



June 19, 2014

Jennifer Jesser  
City of Carlsbad  
Hand delivered to:  
1635 Faraday, Carlsbad, CA

Subject: Comments on Draft Climate Action Plan

Dear Ms. Jesser:

Preserve Calavera is a grassroots organization whose goal is to preserve, protect and enhance the natural resources of coastal North County. We are pleased to see that the City of Carlsbad is moving forward with a Climate Action Plan (CAP).

The CAP includes many new actions to reduce Green House Gases (GHG). While these are important steps in the right direction, we do not think the CAP has set a high enough standard for GHG reductions, has not included sufficient actions to reduce GHG, and has an inadequate monitoring program to assure that the targeted reductions are even achieved.

In comparing CAP actions with others that have been implemented there are also many measures that could be included that would result in substantial additional GHG reductions at a relatively low cost. Making this investment now will substantially reduce cumulative impacts. It will contribute to the health of Carlsbad residents, provide a sustainable local economy and equally important- it will reduce the future costs to residents and businesses.

The following are our specific comments on the draft CAP:

**I. GHG Reduction target fails to meet state standards**

The identified reduction is insufficient to meet the minimum required by Governor's Executive order S-3-05 and the Global Warming Solutions Act of 2006. These are identified as a 15% reduction from 2005 baseline by 2020 and a 49% reduction by 2035. The draft CAP has failed to demonstrate how it will actually achieve these reductions. The following explains several errors in assumptions/computations that have resulted in the false conclusion that the CAP will meet these standards.

**A. Assumed State and federal reductions may not be achieved**

The CAP assumes substantial reductions from state and federal actions as shown on tables 3-6, 3-8, 3-9, 3-10, and 3-11. However there are a great number of assumptions included in the calculation for these reductions that may not all be achieved within this time frame. For example, the fact that manufacturers are required to produce more efficient passenger cars does not mean that people will replace older vehicles with more efficient ones as fast as projected- or that drivers will reduce their miles traveled. These projections are based on gross analysis across diverse populations. There has been no consideration of the unique demographics of Carlsbad and how these might impact the projected reductions. For example rising gasoline prices generally will result in reduced driving, but the amount of such reductions are less for higher income households because they have more discretionary income that can be used to offset price increases without reducing VMT. The median household income in Carlsbad is well above the county average so higher gas prices would be less of a factor in Carlsbad than it would be in other areas.

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## **B. The GHG reduction target is not assured of reaching compliance with guidelines**

The CAP concludes (p3-25) that “the emissions targets are met in the year 2020 ... by about 63,000 MTCO<sub>2</sub>E.” It further concludes the “emissions gap in the year 2035 of about 134,000 MTCO<sub>2</sub>E” is met through the identified action plan with its projected reduction of 185,919 MTCO<sub>2</sub>E. (CAP p 4-23)

These numbers appear to provide for a reasonable margin of error in the projections, however, there are so many errors throughout in the assumed amount of reductions that will be achieved, cumulative impacts, and timing that these projections are completely invalid and unreliable.

The following will highlight a number of these:

- Underestimated emissions from industrial/commercial section

Attachment A summarizes electricity and natural gas related GHG emission for the commercial and industrial sectors. The text on page 3-5 describes the projected increase for these sectors based on the growth included in the GP as 1.1% per year and .8 % per year respectively. However the actual forecast shown on Table 3-4 shows a substantial reduction in emissions for these sectors not the increase that is described in the text. Presumably this growth would then be offset by the RPS reductions. However the reductions identified as 33% of the electricity usage are not high enough to offset the increases so there remains a net increase- not a reduction. In addition the factor used for the growth projection- number of jobs- seems to underestimate growth substantially. Using square feet of building for industrial/commercial and number of hotel rooms for hotels would result in a much higher increase. The amount of electricity and natural gas used would seem to be much more closely associated with the building size than the number of employees. Using building size as the measure the commercial/ industrial would increase by 37% - not the 30% used for commercial and 21% used for industrial. Hotel rooms increase by 65%- not the 30% used for the commercial category that hotel growth is included in.

- Unrealistic time frame to achieve results

Achieving measurable improvement from many of the action items will take years. Climate action research demonstrates the critical importance of achieving reduction as early as possible to change the trajectory of growth of GHG. The plan should include more actions and identify several key ones that will start immediately so there is a much higher probability that the projected reductions can actually be achieved.

- Exclusion of airport and airport expansion

It appears that all GHG related to the operation of the Palomar Airport have been excluded from the community inventory. We understand why airport expansion would not be included at this time as no formal project has completed environmental review. However the existing operation contributes substantial GHG. Presumably vehicle trips to and from the airport are included in the VMT calculations. But similar to VMT should not some factor be used to identify the airplane fuel impacts on GHG? Please clarify exactly what has been included to address the full range of GHG impacts from the airport, and what CAP inventory and action plan has accounted for all of this associated GHG. If Carlsbad has not included its proportionate share please provide a full justification for such exclusion.

- Basis for VMT calculations

All of the other CAP's that we have reviewed in San Diego have used SANDAG travel data models to determine VMT. This CAP uses the Caltrans HPMS (Highway Performance Monitoring System) “which provides a citywide daily VMT for all local roadways except federal and state highways.” (CAP App B page 5 of 10) All other CAP's have found that the transportation sector is the largest source of GHG. This CAP does not have transportation as the largest source because of manipulation of data between two different models and by excluding the VMT for pass through trips which no one else has done. While we certainly have issues with the accuracy of the SANDAG travel model it is curious that Carlsbad is the only agency to use something different. Please provide a comparison of VMT for the SANDAG travel model and the HMPS and explain why the HMPS was selected. SANDAG has gone to great lengths to calibrate the models it uses. We know of no such comparable effort by Caltrans to adjust their standard models to reflect unique local conditions for an individual city.

