<sup>8</sup> Written Correspondence with Ronald Wold, SCE Field Engineering, December 2010



**Table 5.22-3  
Net Increase in Electricity Demand**

Land Use	Development Potential	Consumption Factor	Electricity Demand
Residential	10,734 du	5626.5 kWh/du/year	60,394,861 MWh/year
Non-Residential <sup>1</sup>	36,210,757 sq ft	12.95 kWh/sf/year <sup>2</sup>	468,929,303 MWh/year
<b>Total</b>			<b>529,324,154 MWh/year</b>
kWh = kilowatt-hour MWh = Megawatt-hour sf = square feet du = dwelling unit Source: Consumption factors obtained from South Coast Air Quality Management District CEQA Air Quality Handbook, April 1993, Table A9-11-A. 1 = Non-residential land uses include commercial, office and research park, business park, and civic/institutional 2 = Office Consumption Factor was applied.			

SCE maintains a Distribution Plan that is updated every year. With regard to the five Focus Areas targeted for land use change in the proposed General Plan 2035, SCE anticipates that new development in the northern portion of the City would be served by the Auld Substation, which is located at Clinton Keith Road and Liberty Road. New development in the southern portion of the City may be served from a new substation being built in Temecula, which would be coming online in 1 to 2 years. It is also possible that this new substation may take load from the Auld substation, allowing Auld to serve more development in the north. Development in the southern portion of the City would also be served by the existing Stadler Substation, located by Ivy Street and Jefferson Street.<sup>9</sup>

Additionally, SCE just upgraded the Tenaja Substation, located at Clinton Keith Road and Grand Avenue, which could help serve new growth in the southern portion of the City, or could take some of the load that would be served by the Stadler Substation.<sup>10</sup>

It is anticipated that service demands created by implementation of the proposed General Plan 2035 are within the service parameters of SCE current and future transmission and service infrastructure. SCE would update existing facilities or add new facilities in the City as needed throughout the life of the proposed General Plan 2035. Financial responsibility for any updates or additional facilities would be in accordance with SCE’s rules and tariffs. All new developments that require new electricity lines to be installed would be required to pay applicable fees assessed by SCE to extend electricity lines to serve a specific project site. SCE would not provide service to new developments if there were not adequate electricity supplies and infrastructure to maintain existing service levels and meet the anticipated electricity demands of the specific development requesting service.

In addition, all new construction in the State of California is subject to the energy conservation standards set forth in *Title 24*, Parts 6 and 11 of the *California Code of Regulations*. These are prescriptive standards that establish maximum energy consumption levels for the heating and

<sup>9</sup> Ibid

<sup>10</sup> Ibid



cooling of new buildings. Furthermore, the proposed General Plan 2035 includes policies related to conservation and energy efficiency in the Infrastructure and Conservation Elements. Adherence to these building practices would reduce the demand for electricity. As such, impacts are anticipated to be less than significant in this regard.

### Goals and Policies in the Proposed General Plan 2035:

#### INFRASTRUCTURE ELEMENT

**Goal INF-1** New development and redevelopment is coordinated with the provision of adequate infrastructure for water, sewer, storm water, and energy.

#### Policies

INF-1.2 Discourage development in areas without connections to existing infrastructure, unless infrastructure is being provided.

INF-1.5 Continue to require new development and redevelopment to provide verification that energy utilities are able to accommodate the additional demand for service.

INF-1.7 Encourage the preparation and updates of master plans by the appropriate providers or agencies to conduct detailed long-range planning to ensure the efficient provision of public services, infrastructure, and/or utilities.

#### CONSERVATION ELEMENT

**Goal CSV-12** Energy conservation and the generation of energy from renewable sources is prioritized as part of an overall strategy to reduce greenhouse gas emissions.

#### Policies

CSV-12.1 Ensure that all developments comply with energy efficiency requirements as mandated by the applicable Building Code.

**Mitigation Measures:** No mitigation measures beyond the goals and policies identified in the proposed General Plan 2035 are required.

**Level of Significance After Mitigation:** Not Applicable.



## NATURAL GAS

- **IMPLEMENTATION OF THE PROPOSED GENERAL PLAN 2035 COULD RESULT IN INCREASED DEMAND FOR NATURAL GAS PROVIDED WITHIN THE CITY.**

**Level of Significance Before Mitigation:** Less Than Significant Impact.

**Impact Analysis:** Implementation of the proposed General Plan 2035 would result in an increased demand for natural gas supplies. According to *Table 5.22-4, Existing Natural Gas Consumption*, it is estimated that the City of Murrieta currently consumes 2,669,820 kcf per year of natural gas.

**Table 5.22-4  
Existing Natural Gas Consumption**

Land Use	Development Potential	Consumption Factor	Natural Gas Demand
Residential	33,750 du	6,665 cf/du/month	224,944 kcf/month
Commercial	13,978 sf	2.9 cf/sf/month	41 kcf/month
<b>Total</b>			<b>224,985 kcf/month (2,699,820 kcf/year)</b>
<small>cf = cubic feet kcf = thousand cubic feet sf = square feet du = dwelling unit            Source: Consumption factors obtained from South Coast Air Quality Management District CEQA Air Quality Handbook, April 1993, Table A9-12-A.            Note: All non-residential land uses are lumped into the Commercial Designation, to produce a more conservative estimate.</small>			

As indicated in *Table 5.22-5, Net Increase in Natural Gas Demand*, new development associated with implementation of the proposed General Plan 2035 would generate a need for an addition of approximately 1,727,563,488 kcf per year of natural gas supplies over existing usage.

