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March 11, 2009

**GENERAL MEMORANDUM NO. 085 -2009**

To: Distribution List  
From: Governor of American Samoa  
Subject: Implementation of Hybrid Vehicle Purchasing Policy

The intent of this General Memorandum to ensure that ASG departments and agencies implement, in an immediate manner, the spirit and intent of the Executive Order 10A-2007 on Climate Change issued by the Governor on August 21, 2007. The Executive Order mandates that all departments and agencies take definitive measures to ameliorate short and long term effects of climate change. The commitments made are extensive and will require vigilance on the part of all ASG departments and agencies to implement.

Attached, you will find the new ASG vehicle purchasing policy, which includes a step-by-step purchasing framework. This new policy will help to reduce not only our greenhouse gas emissions which contribute to global climate change, but also our annual operating costs. Over the course of a single vehicle's lifetime, a hybrid vehicle will save more than \$17,000 in fuel expenses alone when compared to a Heavy Truck. This does not take into account the financial savings related to cheaper maintenance or the added capital savings from purchasing a cheaper car in the first place. The most practical and beneficial means to reduce local greenhouse gas emissions and operational costs is to transition as many trucks to hybrid vehicles as possible.

This issue is a priority. I have taken the lead by purchasing and utilizing a hybrid vehicle for my transportation. It is necessary for all the responsible departments and agencies to follow through with the mandates of the Executive Order if we are to have an impact on fighting climate change. All departments and agencies with jurisdiction to implement the Climate Change Executive Order shall designate a responsible individual in the department who will make a written report to the Governor, as well as the Coral Reef Advisory Group housed at the Department of Commerce, within 60 days of the date of this General Memorandum. The report shall outline your department's progress and any problems encountered implementing the Executive Order.

*[Signature]*  
TOGIOLA T.A. TULAFONO

Distribution: As per Standard List

## AMERICAN SAMOA GOVERNMENT VEHICLE PURCHASING POLICY FOR THE IMPLEMENTATION OF EXECUTIVE ORDER 10A-2007 CONCERNING CLIMATE CHANGE

### *Background*

Climate change is a pressing issue worldwide which will negatively impact small island states throughout the Pacific region in the immediate future. Greenhouse gas emissions, including those from automobiles and industry, are the leading cause of this global phenomenon and proactive steps to mitigate this issue are required. In response to climate change, Governor Tulafono issued Executive Order 10A-2007 in order to minimize American Samoa's greenhouse gas emissions and lay the groundwork for the Territory to take regional leadership on this issue.

The purpose of this policy is to standardize the official American Samoa Government (ASG) procedure for the procurement of vehicles under EO 10A-2007. This policy establishes goals for ASG which are the minimum expectations. It is the hope and expectation of the Governor along with AS-EPA, DOC and other Coral Reef Advisory Group agencies to exceed these minimum recommendations and to use these guidelines as a framework to initiate environmentally friendly and economically responsible purchasing of government vehicles in order to benefit the environment and to conserve financial resources (please see Appendix 1 and 2 for details).

ASG can achieve its goal to add hybrid vehicles to its fleet at a minimum purchase rate of 5% for the model year 2008 and incrementally increase the required purchase rate to 50% by model year 2017. Although the current unavailability of hybrid vehicles in American Samoa makes it nearly impossible to meet the initial year's purchase requirements, compromises can be made to ensure American Samoa is doing everything it can to minimize its impact on global climate change whilst satisfying its long-term goals for hybrid vehicles. ASG must continue to apply pressure on local dealerships to provide hybrid options to both ASG and the general public. Until local businesses are able to provide the required hybrid vehicle technology and infrastructure to maintain these vehicles, ASG must change its purchasing method in order to meet the ultimate goals of the EO.

While hybrid vehicles may be unavailable on island at this stage, ASG must purchase high efficiency passenger cars whenever possible in order to compensate for the existing lack of hybrid technology. ASG must only deviate from this process when a true, pressing, and obvious need can be shown. When ample evidence is provided, other vehicles (trucks, SUVs, 4WDs) may be purchased on a proof of need basis. However, the burden to show the need for a less fuel efficient vehicle will be placed on the department, agency or office attempting to purchase a vehicle. If no true need can be shown; only a high efficiency passenger car will be authorized for purchase. The final decision will be made by the Governor.

### *Purchasing Framework*

The following methods and procedure shall be followed when attempting to purchase a vehicle for ASG. This framework for purchasing Government vehicles shall be a simple three tiered procedure:

- Super Cars
- Light Truck (2WD)
- Heavy Truck (4X4)

Note that every ASG vehicle purchase request shall first be for a hybrid vehicle. If a hybrid vehicle is not available, or is not sufficient to perform the required work, an explanatory report must be submitted and approved by the Governor prior to purchasing a non-hybrid vehicle.