We understand the city's rationale for excluding pass through trips. But by so doing a substantial number of trips will not get counted in any CAP in the region. This will result in underreporting regional GHG and consequently over reporting the emission reductions. Such an exclusion should only be allowed if it is combined with some conditions from SANDAG assuring that all VMT for the region is being accounted for in an adopted CAP. Without such a condition the reduction of VMT only benefits Carlsbad at the expense of the rest of the region.

It is also noted that Appendix B says the HMPS is used for VMT. However, the CAP on p 2-4 says "Transportation emissions are based on vehicle miles traveled (VMT) for vehicles and off-road equipment. GIS-based VMT data from SANDAG for all roadways was used." So exactly what was used as the basis for VMT?

### **C Not in compliance with SANDAG Regional GHG Reduction White Paper or Sustainable Communities Strategy**

SANDAG has been working on a regional strategy to reduce GHG for many years. Many of these concepts were included in the 2050 Regional Transportation Plan and related Sustainable Community Strategy. More recently SANDAG published San Diego Forward-The Draft Regional Plan, Draft Climate Action Change Mitigation and Adaptation White Paper. (Incorporated by reference) This white paper lays a foundation for regional actions to reduce GHG and includes a number of specific actions for local government. Our review finds that many of these recommended actions are absent from the Carlsbad CAP, and many others are only partially addressed. We recognize that this is a draft paper- but it has been part of a regional planning process that Carlsbad has been participating in for years- and that Carlsbad will be expected to comply with. The draft CAP needs to be modified to include a new action to revise their CAP to be consistent with the SANDAG recommendations for local government at such time as this regional plan is adopted. Failure to include such a condition in this CAP will potentially result in future conflicts between the Regional CAP and the City of Carlsbad's local CAP.

In addition, many of these missing or only partially addressed actions would be reasonable mitigation for the failing traffic conditions ( road segments below a LOS D) that are included in the draft General Plan. Simply saying these roads will be allowed to fail ignores how this traffic congestion contributes to GHG.

The SANDAG White Paper included the following reasonable actions as well as others that have not been addressed in the Carlsbad CAP: Failure to include these results in inconsistencies between the Carlsbad CAP and the Regional Plan. Furthermore the failure to include the mitigation measures of the SCS results in a land use inconsistency between the CAP and the RTP/SCS that has not been identified or addressed in the EIR..

#### Items in SANDAG White Paper Not Included in Carlsbad CAP

- Establish car share and bike share programs
- Convert city fleet to alternative fuels
- Preserve urban forest and tree planting
- Support modernization of the power grid
- Promote use of low flow and efficient appliances
- Adopt a water rate structure that supports conservation
- Promote water conserving landscaping and turf conversion
- Require waste hauler to reduce their GHG

#### Only Partially Addressed in Carlsbad CAP

- Improve traffic flow and reduce idling
- Revise zoning to support Smart growth
- Develop incentives to reduce parking in mixed use, TOD, smart growth and affordable housing projects
- Establish requirements for energy efficiency of public facilities

### **D Baseline Assumption of GP Reductions Not Substantiated**

#### 1. Transportation Sector

The CAP details assumed GHG reductions from state and federal actions and from the action measures identified in Chapter 4. However achieving the target reduction requires assuming that the basic General Plan , excluding the action measures in Chapter 4 achieves substantial GHG reductions for which there is no real

explanation. Excluding the Pavley fuel economy standards there is still a projected emissions reduction of 14 % in 5 years ( 705,744 minus (565,873 plus 40,354). Assuming that ¼ of the 7,880 housing units included in the 2035 GP are built in the next 5 years, results in 1,970 new housing units or an increase of about 4.5% over the existing number. Even if 100% of the new units meet all of the criteria for smart growth, and are located where complete alternative transportation options are fully in place it requires a whole lot of other things to happen to achieve a 14% reduction in 5 years. It appears that this change in the baseline is what occurs with using a complex computer model that has not been calibrated to its specific application.

This projected reduction is a huge leap of faith that requires an explanation that makes sense- not just that the model cranked out this number. How is it possible for the General Plan (a plan, not even real projects) to achieve such a reduction?

Table 1  
Summary of GHG Emission Reductions

	2011	2020	2035
General Plan land use and circulation system (1)	705744	565873	589837
Forecast Reductions			
State and federal actions (2)			
Low carbon Fuel		20545	14906
Title 24		1836	3582
Rising Gasoline Prices		12201	71316
RPS Standard		48962	36160
Additional General Plan policies and Actions (3)			185919
Total GHG emission reductions		83544	296977
Net Forecast Emissions	705744	482329	292860

(1)CAP Table 2-6 for 2011 , Table 3-12 for 2020 and 2035

(2) CAP Table 3-12

(3) CAP Table 4-1

Also note that the 2020 and 2035 emission results shown above are higher than the forecast community reductions shown on CAP Table 4-3. Please explain how using the phased in linear reductions is appropriate here when all of the prior tables identified a specific reduction by 2020 and 2035.

