

Chula Vista Climate Change Impacts & Adaptation Options

BUSINESS & ECONOMY

Draft Updated: 5/5/2010

CLIMATE CHANGES	IMPACT TO SAN DIEGO REGION	HOW IS CHULA VISTA VULNERABLE TO IMPACTS? <small>(pressure on economy, physical infrastructure, society, environment, & other systems)</small>	ADAPTATION OPTIONS <small>(potential responses to manage vulnerabilities)</small>	Source of Adaptation Option	
Multiple Impacts		A Low awareness of climate impacts and changing trends could cause businesses and community to take more costly, reactive measures, rather than early, proactive actions or leverage positive opportunities			
			1	Leverage existing forums (partnerships with business associations, Chula Vista Chamber of Commerce, City website, FREBE program, etc) to raise awareness amongst businesses on changing trends, climate impacts, municipal actions, and resources available to inform business decisions	King County, Toronto, Berkeley
			2	Add various climate adaptation-related strategies to certification process for the Chula Vista Clean Business Program	(Chula Vista)
			3	Continue to analyze information on potential impacts of climate change on government operations and the local economy, and actively share results with the public to foster an aware and supportive public for adaptation policy	King County, Miami-Dade County, San Francisco
			4	Include businesses in municipal climate adaptation working groups/forums and future adaptation planning to facilitate information exchange	Chula Vista, Miami-Dade, King County
			5	Engage workforce training programs over time, to create support services/retraining in case of job loss as a result of climate change, and promote new and relevant business opportunities	Keene, Homer, San Rafael
		B Extreme weather causes potential increased risk for disruptions to transportation systems, energy systems, water supplies			
			6	Provide and promote informational resources on business continuity and crisis-management planning, to lower impacts of potential energy, transportation or water supply system interruptions due to climate changes	San Rafael, Toronto
			7	Where appropriate, engage business in update of the 2015 County Multi-Jurisdictional Hazard Mitigation Plan, which is anticipated to address climate change impacts on existing hazards and response planning	---
		C Potential for higher insurance rates through increased risk from wildfires and floods			
			8	Improve information to property owners outside 100-yr floodplain about inundation risk	Option #39 "Water" Adaptation Options Chart
			9	Share information with business and residents on emerging insurance products to protect climate-friendly and green building investments (e.g. Fireman's Fund)	Fireman's Fund Insurance
		D Increased pressure on business supply chains due to decrease in available resources, and potentially increasing costs due to growing scarcity (e.g. water, energy, certain local agricultural products, etc.)			

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			10 Target outreach of existing/new energy and water efficiency upgrade programs and incentives to low-income neighborhoods and small businesses who will incur disproportionately high burden of rising resource costs	Option #11 - "Energy" Adaptation Options Chart
			11 Encourage greater enrollment of businesses in energy demand response programs to avoid higher costs of peak energy use and lower energy bills	Chicago, SDG&E
			12 Enroll in ICLEI's Green Office Challenge Program (or add elements of it to the Chula Vista Clean Business Program) to encourage and assist business in preparing for climate change and improve resource efficiency	Chicago, San Diego, ICLEI
			13 Identify and seek opportunities to diversify local economy in response to global supply chain pressures, in order to reduce effects to the local economy from climate change impacts in other regions	Homer
		E Certain industries may be particularly vulnerable to physical impacts of climate change, due to their business model's sensitivity to climate/weather conditions (e.g. agriculture, tourism, fishing, etc)		
			14 Focus outreach & education of climate impacts to businesses in such industries (agriculture, fisheries, forestry, etc.) where feasible	---
			15 Generate list of consultants/resources for businesses to asses risks, manage risks, and incorporate into planning	---
			16 Develop sector-specific solutions with industries that emerge as being particularly vulnerable to physical impacts of climate change	---
			17 Establish loan programs for citizens who need to revamp their businesses	Keene
			18 Monitor particularly sensitive industries (e.g. agriculture, forestry, fisheries) to track changes and inform development of future municipal response	Keene, Homer, California, King County
		F Investors may require greater knowledge of business/economic exposure to climate-related risks		
			19 Work with relevant business associations and community groups to engage businesses in disclosing climate-related risks and corporate climate strategies to meet federal mandates (e.g. SEC Disclosure) and emerging investor preferences for such information	(Pew, Ceres)
		G Local economy and buying power of local customers/clients altered by costs from direct or indirect climate impacts		
			20 Actively engage in federal and state policy development, in partnership with local business, to advocate for some diversion of funds raised from cap and trade schemes, or create a local fee authority, to be available for local climate adaptation programs, policies, and plans	---
			21 Encourage a locally-based carbon credit/offset purchasing program to foster local climate-friendly projects and retain economic benefits from them	Miami Dade County, San Rafael

