TAHOE REGIONAL PLANNING AGENCY

Mail
PO Box 5310
Stateline, NV 89449-5310

Location
128 Market Street
Stateline, NV 89449

Contact
Phone: 775-588-4547
Fax: 775-588-4527
www.trpa.org

MEMORANDUM

Date: January 24, 2017

To: TRPA Governing Board

From: TRPA Staff

Subject: Placer County Tahoe Basin Area Plan Greenhouse Gas Mitigation (Agenda Items VII A and B)

On January 20, 2017, the California Air Resources Control Board (CARB) issued its final proposed 2017 Climate Change Scoping Plan Update (2017 Scoping Plan). The Scoping Plan sets forth California's comprehensive strategy to meets its GHG reduction goals (e.g., the emissions reduction target of 40% below 1990 levels by 2030). The Scoping Plan provides guidance to local and regional agencies on land use policy and project implementation to aid in the overall, statewide compliance with GHG reduction goals. The guidance includes information relevant to the analysis under the California Environmental Quality Act (CEQA) for actions like adoption of land use plans. In this memorandum, TRPA staff provides background on the EIR/EIS GHG analysis and current mitigation measures as well as taking the opportunity to clarify and refine Mitigation Measure 12-1 relating to operational impacts of TBAP implementation.

A. Background

1. DEIR/DEIS GHG Analysis

Chapter 12 of the Draft EIR/EIS analyzes the climate change impacts of the TBAP and Lodge project through the emissions of GHG during construction and operation. The analysis uses three distinct standards of significance to determine whether adoption and implementation of these proposals and their alternatives would create a significant and adverse environmental impact. The CEQA criteria (TRPA has no independent standards) utilized are: (1) generate GHG emissions that, in and of themselves, have a significant impact on the environment, and (2) consistency with California state plans to achieve its overall climate reduction goals. Placer County and TRPA utilized these two standards because the EIR/EIS looked at both programmatic- (adoption of the TBAP) and project- (the Lodge) level action. (The EIR/EIS also examined whether climate change would have any significant impacts on the projects – a separate analysis not relevant here).

Under Impact 12-1 (DEIR/DEIS at 12-15 through 12-27), the document calculated baseline (2015) emissions and then emissions anticipated from construction and operation of implementation of each of the four TBAP and Lodge alternatives. The GHG emissions analysis disclosed that implementation of

TBAP Alternative 1 (the proposed area plan) would result in substantial GHG reductions of over 6,000 metric tons of carbon-dioxide-equivalent (MT CO2e) emissions annually by 2020 (a 6% reduction) and 25,000 MT CO2e emissions annually by 2035 (a 23% reduction). The DEIR/DEIR disclosed that the implementation of the Lodge would create 569 MT CO2e emissions annually.

The DEIR/DEIS then compared these emissions against the significance criteria. For the Lodge project, Placer County and TRPA utilized a standard criterion promulgated by the Placer County Air Pollution Control District of 1,100 MT CO2e annually. Since the Lodge would emit less than the standard, the DEIR/DEIS determined construction and operation of the Lodge as designed would have a less-than-significant impact.

The selection of significance criteria for the implementation of the TBAP is more difficult. Superficially, as implementation of the plan would substantially reduce GHG emissions over time, implementation of the TBAP would not contribute to an increase in GHG emissions over baseline conditions. However, to meet California's overall goal of GHG reductions to moderate climate change in the future, GHG emissions should be reduced to 40% of 1990 levels by 2030 and to 50% of 1990 levels by 2050. As demonstrated in the iterations of the Scoping Plan, these reductions would only be achieved through decreases in emissions across the various contributing sectors (e.g., transportation, energy generation, land use, etc.) statewide. Because some sectors contribute significantly more GHG, the Scoping Plan anticipated total reductions would not be 40% (or 50%) across the board (i.e., for every sector) but would vary depending on contribution and feasibility. No percentage decrease was assigned to implementation of land use plans (which is an amalgam of a number of individual sectors and factors driving, for example, home energy consumption). As a result of the absence of guidance, Placer County and TRPA adopted a very conservative significance criterion: if implementation of the TBAP policies resulted in greater emissions than the overall state-wide reductions of 40/50% below 1990 estimated emissions, the levels of emissions – even though a substantial reduction – would be significant.