## 2. Commercial/ Industrial Sector

Table 3-6 identifies a reduction of 36,160 in 2035 emissions from the Renewal Portfolio Standards (RPS). It would seem that this reduction would apply to both the residential and the commercial/industrial sectors but no explanation could be found for how this was allocated. Furthermore the amount of reduction in the baseline for the Commercial/Industrial sector is even greater than if 100% of this reduction was allocated to the Commercial/Industrial sector. Per Table 3-4 the community forecast for 2035 for combined Commercial/Industrial is 184,227. (148,978 + 35,249) This is a reduction of 40,733 from 2011- greater than if 100% of the RPS were allocated to this sector. This also does not account for the 37% growth in commercial/industrial square feet added with the GP. No explanation has been provided for this reduction in the baseline- other than that this is somehow what came out of the EPCI mitigation calculator

## E. Errors/Omissions in Proposed Measures to Reduce GHG

### 1. Title 24 Building Standards and CALGreen

CAP p 1-8 states the most recent standards include Tier 1 and Tier 2 levels “which are designed to exceed energy efficiency and other standards by 15% or 30%.” Table 3-10 on page 3-14 identifies the projected reductions associated with these improvements but does not indicate what percentage of improvement was assumed. Please clarify whether Tier 1 or 2 was used and what will be done to assure the target level is fully achieved beginning in 2014 as seems to be assumed.

## **2. Solid Waste**

The CAP at page 2-4 and 2-5 says the closed Palomar Airport Landfill is the only source for methane emissions from landfills and it is unlikely to have changed since 2005. We have received reports from several persons that this closed landfill continues to release methane at much higher levels than have been reported. They report that homes in the area have had concrete slabs raised because of the volume of such releases. Please clarify exactly what has been done to contain the methane from this landfill and what monitoring is still done to assure these are within safe levels and have been accurately accounted for in the CAP.

## **3. Employee commute**

Appendix B part 2 on Government Operations page 2 of 10 says employee commute impacts are "Scope 3" emissions that "are not part of the government operations emissions inventory as they are indirectly caused by the city, but this memo reports on their impact." Page 10 of 10 describes their impact in 2011 as 2,567 metric tons of CO<sub>2</sub>E. Comparing this impact to all others from government operations as shown on Table 8 employee commute would be the # 2 ranked source of GHG emissions, ranking even higher than the entire fleet operated by the city. Most CAP's include employee commute improvements in their CAP action plans as this is one way the city can both lead by example and learn about what really works to change mode choice. This is another example of how this CAP has split hairs to use every possible manipulation to underreport emissions and over report reductions.

The Appendix says an employee commute survey was done in 2009. Please provide that survey, show how the employee commute pattern compares to the overall commute pattern in the city and then reconsider the decision to exclude employee commute VMT. That is not something a world class city would do. Furthermore it is questionable how one can say employee commute VMT is only indirectly caused/controlled by the city therefore it is excluded while all other resident VMT is fully included in the community inventory. How do you cause or control resident behavior more than you cause/control employee behavior?

## **4. Bikeway Improvements**

The quantification of bikeway improvement emission reductions cannot just be tied to policy measures- policy does not reduce VMT. Construction of the bike lanes/miles is the basis for the reduction and should be used as the basis to monitor progress. This should be restated as an action to build/implement a specified length of bikeway improvements within each 5 year time period. There is some lag time between construction of the improvement and the actual achievement of the projected emission reduction. Therefore there should be a specific target for miles constructed by a specified point in time prior to 2020 and further construction by a time period prior to 2035. In addition, many places have found that just building improvements, without combining that with a coordinated program to inform the community, provide safety training and educate drivers has much lower rates of bicycle use. The action needs to include a more comprehensive approach than just building x miles of bike lanes. Furthermore there are issues with permitting/ regulatory agencies over some of the proposed improvements which can add significantly to the time period for their approval and in extreme cases create a barrier to their construction. There needs to be additional improvements identified so they can be implemented if some that are on the list cannot be built as scheduled.

## **5. Pedestrian improvements and other travel mode split assumptions**

No baseline mode split data was provided in the CAP- in spite of this being critical to evaluate the accuracy and reliability of all of the computations related to VMT and mode split changes and therefore most of the projected reductions in GHG from the transportation sector. The CAP assumes that a significant number of the trips that are now made by auto will shift to other modes of transportation. The percentage of trips allocated to each mode is defined as the mode split. Since non-auto modes generate substantially less GHG than autos the shift of trips away from autos is what achieves the reduction in GHG.

The CAP projects a 1% shift from cars to walking based on guidelines from the Transportation Emission Guidebook. This amount of mode split change has commonly been used in CAP's. But a 1% reduction in VMT is actually a huge increase in the number of people substituting walking for driving/riding in an auto. We find no documentation of any other jurisdiction doubling their pedestrian mode split based on the kind of general improvements included in this CAP. Furthermore, many of the identified improvements have substantial barriers to their implementation and there is very little likelihood they could be achieved by 2020. (For example additional crossings of Interstate 5 and the railroad which require approval by both Caltrans and the railroad and best case would not be accomplished until the widening of I-5 which will occur much later than 2020). The CAP needs to

specifically identify what the current mode split actually is and provide some rationale for the assumption that this can be doubled in 5 years.

Two sources of mode split data were reviewed. The SANDAG 2006 San Diego Household Travel Study is divided into MSA rather than city. Carlsbad is included within the North County West MSA. This study evaluates total weekday trips and found 89.1% by vehicle, 2.6% on public transit, 7.7 % non-motorized and .6% other. The U.S. Census Bureau has mode share by jurisdiction for work trips only. (Table S0801 – 2005 American Community Survey- see Att.) Table 2 shows Carlsbad’s mode split for work trips.