### 1. Super Cars

All vehicle purchases must first request a hybrid/electric vehicle in the specification for bid. The vehicle must meet USEPA class size specification of Midsize or Compact Car and meet or exceed all of the following specifications:

- Combine the benefits of gasoline engines and electric motors through the use of one of the following methods/technologies: Regenerative Braking, Electric Motor Drive/Assist, and/or Automatic Start/Shutoff;
- Have a minimum USEPA City fuel rating of 35 MPG;
- Have a maximum U.S. Department of Energy GREET Model annual greenhouse gas emission of 5.0 tons.

Upon a finding that no hybrid vehicle is available or feasible, alternative purchase specifications may be issued for a midsize or compact super car. These specifications shall include:

- A USEPA class size specification of Midsize or Compact Car;
- An engine size of no more than 4 cylinders;
- Wheel size of no more than 15-inches;
- A minimum EPA Combined Fuel efficiency rating of at least 25MPG;
- An EPA Greenhouse Gas Score of 6 or higher (please see Appendix 3 for more details).

Most vehicle purchases should fall into the Super Car category. Very few departments, agencies and offices can justify the need for trucks or SUVs, and even fewer can justify the need for 4WD vehicles, even within those that require trucks and SUVs. Factors in determining if a Light 2WD truck is necessary and a Super Car will not suffice are:

- Justifiable and sufficient show of need to work in off-road, unpaved area on a consistent basis exceeding 2 trips per week;
- Justifiable and sufficient show of need to haul heavy equipment exceeding 300 pounds on a consistent basis exceeding 2 trips per week.

### 2. Light Truck (2WD)

All purchases must first request a hybrid/electric vehicle in the specification for bid. The vehicle must meet USEPA class size specification of Sports Utility Vehicle and meet or exceed the following specifications:

- Combine the benefits of gasoline engines and electric motors through the use of one of the following methods/technologies: Regenerative Braking, Electric Motor Drive/Assist, and/or Automatic Start/Shutoff;
- Have a minimum USEPA City fuel rating of 30 MPG;

- Have a maximum U.S. Department of Energy GREET Model annual greenhouse gas emission of 6.3 tons.

Upon a finding that no hybrid vehicle is available or feasible, alternative purchase specifications may be issued for a Light Truck (2WD). These specifications shall include:

- A USEPA class size specification of Standard Truck (2WD);
- An engine size of no more than 6 cylinders;
- Wheel size of no more than 15-inches;
- A minimum EPA Combined Fuel efficiency rating of at least 20MPG;
- An EPA Greenhouse Gas Score of 5 or higher (please see Appendix 3 for more details).

Most truck purchases should fall into the above Light Truck (2WD) category. Very few departments, agencies and offices can justify the need for 4WD vehicles. Factors in determining if a Heavy Truck (4X4) is necessary and a Light 2WD truck will not suffice are:

- Justifiable and sufficient show of need to work in off-road, unpaved area on a consistent basis exceeding 4 trips per week;
- Justifiable and sufficient show of need to haul heavy equipment exceeding 300 pounds on a consistent basis exceeding 4 trips per week.

### 3. Heavy Truck (4X4)

All purchases must first request a hybrid/electric vehicle in the specification for bid. The vehicle must meet USEPA class size specification of Standard Truck and meet or exceed the following specifications:

- Combine the benefits of gasoline engines and electric motors through the use of one of the following methods/technologies: Regenerative Braking, Electric Motor Drive/Assist, and/or Automatic Start/Shutoff;
- Have a minimum USEPA City fuel rating of 20 MPG;
- Have a maximum U.S. Department of Energy GREET Model annual greenhouse gas emission of 9.6 tons.

Upon a finding that no hybrid vehicle is available or feasible, alternative purchase specifications may be issued for a Heavy Truck (4X4). These specifications shall include:

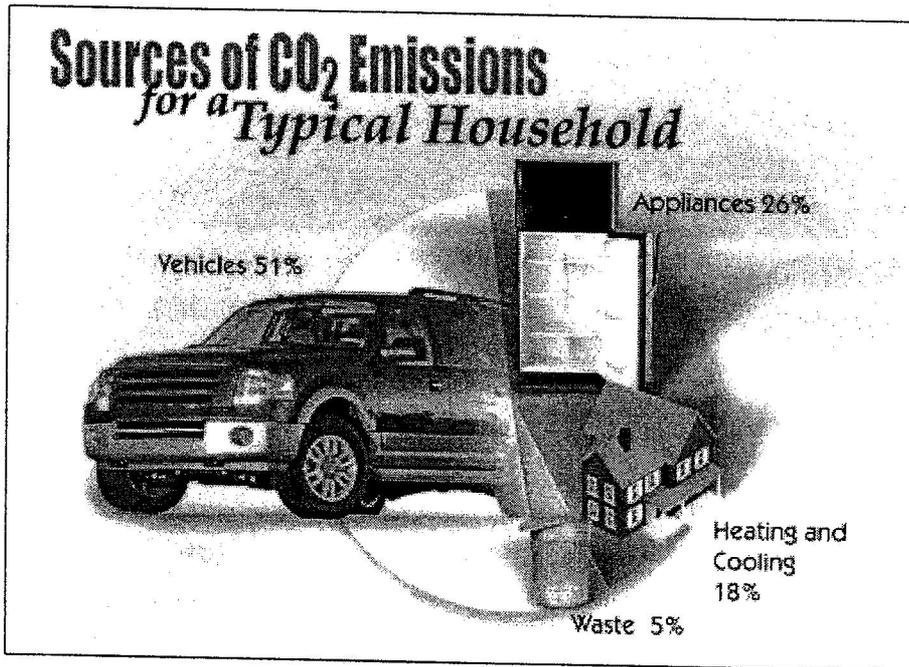
- A USEPA class size specification of 4x4 truck;
- An engine size of no more than 6 cylinders;
- Wheel size of no more than 16-inches;
- A minimum EPA Combined Fuel efficiency rating of at least 20MPG
- An EPA Greenhouse Gas Score of 5 or higher (please see Appendix 3 for more details).

### *Conclusion*

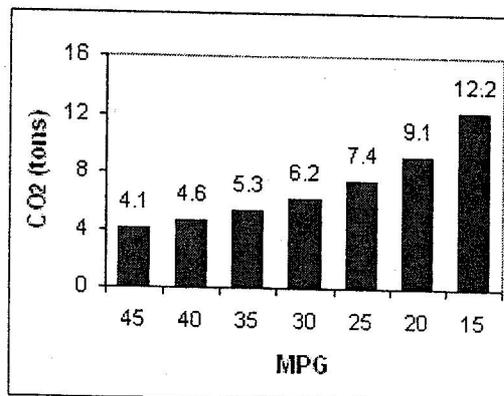
Overall, at this time, the most practical and beneficial way to reduce local greenhouse gas emissions and operational costs is to transition as many trucks to hybrid vehicles as possible. Many other American cities are in the process of doing this in order to save money and to minimize greenhouse gas emissions (Appendix 4).

**Appendix 1: Environmental Benefits of Fuel Efficient Vehicles**  
(adapted from <http://www.fueleconomy.gov/feg/climate.shtml>)

Increasing concentrations of greenhouse gases (GHGs) are trapping more of the sun's energy in the Earth's atmosphere, causing global climate change. Carbon dioxide (CO<sub>2</sub>) from burning fossil fuels is the most important human-made GHG. Highway vehicles account for 26% of the country's CO<sub>2</sub> emissions (1.7 billion tons each year) and 95% of the GHG emitted from highway vehicles is CO<sub>2</sub>.



Each gallon of gasoline burned creates 20 pounds of CO<sub>2</sub> and the average vehicle emits around 6 to 9 tons of CO<sub>2</sub> each year. Choosing a vehicle with greater fuel efficiency can greatly reduce its annual CO<sub>2</sub> emissions, and thus lessen the impacts of climate change:



**Appendix 2: Financial Benefits of Fuel Efficient Vehicles**  
 (adapted from <http://www.fueleconomy.gov/feg/savemoney.shtml>)

Smaller cars cost less than larger cars. They also require less fuel and are cheaper to maintain and service. As such, less money is required to operate a small, fuel efficient car when compared to a large SUV or truck. The average savings in fuel alone is very substantial.

Please note that the figures below are simple rough estimates and also do not take into account the additional, yet significant, financial savings related to maintenance (cheaper tires, cheaper auto parts, etc...) or the added capital savings from purchasing a cheaper car in the first place.

**Comparison of Fuel Efficiency Savings of Different Vehicle Types**

	Hybrid	Super Car	Light Truck (2WD)	Heavy Truck (4x4)
Fuel Price (\$/gallon)	\$3.95	\$3.95	\$3.95	\$3.95
The average mile per gallon is...	45 mpg	30 mpg	20 mpg	18 mpg
ASG annually drives this car approximately _____ miles	20,000	20,000	20,000	20,000
ASG will own this car for _____ years	7	7	7	7
<b>Annual Fuel Cost</b>	\$1,756	\$2,633	\$3,950	\$4,389
<b>Total Fuel Cost During Vehicle Lifetime</b>	\$12,289	\$18,433	\$27,650	\$30,722

Smaller cars save money.