The DEIR/DEIS disclosed that the percentage reduction of emissions from the implementation of modeled TBAP policies does not meet this conservative significance criterion. This is because Placer County and TRPA could not quantify the GHG reductions from a variety of TBAP polices that will further decrease GHG emissions (e.g., energy efficient building designs or retrofitting assistance) because the rate of implementation could not be reasonably forecasted. Therefore, although the DEIR/DEIS concluded the potential GHG impacts would be less than predicted (or the emission percentage reductions would be greater) with the adoption of the policies, Placer County and TRPA concluded that GHG emissions would be potentially significant.

The DEIR/DEIS also examined whether emissions from implementation of the TBAP and Lodge would be consistent with adopted targets under California Senate Bill 375, the second GHG standard of significance. The analysis determined that the proposed TBAP and Lodge would reduce the per capita GHG emissions below both 2020 and 2035 SB 375 targets and would therefore have less-than-significant impacts under per capita reduction goals.

Viewing outcomes from the two separate analyses reveals that the proposed TBAP will result in substantial total and per capita reductions. However, TRPA and Placer County utilized a very conservative standard of significance for TBAP implementation because no statewide guidance exists on what total reduction should occur from land use plan implementation, so the DEIR/DEIS proposed mitigation measure 12-1 to further reduce GHG emissions. (DEIR/DEIS at 12-27.)

Implementation of MM 12-1 will further reduce GHG emissions by requiring new construction (both redevelopment and greenfield) to implement all feasible energy, water, transportation and vegetation measures specified by the Placer County Air Pollution Control District CEQA handbook. Furthermore, MM 12-1 requires Placer County to initiate a funding mechanism to retrofit these measures into existing facilities. The range of measures are set forth in the DEIR/DEIS and include installing tank-less water heaters, solar water heaters, require Energy Star rated appliances, low flow water fixtures, bus shelters and lanes. As required by CEQA, these mitigation measures must be implemented unless proven to be infeasible.

Installation of the measures specified in MM 12-1 will reduce GHG emissions beyond that projected from implementation of the proposed TBAP policies alone. The DEIR/DEIS, however, could not quantify the amount of additional GHG reductions from implementation of MM 12-1 measures because the total reductions depend on the nature and number of new projects undertaken, and funding levels achieved for retrofits. The DEIR/DEIS concluded that while implementation of the TBAP as modified by MM 12-1 could meet the reduction targets, no quantifiable analysis could be performed to confirm. As a consequence, the DEIR/DEIS determined that the GHG emissions impact would remain potentially significant and unavoidable. (Id. at 12-28.)

2. Response to Comments on DEIR/DEIS

In response to public comment on the DEIR/DEIS, TRPA and Placer County further refined MM 12-1 in the Final Environmental Impact Report/Environmental Impact Statement (FEIR/FEIS). Placer County and TRPA added two additional measures to further reduce GHG emissions:

> In addition, ground source heat pumps would reduce the need for natural gas in the winter. Fees may also be paid into carbon offset programs that are adopted by ARB. Offsets purchased to mitigate operational emissions shall be sufficient to offset emissions during the full operational life of the new construction project. (FEIR/FEIS at 2-10.)

In other words, unless proven infeasible, new projects must reduce GHG emissions through direct measures and/or pay into carbon offset programs adopted by CARB.

While Placer County and TRPA adopted several measures proposed by comments, the FEIR/FEIS rejected and/or responded to other suggestions in the responses to comments. For example, the FEIR/FEIS specifically concluded that implementation of special "cooperative" programs to promote "car-free" vacations was, at this time, unworkable because of the lack of transit sufficient to appeal to such vacationers, but noted that the suggestion may be possible in the future. (Id. at 3.3-16 (Response 10-7).) The FEIR/FEIS also addressed a suggestion that Placer County implement a curb-side "green-bag" pickup program to divert organic waste from landfills. After a careful analysis, Placer County determined that various other of its programs will provide adequate green waste diversion, including free drop-offs and required business recycling programs. (Id. at 3.3-15 (Response 10-5).) Finally, the FEIR/FEIS addressed calls for expansion of bike trails. The FEIR/FEIS noted that Placer County and TRPA have both planning documents (including the TBAP policies specifically promoting bike trails and TRPA's Active Transportation Plan) as well as funding mechanisms such as local transportation improvement programs, tax revenues and impact fees. (Id. at 3.3-14 to 15 (Response 10-4).)