The 28% reduction in car/truck/ van mode share might seem plausible in 23 years. But this requires over a 500% increase in the use of alternative transportation – a rate of increase that is not supported by data from any other source, and certainly not by the policy changes and minimal action items related to the transportation sector that are included in the GP and CAP.

Table 2  
Carlsbad Mode Split for Work Trips Existing and Proposed

Mode	% Per 2012 Census (1)	Adjusted Mode Split (2)	CAP % Mode Split Change	% Change by 2020	% in 2035	% Change From 2012 To 2035 (4)
Car/truck/van	86	95			68 %	- 28%
Public Transit	2.1	2.3				
Walk	1	1.2	1 %	83%		
Bicycle	.7	.8				
Taxi/motor/other	.7	.8				
Worked at Home	9.5					
Sub Total Alt Transportation (3)		5.1			32 %	527%(4)
Total	100 %	100.1%				

(1)SO802 2012 Community Characteristics-American Community Survey

(2) Eliminates Work at home as zero VMT, reallocated remaining to total 100%

(3) Total of transit, walk, bike

(4) Difference in mode split 2012 to 2035/2012 base

## 6. Transit

Per the TBS, the transit baseline mode share is 2.6 % of work trips. Per the census it is 2.1% for all trips. Table 3-12 Community Forecast discussed above presumably includes some assumptions about mode split and how the General Plan land use and roadway changes will impact this. But again it is not possible to evaluate the validity of these assumptions that are built in to this projected emissions reduction.

Furthermore the city of Vista CAP adopted in 2013 assumed a 57% increase in transit ridership to 5.5% by 2020. This was primarily associated with the RTP plan for double tracking and service frequency improvements on the Sprinter which of course would not apply to Carlsbad. The CAP discussion of Transportation Improvements lists a number of potential transit improvements in Carlsbad, but with no time frame, and with no quantification of the number of riders served or how this will change as a result of the improvements. Furthermore there is a huge caveat that “Carlsbad’s future transit effectiveness will depend upon major employers assisting with providing some of the “first mile/last mile” facilities through transportation demand management measures.” (CAP 3-23) In the later section on TDM it is clear that any mandate just applies to new development (CAP 4-16,16) and we found nothing that would indicate any intent to require employers to support such programs, even though achieving the targeted reductions seem to depend upon such a requirement. .

In the TBS transit accounted for only about 1/3 as many work trips as non-motorized transportation, but in the Census data it accounted for a higher percentage of total trips (2.1 %) than Walk and Bike combined (1.7%). Given the importance of transit in the regional plan it is hard to understand why it is not even discussed in this CAP. In addition the General Plan adds a new performance standard for Transit Levels of Service (GP page 3-18) and identifies improvements to the transit system and transit incentives (GP 3-23).

In 2012 NCTD adopted Policy 22 (included in the Att.) This establishes a cost sharing mechanism when service increases are requested. Integrating this policy with the CAP and GP is essential to make sure that new projects in Carlsbad that require transit service increases/expansion to meet smart growth and/or mode share targets pay

their fair-share so that such service improvements can actually be funded and implemented. It is not enough to just build a bus stop/shelter- there needs to be funding for the actual transit service.

It appears there is a substantial increase in transit mode share included in the community forecast emission reductions. The magnitude of this increase is not clearly identified and the CAP actions are not consistent with the GP which has added a specific performance standard for transit. The CAP needs to be better integrated with the mobility element of the GP- and provide basic assumptions about the existing and assumed mode split with the land use and roadway changes that are included in the GP. Furthermore it needs to identify and explain any assumed changed to transit mode share between 2020 and 2035.

## **7. Traffic Calming**

The GP policies cited include 2-P 51- Carlsbad Blvd- an estimated \$ 47 m project which is not designed and for which funding is only partially secured , and 3- P 12 and P13- Livable streets and innovative street design for which no measure has been provided. Since much of the proposed hotel and visitor serving commercial growth will occur along Carlsbad Blvd it will be carrying many more trips than exist today. No basis for the 25% reduction in VMT has been provided. Furthermore it appears that this assumed reduction is likely double counted within the baseline Community forecast which has already included all of the new policies included in the GP “The forecast also includes the effect of the General Plan land use and circulation system on transportation emissions (compact, infill, mixed-use, and transit oriented development, open space protection, new traffic signals, and roadway extensions.”) (GP 3-7). Please provide further justification for this or delete the reduction as duplicative.

## **8. Parking Facilities and Policies**

The discussion of parking strategies included in the GP Mobility Element concludes with the statement “Although there are additional parking strategies that are available and may become available in the future, most of the strategies work best in smart growth/mixed use development areas and will be necessary to accomplish the goals and visions identified in the General Plan and the General Plan Mobility Element.” (CAP 3-21). The discussion of quantification of the forecast GHG reduction says it is a “conservative estimate “that the “combined effect of these parking reduction strategies would result in the lower end ...” or 2% of VMT. Since parking strategies are so closely tied to smart growth development it is unclear how they will achieve such reductions considering how the GP implements smart growth. SANDAG has spent a great deal of time providing guidance for Smart Growth development, preparing the regional Smart Growth Concept Map, and providing incentives to local jurisdictions for implementing smart growth projects. The city of Carlsbad proposed 4 Smart Growth sites within the city. These include Town Centers at CB-1 Carlsbad Village and CB-2 Plaza Camino Real, and Community Centers at CB-3 Quarry Creek and CB-4 Ponto Beachfront.(See Att. for Smart Growth site descriptions).