**Table 5.22-5  
Net Increase in Natural Gas Demand**

Land Use	Development Potential	Consumption Factor	Natural Gas Demand
Residential	10,734 du	6,665 cf/du/month	71,542,110 kcf/month
Non-Residential <sup>1</sup>	36,210,757 sq ft	2.0 cf/sf/month	72,421,514 kcf/month
<b>Total</b>			<b>143,963,624 kcf/month 1,727,563,488 kcf/year</b>
<small>cf = cubic feet kcf = thousand cubic feet sf = square feet du = dwelling unit            Source: Consumption factors obtained from South Coast Air Quality Management District CEQA Air Quality Handbook, April 1993, Table A9-12-A.            1 = Non-residential land uses include commercial, office and research park, business park, and civic/institutional            2 = Office Consumption Factor was applied.</small>			



This represents an increase in natural gas consumption of approximately 64 percent over 25 years, which is approximately a 2.56 percent increase per year. Based on past experiences with SGC, it is anticipated that SCG would be able to serve this projected increase. Each project would be reviewed on a case-by-case basis, which means that natural gas sources and infrastructure to serve the project(s) would be planned for well in advance of project construction. Additionally, all aforementioned proposed General Plan 2035 goals and policies would also be applicable to all future development projects requiring natural gas. Thus, a less than significant impact is anticipated in this regard.

**Goals and Policies in the Proposed General Plan 2035:** Refer to the goals and policies referenced above in this Section 5.22.

**Mitigation Measures:** No mitigation measures beyond the goals and policies identified in the proposed General Plan 2035 are required.

**Level of Significance After Mitigation:** Not Applicable.

## 5.22.5 CUMULATIVE IMPACTS AND MITIGATION MEASURES

- **DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED GENERAL PLAN 2035 AND OTHER CUMULATIVE DEVELOPMENT COULD RESULT IN CUMULATIVELY CONSIDERABLE IMPACTS TO ELECTRICAL AND/OR NATURAL GAS SERVICES AND FACILITIES.**

**Level of Significance Before Mitigation:** Less Than Significant Impact.

**Impact Analysis:** For this topic, the cumulative impacts are analyzed in terms of impacts associated with the proposed General Plan 2035 and related cumulative projects served by the same electricity and natural gas service providers (i.e., SCE, SCG).

Future development resulting from the implementation of the proposed General Plan 2035, in combination with other future development within SCE and SCG service areas would result in the long-term and continued use of electricity and natural gas resources. Potential electricity and natural gas impacts associated with new developments would be evaluated on a project-by-project basis. All new development that would be served by SCE would be required to pay applicable fees assessed by SCE necessary to provide service to the specific project. SCE would not provide service to new developments if there were not adequate electricity and natural gas supplies and infrastructure to maintain existing service levels and meet the anticipated electricity demands of the specific development requesting service. Future developments that require new



infrastructure/gas main extensions would be required to pay all applicable fees assessed by SCG necessary to accommodate the specific project. Natural gas services provided would be required to comply with all policies and extension rules of SCG. SCG would not allow new development projects to connect to existing gas main unless the system could maintain adequate service and supply to existing customers and meet the anticipated demands of the project requesting service. Therefore, the proposed General Plan 2035 would not result in cumulatively considerable electricity or natural gas impacts.

**Goals and Policies in the Proposed General Plan 2035:** Refer to the goals and policies referenced above in this Section 5.22.

**Mitigation Measures:** No mitigation measures beyond the goals and policies identified in the proposed General Plan 2035 are required.

**Level of Significance After Mitigation:** Not Applicable.

## 5.22.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Electricity and natural gas impacts associated with implementation of the proposed General Plan 2035 would be less than significant with compliance with and/or adherence to Federal, State and local regulations, and goal and policies in the proposed General Plan 2035. Therefore, no significant unavoidable electricity or natural gas impacts would occur as a result of the proposed General Plan 2035.

## 5.22.7 SOURCES CITED

City of Murrieta City Council Meeting Minutes, June 17, 2008, <http://www.murrieta.org/uploads/minutes/council/cm061708.doc>, accessed January 14, 2010

City of Murrieta Final General Plan EIR, prepared by EIP Associates, June 1994.

City of Murrieta proposed General Plan 2035, prepared by RBF Consulting, January 2011.

City of Murrieta General Plan, prepared by EIP Associates, June 21, 1994.

City of Murrieta Master Environmental Assessment, October 28, 1992

Sempra Energy, Companies, 2008, <http://www.sempra.com/companies/utilities.htm#scg>, accessed, December 11, 2009.

Southern California Edison, <http://www.sce.com/PowerandEnvironment/Renewables/> accessed January 14, 2010



Southern California Edison, Our Company, 2008, <http://www.edison.com/ourcompany/sce.asp>, accessed December 11, 2009.

Southern California Edison, Project Update Triton 115/12 Kilovolt Substation, October 2008; <http://www.sce.com/PowerandEnvironment/Transmission/CurrentProjects/Triton/default.htm>, accessed January 5, 2011

Southern California Gas Company, <http://www.socalgas.com/business/selfGen/>, accessed January 14, 2010.

South Coast Air Quality Management District CEQA Air Quality Handbook, April 1993, Tables A9-11-A and A9-12-A.

Written Correspondence, Ronald Wold, Southern California Edison Distribution Field Engineering, December 21, 2010.