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			22 Provide incentives, or a "green business incubator," for businesses to locate in Chula Vista that produce sustainable and environmentally-friendly products or that utilize sustainable principles in their production processes as a way to promote economic resilience to climate change	Keene, Homer
			23 Provide assistance in the creation or identification of markets for sustainable businesses or their products	Keene
Sea level rise	Sea level rise along the coast and bayfront causing inundation or flooding	H Risk of flooding or inundation of existing and planned public & private infrastructure and critical facilities along coast (commercial or industrial property, municipal buildings, power plants, roads, railways, wastewater treatment, etc.)		
			24 Perform a detailed vulnerability assessment (identify property at risk, risks of damage, costs of inaction) of existing coastal public and private infrastructure to sea level rise to prioritize vulnerabilities when updating policies, plans, and making public investments. Can Partner with ICLEI's Regional Initiative	Upcoming "Coastal Resources & Infrastructure" Adaptation Options
			25 Consider building code updates to encourage new coastal structure design to be resilient to potential flood or shore erosion (i.e. raised or behind existing coastal armoring structure),	Upcoming "Coastal Resources & Infrastructure" Adaptation Options
			26 Consider new rebuilding guidelines when structures are damaged by sea level rise, coastal storms, or shoreline erosion to lower costs to properties at risk	Upcoming "Coastal Resources & Infrastructure" Adaptation Options
			27 <i>See various other prevention measures in upcoming "Coastal Resources and Infrastructure" and "Water" sections to lower physical impacts and thus costs from sea level rise</i>	
Warmer temperatures, especially in summer	More frequent, intense and longer heat waves	I Greater potential health costs incurred from increasing frequency and intensity of heat waves, and higher ground level ozone		
			28 Mitigate health impacts and costs of heat waves by working with the County to ensure that all Chula Vista city departments and community groups possibly involved in implementing the County's Excessive Heat Response Plan are aware and equipped to perform their role during high heat events	Option #1 - "Public Health & Wildfires" Adaptation Options Chart
			29 Mitigate health impacts and costs of ozone-related respiratory illness by partnering with local air quality management district (APCD) to enhance awareness of air quality index alerts and related outreach and education to protect residents' health	Option #11 - "Public Health & Wildfires" Adaptation Options Chart
			30 <i>See other prevention measures from "Public Health & Wildfire" sections to lower susceptibility to and thus costs from heat and ozone-related illness</i>	

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		J Vulnerable workforce to interruptions from high heat events, especially industries such as construction, outdoor laborers, and roofing		
			31 Mitigate health impacts and costs of heat waves through outreach to businesses about California Occupational Safety and Health programs and standards for heat illness and employees working outdoors, in partnership with any relevant business, labor, or community groups	Option #17 - "Public Health & Wildfires" Adaptation Options Chart
		K Increasing pressure and costs to meet rising energy demands, especially in hot summers when cooling needs are greater and transmission inefficiencies are highest		
			32 Enroll all municipal facilities in demand response programs (if applicable), in part to reduce peak demand and energy costs	Option #7 - "Energy" Adaptation Options Chart
			33 Develop incentives or financing mechanisms to expand urban forests on public & private properties to reduce heat island effect and energy costs in high heat	Option #18 - "Energy" Adaptation Options Chart
			34 Establish financing programs that residents and business can access to install distributed energy systems as well as conduct energy assessments and make energy efficiency retrofits to existing buildings	Option #21 - "Energy" Adaptation Options Chart
			35 Waive or cap fees associated with installing solar power for limited period	Option #25 - "Energy" Adaptation Options Chart
			36 <i>See various other prevention measures from "Energy" sections to lower risks from rising energy demands, rates, and costs to economy</i>	
Warmer temperatures, especially in summer, and more varied precipitation	Diminished imported water supplies and drier local conditions	L Lower water supplies available for commercial, industrial, and community users, and exposure to extended and more intense droughts		
			37 Require buildings to obtain complete water efficiency retrofit on resale, to reduce water consumption and water bills over time	Option #8 - "Water" Adaptation Options Chart
			38 Integrate water conservation concerns into the municipal project procurement process, to reduce water consumption and water bills over time	Option #12- "Water" Adaptation Options Chart
			39 Develop outreach and incentives appropriate for rental market where existing incentives don't connect property-owner/customer of record and water user (renter)	Option #25 "Water" Adaptation Options Chart