Since these smart growth site descriptions were last updated in 2012 two of the four areas (Quarry Creek and Plaza Camino Real) have had projects entitled that fail to meet the minimum smart growth thresholds for land use and transit. In fact both projects will result in traffic congestion that exceeds the performance thresholds. Plaza Camino Real includes 0 housing units not the 400 included in the description, and neither incorporated the parking strategies outlined in the CAP. These two projects will add to VMT and GHG emissions- not reduce them. Of the remaining 2 significant smart growth areas, the Village is just beginning a focused planning effort and is included as an existing smart growth area that has already implemented many transportation system improvements. It is unknown at this time what amount of additional development and associated parking improvements will be planned and how many are even possible to have been built by 2020. Project applications for Ponto have not even been submitted so any projects in that area are years in the future and an actual GHG reduction by 2020 is unrealistic. Other major projects are currently under construction at La Costa Town Center or entitled for La Costa Town Square - neither of which incorporated these new GP parking strategies. Parking facilities and policies account for almost half of the total GHG reductions from the General Plan policies and actions shown on Table 3-13. There certainly could be some improvement in VMT from parking strategies by 2035. But there really are no facts provided that support the conclusion for either the total amount of the GHG reduction or the timing of achieving such a reduction. The GP projects an increase of about 18 % in housing units, 37% in commercial/industrial square footage and 65% in hotel rooms. The GP rate of growth is about .9%/year for housing and .8%/year for commercial/industrial. At that rate of growth it is not possible to achieve the projected reductions by 2020.

### **III. CAP Reduction Measures for 2035**

#### **A. Residential Photovoltaic Systems**

Please provide the following information so it is possible to verify your computations:

- Baseline number of existing homes with photovoltaic systems.

It sounds like this is based on projections from the National Renewable Energy Laboratories for the San Diego region, but no source was provided. Furthermore there should be some basis for determining whether the rate of solar installations in the city of Carlsbad is consistent with those for the overall region.

- Average household size

Footnote 28 says household size per state electricity use is 2.65 people per household. This is not the number projected for Carlsbad- either current or per 2035. Shouldn't this number be adjusted for the actual household size in Carlsbad?

## **B. Commercial and City Energy Retrofits**

Please clarify how much of the assumed reduction is from City facilities- and if the assumption is the same for city as for other commercial i.e., 40% reduction in 30% of commercial square footage.

Is this just commercial or does it include industrial square footage?

## **C. Commercial and City Commissioning**

This sounds like a duplication of Measure F Commercial/ City Facility Efficiency Retrofits- particularly since the projected reduction is exactly the same and the description of quantification is the same and can't be verified "The EPIC mitigation calculator was used to quantify emissions reductions..." Plus both say the amount is a 40% reduction in 30% of the buildings. If this is completely unduplicated then does it mean 60% of buildings are achieving a 40% reduction? Since new building are already subject to energy saving requirements it does not seem likely that new construction will be able to achieve any substantial reduction that is not already included in the baseline. If it really is just applied to existing construction (pre-2020) then almost all existing buildings would have to be participating- and achieve a 40% reduction.

## **D. Green Building Code**

This assumes there will be a further 5% reduction above the basic reduction incorporated in the Green Building Code. However Measures B and C both apply to new and existing buildings and it is unclear if F and G do also. So Measure H would have to be in addition to all of those previously mentioned. Please provide further explanation of possible emission reductions from exceeding the Green Building Code that have not already been accounted for in one of the other measures.

## **E. Efficient Lighting standards**

Please clarify how much of this assumed reduction is from City facilities, how much residential and how much commercial. Please also explain how you expect to be able to measure this since it is stated as replacing 50% of bulbs in city facilities but just "Promoting the use of LED or energy efficient lamps in other buildings.' (CAP- 4-13) Based on what are you assuming 75% of current bulbs are currently incandescent or halogen? Most people started replacing incandescent bulbs years ago. Also please clarify how this item is not duplicative of measures which would likely include bulb replacement as one of the energy reduction measures in F, G or H.

## **F. Transportation Demand Management**

Your math does not make sense. The text describes a 10% shift in trips by alternative transportation by workers from 22% to 32% which results in an emission reduction of 23,549 MTCO<sub>2</sub>. This reduction is over 11% of the total transportation sector emissions (23,549 /210,568 per Table 3-4). The CAP sounds like this measure is limited to work trips ( as the cited Census data is just for home based trips and the description says trips by "workers"). Per the 2006 SANDAG Household Travel Study Table T-14 work trips constitute .49 of the 4.05 per person trip rates/day or just 12% of total trips. The emission reduction should therefore be 12% of total transportation sector GHG x 10% for the shift to alternative transportation or 2,567 MTCO<sub>2</sub>- not 23,549 MTCO<sub>2</sub> as shown in the CAP.

If this is limited to work trips your math is way off. If this is not limited to work trips then please explain what it is based on and show your actual computations so it can be determined if your assumptions are reasonable.

## G. Increased Zero- Emission Vehicle (ZEV) Travel

The CAP assumes a reduction of 54,158 MTCO<sub>2</sub> by increasing ZEV miles traveled to 25% of total VMT. Presumably this is computed by multiplying total VMT emissions by 25%. But 210,568 total VMT (CAP Table 3-4) x .25 equals 52,642 not 54,158 as shown. Furthermore this has failed to account for all of the other projected reductions in VMT. Table 3 below identifies the percentage of VMT reductions included in the CAP.