3. Further Revision to Mitigation Measure 12-1 in Response to Post FEIR/FEIS Comments

After publication of the FEIR/FEIS, CARB made available on December 2, 2016, a discussion draft of its revised Scoping Plan. In addition, Placer County received further comment on the GHG analysis and MM 12-1. In response to both circumstances, Placer County and TRPA further refined MM 12-1 to link the mitigation goals to not only reductions needed to help reach the state's 2030 goal, but also to any other further promulgated reduction targets (e.g., 2050 goals). MM 12-1 was also modified to include measures suggested by commenters and those contained in the December 2 draft Scoping Plan. These measures achieving Zero Net Energy (ZNE) for redevelopment and greenfield development as well as measures to encourage use of electric vehicles, such as installation of charging stations in new developments and parking lots.

B. 2017 Scoping Plan Update and Response

On January 20, 2017, CARB published its proposed 2017 Scoping Plan Update. As noted above, the 2017 Scoping Plan takes the position that achieving no net increase in GHG emissions is the correct overall objective, but notes that it may not be appropriate or feasible for every development project and that inability to mitigate a project's GHG emissions to net zero does not necessarily translate to a substantial contribution to the cumulatively significant environmental impact of climate change. ARB cites several recent examples of sustainable land use development projects in California that have demonstrated that it is feasible to design projects to achieve zero net additional GHG emissions (e.g., Newhall Ranch Resource Management and Development Plan).

The Scoping Plan Update also states that to the degree a project relies on GHG mitigation measures, ARB recommends that lead agencies prioritize on-site design features and direct investments in GHG reductions near the project. Also, where further project design or regional investments are infeasible or not proven to be effective, it may be feasible to mitigate project emissions through purchasing and retiring carbon credits issued by a recognized and reputable accredited carbon registry. Appendix B of the Scoping Plan contains examples of on-site project design features, mitigation measures, and direct regional investments that maybe be feasible to minimize GHG emissions from land use development projects

In light of the 2017 Scoping Plan, TRPA staff has taken the opportunity to clarify the scope and operation of MM 12-1 and elaborate on the menu of potential measures. The revised version is attached hereto as Errata 2. These refinements include (1) stating up front the performance standard for MM 12-1 is zero net additional GHG emissions unless shown to be infeasible for all new construction and (2) implement a funding mechanism to retrofit existing structures, and (3) include additional possible measures to achieve the performance standard. (A copy of the revised MM 12-1 is distributed concurrently with this memo.) As demonstrated in the attachment hereto, implementation of these measures will reduce GHG emissions to varying degrees. The measures can be selected to ultimately achieve the ZNE performance measure. The resulting mitigation measure aligns more with the expectations of CARB policy direction for adoption of land use plans. Because the revised MM 12-1 further refines and strengthens implementation California state policy to further reduce GHG emissions, recirculation on the EIR/EIS is not required before the Governing Board takes action.

Contact Information: If you have any questions, please contact John Marshall at jmarshall@trpa.org or (775) 303-4882, or contact Lucia Maloney at lmaloney@trpa.org or (775) 589-5324.

ATTACHMENT A

The GHG reduction elements included in Mitigation Measure 12-1, as adopted by Placer County, are listed below with added information about their general effectiveness. For many GHG reduction measures, effectiveness may vary due to a project's unique location within the Area Plan and the climate of the Tahoe Region.