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			40	See various other prevention measures from "Water" section intended to lower physical and thus financial impact of drought, floods, increasing water rates	
	More frequent and intense wildfires, and other possible natural disasters	M		Higher risk of incurring costs of losing public and private infrastructure due to more frequent and intense fires	
			41	Direct city staff to investigate whether the city's building codes, wildlife urban interface code, and zoning rules need revision due to future increases in wildfires due to climate change	Option #21 - "Public Health & Wildfires" Adaptation Options Chart
			42	Identify high fire risk areas that would allow for the safe burial of existing power lines (coordinated with road improvement projects and upgrades in the Capital Improvement Program) to avoid interruptions due to wildfire events	Option #24 - "Public Health & Wildfires" Adaptation Options Chart
			43	See various other prevention measures from "Public Health & Wildfire" sections intended to lower frequency of wildfires, as well as assets exposed to high fire risk	
		N		Higher risk of losing protected coastal, riparian or inland ecosystems, plants and animals due to rate of temperature change, increasing wildfires, changing precipitation, and sea level rise	
			44	Seek funding opportunities for potential land acquisitions and/or development of management programs, such as the creation of a "carbon credit purchasing program" in order to preserve additional open space that may be contiguous with the City's Preserve	Option #4 - "Ecosystems & Biodiversity" Adaptation Options Chart
			45	Seek potential funding opportunities for fuel management to reduce fire frequency, in balance with efforts to reduce ignition sources, educate the public, and other best practices in managing the wildland urban interface	Option #9 - "Ecosystems & Biodiversity" Adaptation Options Chart
			46	See various other prevention measures from "Ecosystems & Biodiversity" sections intended to lower physical impacts and potential costs to economy from loss of ecosystems and local natural resources	

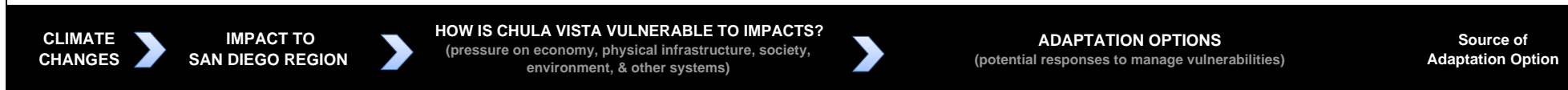
Sources for Listed Local Impacts and Corresponding Vulnerabilities

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	Climate Risk Disclosure By the S&P500, Cerese, Calvert (2007).
B	California Adaptation Strategy, p128 (2009).
	Focus 2050 Study Technical Assessment, page 35 (2008).

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C	California Climate Risk and Response. 2008. UC Berkeley, Next 10
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D	Adapting to Climate Change: A Business Approach, (2008)Pew Center on Global Climate Change, ICF Intl.
	Analysis of the Effects of Global Change on Human Health and Welfare and Human Systems, US Climate Change Science Program page 111-118(2008).
E	Analysis of the Effects of Global Change on Human Health and Welfare and Human Systems, US Climate Change Science Program page 111-118(2008).
F	SEC, Commission Guidance Regarding Disclosure Related to Climate Change (2010).
	Climate Risk Disclosure By the S&P500, Cerese, Calvert (2007).
G	California Climate Risk and Response. 2008. UC Berkeley, Next 10
H	California Adaptation Strategy, p69, 70 (2009).
	Focus 2050 Study Technical Assessment, page 38 (2008).
I	Focus 2050 Study Technical Assessment, page27 & 42 (2008).
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	California Department of Public Health and the Public Health Institute. 2007. Climate Change Public Health Impacts Assessment and Response Collaborative
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L	Focus 2050 Study (November 2008)
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	San Diego County Water Authority Strategic Plan (April 2008)
M	Focus 2050 Study Technical Assessment, page 22 (2008).
	California Climate Change Center. 2009. Potential Effects of Climate Change on Residential Wildfire Risk in California
N	Focus 2050 Study Technical Assessment, page 24-28 (2008).
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