Table 3  
CAP Projected VMT Per Cent GHG Reductions

Item	Reduction by 2020	Reduction by 2035
Bikeway Improvement	.07	.07
Pedestrian	1	1
Parking	2	2
Transportation(based on transit)	.63	.63
Transportation demand Management		11
Total Percent reduction in VMT	3.7 %	14.7 %

Assuming the rest of your assumptions are correct (which we dispute) , the base GHG emissions from VMT needs to first be reduced by 30,953 to 179,615 ( 210, 568 x .147 = 30,953. Then the 25% reduction from ZEV's is only 44,904 MTCO<sub>2</sub> (179,615 x .25) – not the 54,158 that is shown.

## H. Citywide Renewable Projects

This measure also sounds like it has been duplicated in Measures B, F, and G, based on what is described in M-1, M-2 and M-3. However the GHG reduction measure description sounds like something different. Please provide a consistent definition of what is intended with this that clearly is not duplicated in the other GHG Reduction Measures.

## I. Combined Effects

It is really not possible to determine whether the projected reductions are reasonable based on the information provided. Table 2-1 quantifies electricity use for residential, commercial and industrial. Table 2-2 summarizes these by GHG by sector, Table 2-3 summarizes electricity emissions by sector for 2011. Table 2-7 Combines GHG emissions for electricity and natural gas by sector. But each of the described emission reduction measures fails to provide breakdown by sector and by electricity /natural gas. Natural gas represents about 47.5% of GHG emissions for residential sector and 22% for commercial/industrial. Using the Table 2-7 numbers the projected reductions appear to represent an additional 11 % reduction above what is already included for baseline reduction. This does not seem plausible given the 18% increase in residential units, all of the issues previously discussed and the potential for duplication of projected emission reductions.

Table 4  
Projected Residential Reductions

Reduction Measure	2011 Baseline Emissions	2035 Baseline Emissions	2035 Emission Reduction
A Residential Solar			10,136 = 15% more homes than base-
D Efficiency retrofits			1,132
H Green Building Measures			179 5% above base Green Bldg
I Efficient Lighting			9,636 (1)
J Residential/Commercial Solar water heater			5,106(1)
M City wide renewable			2,015 (1)
Total	176,405	163,881	18, 568

- (1) Allocated based on percentage of total represented by sector per Table 2-7. Residential is 44%. Commercial/Industrial is 56% of the combined total for the two sectors.

Table 5  
Summary of Reductions/Commercial/Industrial

Reduction Measure	2011 Baseline Emissions	2035 Baseline Emissions	2035 Emission Reduction
B Commercial/Industrial Solar			13,336 – 15% of electricity use
C Building Co-generation			1,067 ( 6.9 MW)
F Encourage Efficiency retrofits			18,377 – 40% reduction in 30% of sq footage
G Commercial and City Commissioning			18,377 – 40% reduction in 30% of sq footage
I Efficient Lighting			12,264 (1)
J residential/Commercial Solar water heater			6,498(1)
M City wide renewable			2,565(1)
Total	224,960	183,498 (2)	72,484

- (1) Allocated based on percentage of total represented by sector per Table 2-7. Residential is 44%. Commercial/Industrial is 56% of the combined total for the two sectors.  
(2) Per Table 3-4 Community Forecast adding Commercial and Industrial

This represents almost a 40% additional reduction by 2035 above what is already included in the baseline reduction. This does not seem plausible given the 37% increase in commercial/industrial square feet, all of the issues previously discussed and the potential for duplication of projected emission reductions

#### IV. Project Review Checklist Threshold Not Adequate

The proposed checklist appears to have simply copied what is being proposed (but not yet adopted) for the City of San Diego and the County of San Diego. It is premature to assume that these standards will ultimately be enforced by these jurisdictions. ( One has not gone through CEQA review and the other is the subject of a legal challenge). Furthermore there is no explanation for how relevant this is for Carlsbad. In Carlsbad the majority of the remaining parcels still to be developed are small. What percentage of the remaining development is anticipated to even meet the proposed threshold levels? If it is not essentially all of the projects then how can you assume that all of the projected emission reductions will be achieved if many projects are exempted from achieving what would be their fair share of such reductions?

The prior analysis has not identified how much of the reductions are coming from new development and how much from existing. Please clarify how much of the targeted emission reductions are expected to come from new development and how much of that new development is expected to meet the proposed screening threshold size? Further explain how this will be integrated with on-going monitoring so that corrective action can be taken early in the process if the projected emission reduction are not achieved.

#### V. Inadequate Monitoring Program

The proposed monitoring program is completely inadequate to assure that corrective action can be taken in time to achieve the emission reduction targets if preliminary results fall short. These should be distinguished for both the 2020 and 2035 time frames as different actions are critical for each.

#### 2020

The emission reduction targets assume implementation of numerous policies included in the GP. However the GP does not have a detailed timeline that assures when any of these identified policies will be implemented. Nor is there any requirement that all of the referenced policies are fully implemented by 2020. Furthermore policy does not result in an emission reduction- it is the implementation of the policy. For example numerous policies related to improved connectivity have huge barriers to their implementation, such as Caltrans and/or railway approval of crossings. Furthermore there is no assurance that the funding needed to implement all of these policies has been or will be provided as the implementing programs have not even been determined.

Furthermore some, like the Carlsbad Blvd improvements, will require a vote of the residents in order to have a reasonable financing plan. (At public meetings City staff have said the estimated cost is \$ 47m and will require voter approval for anticipated general fund expenditures of over \$ 1m.) All of the actions that require funding need to have at least a concept level funding plan, with reasonable certainty that all of the identified sources are available prior to 2020. This should follow the model that SANDAG uses for the Regional Transportation Plan. They develop a complete list of projects and costs, estimate funding sources, and then adopt what is assumed to be the revenue constrained plan ie one that actually can be built within the time frame and budget provided.