- Install tank-less or energy-efficient water heaters with an R-value of 16 (E5). *Tank-less water heaters can be 25 to 30 percent more energy efficient than conventional storage tank water heaters (California Air Pollution Control Officers Association [CAPCOA] 2010:91; Placer County Air Pollution Control District [PCAPCD] 2016:F-1). Because tank-less water heaters heat water on demand rather than maintain a basin of hot water on a constant basis, the improvement in efficiency may be even greater for buildings with lower occupancy rates on weekdays and outside the peak tourist seasons.*
- Install solar water heaters (E3). *Use of solar water heaters reduces the level of CO_2e emissions associated with water heating by approximately 70 percent as compared to buildings that use conventional storage tank water heaters fueled by natural gas or propane (PCAPCD 2016:F-1).*
- Install energy-efficient roofing (E4). *Energy Star-qualified roof products can help reduce the amount of air conditioning needed in buildings, and can reduce peak cooling demand by 10 to 15 percent (Energy Star 2017).*
- Require Energy Star-rated appliances in new construction (E9). *Use of Energy Star-certified appliances in residential units results in a 2 to 4 percent reduction in CO_2e emissions associated with electricity consumption by appliances (CAPCOA 2010:64).*
- Pre-plumb new construction for solar energy and design for load (E12). *There is not adequate literature at this time to quantify the reduction achieved by this measure. However, a project applicant may be able to provide the site-specific information necessary to quantify a reduction (PCAPCD 2016:F-1 and F-2).*
- Install low-flow water fixtures (W1). *This measure could reduce water consumption in residential uses by 20 percent and in non-residential uses by 17 to 31 percent (CAPCOA 2010:68). According to PCAPCD, there is not adequate literature at this time to quantify the reduction achieved by this measure. However, a project applicant may be able to provide the site-specific information necessary to quantify a reduction (PCAPCD 2016:F-2).*
- Use reclaimed water for irrigation (W3). *This measure can reduce outdoor water use by up to 40 percent (PCAPCD 2016:F-2; CAPCOA 2010:68).*
- Provide bus shelters and lanes and provide bike parking (T1, T2, and T3). *Providing bus shelters in close proximity to a project can result in up to a 15 percent reduction in a project's mobile-source emissions (PCAPCD 2016:F-2). Providing bike lanes that directly connect to a regional bike system can result in up to a nine percent reduction in a project's mobile-source emissions (PCAPCD 2016:F-2).*
- Plant drought tolerant plants (V2). *There is not adequate literature at this time to quantify the reduction achieved by this measure. However, a project applicant may be able to provide the site-specific information necessary to quantify a reduction (PCAPCD 2016:F-2).*
- Prohibit gas-powered landscaping equipment (V3). *The use of hand tools or electric equipment instead of gas-powered landscaping equipment would result in a 70-percent reduction in CO_2e emissions associated with landscape maintenance activity (PCAPCD 2016:69).*
- Achieve Zero Net Energy (ZNE) or equivalent level of energy efficiency, renewable energy generation, or greenhouse gas emission savings. *This would result in a 100 percent reduction in non-transportation-related emissions.*
- Require new developments to demonstrate that each new residence be equipped with a minimum of one single-port electric vehicle charging station that achieves similar or better functionality as a Level 2 charging station (referring to the voltage that the electric vehicle charger uses). *This measure would incentivize the ownership and use of electric vehicles, which are more GHG-*

efficient than gasoline-powered vehicles. The percent reduction would depend on many factors, including the GHG-intensity of the electricity used to charge the electric vehicle.

- Require residential projects to contribute to a fund to subsidize purchase of zero emission vehicles. *This measure would incentivize the ownership and use of electric vehicles, which are more GHG-efficient than gasoline-powered vehicles. The percent reduction would depend on many factors, including the GHG-intensity of the electricity used to charge the electric vehicle.*
- Require applicants for commercial projects to demonstrate that parking areas will be equipped with electric vehicle charging stations for an appropriate percentage of parking spaces. *This measure would incentivize the ownership and use of electric vehicles, which are more GHG-efficient than gasoline-powered vehicles. The percent reduction would depend on many factors, including the GHG-intensity of the electricity used to charge the electric vehicle.*
- Adopt a program of parking fees to generate funding for sustainable transportation modes. *This measure would encourage the use of transit rather than cars, which is a more GHG-efficient form of transportation. The percent reduction would depend on many factors, including the elasticity of parking pricing, the extent of the improvements that can be made to transit with the additional funding, and GHG-intensity of the transit itself.*
- Install ground source heat pumps (GSHPs) to reduce the need for natural gas in winter. *The reduction achieved by this measure would vary according to many factors including the heating and cooling demand of the building.*
- Require payment of fees into carbon offset programs adopted by the California Air Resources Board (ARB) at a level sufficient to offset emissions over the operational life of the project. *The mass of CO_2e reduction would vary per the offset program.*