Over the course of a single vehicle's lifetime, a hybrid vehicle will save more than \$17,000 in fuel expenses alone when compared to a Heavy Truck. Again, this does not take into account the financial savings related to cheaper maintenance or the added capital savings from purchasing a cheaper car in the first place.

If we include more cars, the savings are significant. For example, if 10 vehicles from just the Department of Commerce were hybrids rather than Heavy Trucks, the Department would save more than \$184,330 in fuel costs over a period of seven years, or about \$26,300 in fuel savings each year.

### Appendix 3: EPA Greenhouse Gas Scores

(adapted from [www.epa.gov/greenvehicles/Aboutratings.do#aboutgreenhouse](http://www.epa.gov/greenvehicles/Aboutratings.do#aboutgreenhouse))

- This score reflects emissions of carbon dioxide (CO<sub>2</sub>) and other greenhouse gases.
- The Greenhouse Gas Score is based on the vehicle's fuel economy. Vehicles with higher fuel economy burn less fuel to travel the same distance. As less fuel is burned, less CO<sub>2</sub> is emitted. Vehicles with higher fuel economy receive a higher Greenhouse Gas Score.
- The emissions of CO<sub>2</sub> and the Greenhouse Gas Score vary by fuel type, since each fuel type contains a different amount of carbon.
- The Greenhouse Gas Score has also been adjusted to reflect the improved fuel economy measurement methods that EPA put into place beginning with model year 2008 vehicles.
- This chart shows the minimum fuel economy (combined city/highway fuel economy) for each fuel type at each Greenhouse Gas Score. The miles per gallon vary by fuel type because each fuel has a different carbon content per gallon. This means each fuel creates different levels of CO<sub>2</sub> emissions per gallon.

Greenhouse Gas Score Criteria MY 2008 & Earlier						
GHG Score	Pounds CO <sub>2</sub> e per mile	Minimum Label MPG (combined)				
		Gasoline	Diesel	E85	LPG	CNG*
10	Less than 0.62	37	43	23	23	31
9	0.62 to <0.76	31	36	19	19	26
8	0.76 to <0.90	26	30	16	16	22
7	0.90 to <1.06	23	26	14	14	19
6	1.06 to <1.16	20	23	12	12	17
5	1.16 to <1.28	18	21	11	11	15
4	1.28 to <1.43	16	19	10	10	14
3	1.43 to <1.52	15	17	9	9	13
2	1.52 to <1.62	14	16	8	8	12
1	1.62 to <1.73	13	15	7	7	11
0	1.73 and up	1	1	1	1	1

## Appendix 4: Frequently Asked Questions

### *Have other cities in America done something similar?*

Numerous local governments have already made the switch to hybrid technology for government vehicles:

- New York City is converting its entire taxi fleet to hybrids by 2012;
- Baltimore is converting to hybrid buses by 2014;
- Atlantic City is converting the entire city fleet to hybrid and bio-diesel;
- Colorado Springs recently purchased 92 new hybrid vehicles.

### *How does the life expectancy of a hybrid differ to regular cars?*

- Most hybrid vehicles tend to offer warranties of between 5 and 8 years and/or 80,000 to 100,000 miles;
- Studies have shown that hybrid vehicles often hit 100,000 miles before the maintenance cost become greater the value of the vehicle;
- Battery replacement tends to happen around the 8 year/80,000 mile mark and currently costs around \$5,000 (note that this will undoubtedly decline in coming years as these vehicles become more common. Additionally, the 8/80,000 mark is approximately the life expectancy of a current ASG vehicle);
- Maintenance/operation costs for hybrid vehicles tend to be relatively equal in most aspects - some areas are a bit lower (brakes) while some are a bit higher (battery). As these vehicles become more common in the years ahead, prices for maintenance/parts are projected to decrease as demand increases.

### *How do different fuel types come in to play?*

- Natural Gas vehicles are good, but the feasibility here is simply not practical due to a lack of local infrastructure. These vehicles require a completely different type of fuel, and a totally different method of storage, transportation and dispensing than currently exists on island. The investment/effort required is impractical for the projected benefits.
- Bio-diesel and flex fuel/E85 is a more feasible alternative; however, they require a separate storage facility away from other fuels. Additional infrastructure would need to be built in order to segregate the fuel. If American Samoa chooses to expand its fuel choices, this will require a significant investment in additional infrastructure to accompany this increase in diversified fuel options.

### *Conclusion:*

Overall, at this time, the most practical and beneficial means to reduce local greenhouse gas emissions and operational costs is to transition as many trucks to hybrid vehicles as possible.