Funding is often the primary barrier to implementation of the kinds of policies and projects included within the CAP. Throughout the CAP there is mention of potential grant and other funding sources, and areas where it is assumed the city will provide some level of funding. The CAP cannot mitigate the cumulative impacts of GHG in the absence of such a timeline and funding plan.

## **2035**

The 2035 actions are “categorized as short term (one to two years), mid-term (two to five years), or long-term (longer than five years) based upon when they will be implemented following adoption of the CAP.” This does not specify what year the CAP is assumed to be adopted which is critical to achieving the targeted reductions.

This time frame also should trigger key monitoring reports that would show at least for one year, two year and five year time periods that the target actions have been implemented. For any action that has not been implemented there should be a corrective action plan and some assessment of the impact on the target reductions. If the combined total of actions has fallen short then further corrective action must be required.

The process for the city to “assess whether information on GHG inventory or targets is substantially out of date” is not sufficient to assure target reductions are met. The CAP assumes a straight line reduction in emissions. The actual reduction is likely to get started later than is assumed, and to take longer to achieve results. The shortfall may have nothing to do with the inventory being out of date, it might just be poor or inadequate implementation.

The key is emission reductions. The monitoring program needs to provide a real plan to monitor emissions and assure that reductions are being achieved consistent with the assumed straight line reduction. Any less reduction must trigger corrective action designed to make up for the full short fall that has been identified. The CAP includes no real mandate to take corrective action, to define what triggers the need for corrective action, or to specify that anything even needs to be done.

The city should also consider setting up a broad based stakeholder group to help engage the entire community in the effort to achieve the reductions included in the CAP. This should include business groups, neighborhood groups, conservation groups and others who have a role in implementation. This will make the CAP a community plan with everyone involved in achieving its goals, and not just something the city is mandating.

## **VI No Provisions for Adaptive Management**

- The state guidelines and mitigation of cumulative impacts associated with GHG both require some consideration of adaptive management- ie addressing the risks associated with climate change effect. The GP identified a number of climate change impacts that would affect Carlsbad including(CAP 1-5):
- Higher temperatures
- Changes in precipitation
- Increased risk of wildfire
- A greater number of extremely hot days
- Decline or loss of animal and plant species
- Public health impacts that particularly affect the young, the old, the poor and those who are already sick.

Even with the proposed actions to reduce GHG temperatures will continue to rise and the effects of this will still be significant. The CAP and the EIR have ignored these potential impacts.

### **A. Water Use**

Adaptive management should also include a program to reduce water use and a requirement to use xeriscape (preferably native plants) and minimal/no potable water for irrigation. Measure M includes water distribution/transport system improvements, but not basic conservation which is one of the best ways to reduce

the processing and transportation related GHG emissions of water. This is another area where the city can lead by example- using native plant landscaping for new public facilities would be a great start but there are more opportunities to expand this every time existing facilities need landscaping work.

## **B Habitat Protection**

The time and money the City has spent on the Habitat Management Plan (HMP) will be wasted if there is no consideration of the impacts of climate change on the adopted plan. Protection of species and biodiversity needs to also include consideration of actions to support species adaptation. SANDAG is sponsoring research studies that will help the region understand what our listed species may need to support adaptation. In some area this may include providing additional wildlife corridor links beyond what was originally planned for in the MHCP. In others we may need to be physically relocating species or creating habitat where it does not now exist. Actions should include coordination with SANDAG on this issue.

## **C Wildland Fires**

Preserving accessible bodies of water for wildland fire suppression needs to be considered as part of the overall response to increased wildland fire risks. Lake Calavera was most recently used as a water source for suppression of the Poinsettia Fire in May 2014. It has also been used several times in the past.

## **VII Additional Measures that Should be Considered.**

There are numerous additional measures that should be incorporated into the CAP. These would make up for the shortfalls in emission reductions likely to occur, provide additional community benefits, and lay a foundation for further reductions that will likely be required past 2035. These include things like:

### **A. Urban Tree Canopy**

The GP and CAP do not include any recognition of the multiple benefits of trees. Most of the CAP's in So California include some actions related to tree planting and protecting/enhancing the Urban Tree Canopy. Often mature trees with large canopies are removed and replaced with a small new tree that takes many years to produce equivalent shade and equivalent carbon sequestration. Projects with 5:1 replacement of mature trees as part of required mitigation will not see any real benefits for many years. Furthermore mature trees sequester much more carbon than small, new trees. Carlsbad would benefit from being part of a regional effort to document the condition of the Urban Tree Canopy, and then institute programs to enhance it. In addition to GHG reductions through carbon sequestration, such programs have numerous additional benefits such as reducing the urban heat island effect, increasing pedestrian/bicycle use by providing a more pleasant experience, and improving community aesthetics.

### **B. Green Infrastructure**

There is no real program for supporting "green infrastructure." The city has a habitat conservation plan, and a requirement for 3 acres of parkland/1,000 residents, but no strategic integration of green infrastructure in a way that would both reduce GHG and provide secondary benefits like water quality and recreation. The CAP could be such an integrating document with components that provide guidance for increased natural open space; greenbelts as part of road planning; daylighting of creeks and adding natural buffers; providing connections between parks and other green spaces; tree preservation policies that expand the urban forest, not just preserving a few heritage trees; providing for locally grown food/protecting agriculture and expanding community gardens, etc.

### **C. Cost/Benefit Analysis**

There needs to be some sense of cost/benefit for mitigation measures- with emphasis on those that make the greatest contribution to GHG. Of course this is not required as part of CEQA, but it is required as part of sound public policy and making a reasonable assessment that the identified improvements actually can be implemented within the time frame specified.

The transportation sector is the primary contributor. Incentive dollars that reduce impacts from that sector should be considered as well as those for building retrofits. Coastal communities like Laguna Beach have adopted "Free trip to work" programs on public transit to reduce congestion in downtown. Similar programs could be designed to specifically reduce GHG through selective local transit subsidies.

#### **D. Penalties/Incentives**

CAP needs to include real incentives/penalties for mode shift change/reduced VMT. The draft HE shows numerous sites scattered all over the city for increased housing density- but there is no relationship of those sites to major transit corridors, or the ability of residents to bike/walk to key destinations. Courts have already found that the policies in the SANDAG Sustainable Community Strategy do not go far enough. To meet the required GHG targets Carlsbad will have to do more.

#### **E. Real Smart Growth development**

Building out all of the designated smart growth sites in the city as smart growth ( not like Quarry creek) will still represent a very small percentage of total trips. The key to changing travel patterns is to address the majority of the city that is already built. The CAP needs to put sufficient emphasis on growth along public transportation corridors or where there are walkable neighborhoods that reduce auto trips. There needs to be a clear connection between land use and alternative transportation and between the CAP and the CIP schedule for actually building bike lanes, trails, safe routes to school, transit centers, etc. Note that even where public transit has been considered, like the Encinas Creek apartments, NCTD now says they will not be providing actual service to the bus shelter the city required to be built. Part of the policy changes needed are to have better standards for CEQA transportation impact analysis/mitigation. For example the recent traffic study for the mixed use project at La Costa Village had absolutely no analysis of transit or alternative transportation. Every traffic study needs to consider multiple ways to reduce traffic impacts- not just more road building. It is not clear in the GP EIR what will actually be used as the threshold that requires analysis of project impacts on all modes of transportation, and more importantly how the proposed mitigation will be applied.

#### **F. More Comprehensive water Policy**

CAP needs to include more comprehensive water policy- not just allowing use of grey water. Water conservation and toilet to tap reuse programs need to be increased- far more than was assumed in Water Master Plan.

#### **G Solid Waste Programs**

The city can have a huge impact on this through local ordinances and pricing of solid waste programs that are fully controlled by the city. Other cities like Oceanside have a goal of zero waste. Part of achieving that goal is through composting and reuse of green waste. Carlsbad wastes energy transporting green waste to land fills. This is a relatively small percentage of GHG, but a good way for individuals to become part of the solution.

Recycling programs are much more effective when they have clear goals, measurement systems and feedback. The community needs to get engaged in actions to reduce GHG and recycling is one of the easiest ways for them to get involved.

Such a program should also include consideration of banning the distribution of single use plastic bags.

#### **H. Broader support for low carbon vehicles**

The city has put all of their alternative fuel eggs in one basket- ZEV's. Furthermore they have not included the full range of actions that encourage the use of alternative fuel vehicles. These should include things like parking preferences, more than just ZEV fueling stations, reductions in parking requirements for car pool and alternative fuel related programs, etc.

#### **I. Community Education and Outreach**

Most CAP's recognize that while community education and outreach do not result in measurable reductions in GHG, they indirectly support the achievement of all of the actions included in the CAP. There are a number of organizations that will come and do free public education about what individuals or businesses can do to reduce climate change.

There is no policy/ measure specifically to address individual behavior. This would strengthen the understanding that responding to climate change is not just something the city is doing- it will need to involve everyone. A program should be designed similar to what has been done to increase understanding and actions to protect our creeks from the effects of polluted run-off. That effort includes surveys to determine knowledge and understanding about what individual actions could be taken, what percentage of the population is taking those actions, and targeting the areas where further education/outreach is needed. This needs to incorporate the broad

range of sustainability actions from energy through recycling. The Berkeley CAP focusses on the following individual actions: Change commute, unplug appliances, generate less waste, save water and grow your own food.

#### **J. Locally produced food**

The GP gives lip service to the value of local agriculture and food production but none of this has gotten integrated into policies that will have an impact. Other places have real agricultural protection in place- they buy land and place agricultural easements on it. Other things that can be done include encouraging the development of community gardens, not just one/quadrant as is now proposed, but acres of them all over the city; allowing front yards to be used for food production; supporting the concept of green roofs; loosening restrictions that would make it harder implement vertical gardening or hydroponics, etc.

Small local food production reduces the GHG from large commercial operations, transportation of food and less energy and water is consumed by eating lower on the food chain. Measures to support the retention of local small farms, support for farmer's markets, etc. would be part of this strategy. Water pricing has been a major factor in loss of agriculture in other areas. There may need to be some more focused study about actions that might actually preserve local agriculture, particularly food production.

#### **K. Support/Coordination with SANDAG**

The City needs to better coordinate its GHG reduction strategies with SANDAG, and all of the member jurisdictions. The commitment to do this needs to be included in both the GP and the CAP.

Thank you for your consideration of our comments. We look forward to continue to working with you toward a CAP that achieves your goals for Carlsbad while still protecting our priceless natural resources.

Sincerely,

Diane Nygaard  
On behalf of Preserve Calavera

Attachments:

Projected GHG reduction from Commercial Building Energy Saving  
SO801 Commuting Characteristics by Sex 2012 American Community Survey 1-Year Estimates  
NCTD Policy 22  
Smart Growth Site Descriptions