

# Executive Summary

## ■ Background

- NNA cannot meet Nissan's CO2 goals, including commitments to the Department of Energy, without investing in energy related projects
  - Investing in energy projects parallels the Nissan Zero emission leadership strategy

## ■ Key Points

- Most energy projects do not meet Global Reserve rationalization requirements:
  - <1 Year Payback; >1.5 NPVR
  - These requirements are much more stringent than the benchmarked industry average which require a payback of 3-15 years (depending on major manufacturer)

## ■ Conclusions/Recommendations

- With MC-A Chairman, CFT#2 and B26 Support, make formal request to A7X to change rationalization criteria for FY12 and beyond as follows:
  - < 3 Year Payback

# Opportunity

- **Global Corporate CO<sub>2</sub> Emissions Targets**
  - 10% target for CO<sub>2</sub> reduction by 2016 from 2010 base year
- **Nissan's Pledge to the US Department of Energy**
  - As a Save Energy Now LEADER company, Nissan is committed to the DOE to reduce energy intensity 25% in 10 years (2010 starting point).
  - NNA-Smyrna, Canton, Decherd have been challenged to achieve this target in 5 years
- **Superior Energy Performance (SEP) Certification**
  - To achieve SEP Certification – Gold Level, NNA-Smyrna must achieve 10% energy intensity reduction in 3 years (from 2008 base year)
- **Hard Financial Savings**
  - If the energy investment proposal is accepted, NNA will save more than \$56M in 10 years.

# Benchmarking

Company	SPB - General (Years)	SPB - Energy (Years)	Energy Capital (M\$)	Other Notes
Other Truck Manufacturer	2	8-15		- Reinvest Energy Savings - 2 Year Carbon Neutral Objective
Asian Auto Manufacturer 1	2	3-5		- Most energy projects with short SPB are already implemented - Many business units are now funding energy at 3-5yr SPB
Asian Auto Manufacturer 2	1-2	*5-10		- Most projects compete for general capital - *Only renewable portfolio projects up to 5-10yr SPB
US Auto Manufacturer 1			\$2.0	- Projects evaluated on Green House Gas Emissions Impact
US Auto Manufacturer 2				- Projects in place with performance contracts of 20-30yr, concerns with long term - PPAs for renewables
US Auto Manufacturer 3	1	*5-10		- 2 to 3 yr plan to eliminate coal w. boiler NG conversion (\$2-3M/site x 4 sites) - *5-10 year payback for renewable projects (40 projs of >1MW) - Longer term payback for PPAs
<b>NISSAN</b>	<b>&lt;1</b>	<b>&lt;1</b>		<b>- Most low hanging fruit already funded</b> <b>- Energy projects must meet general capital payback of &lt;1 SPB and NPV of &gt;1.5</b>
Company	SPB - General (Years)	SPB - Energy (Years)	Energy Capital (M\$)	Other Notes
US Global Manufacturer	2	4	\$1.0	- Projects of less than \$50K qualify for set aside funds - SPB for energy projects up from 2yr SPB to 4yr in 2011
US auto supplier	3.5	4.5		- Expanding simple payback (SPB) to 7-8 years
Global Plastics Manufacturer	1.5	4		- Changed energy projects from 1.5yr SPB to 4yr in 2011
World's Largest Chemical Company		3	\$4.0	- \$4M Capital and \$3M operating expense for energy investment
US Electric Supplier		2-6		- SPB specific to overall benefit - ROI is not first consideration for energy investment
Japanese Tire Manufacturer		5-8		- HVAC can be 12-14 years SPB
US Pharmaceutical Company			\$25.0	- CY11 annual funds set aside is \$25M - Allow for plant reinvestment of savings from projects - Energy funds separate from plant capital allocation
Large Global Chemical Company			\$100.0	- Energy Intensity (EI) Impact of >=7% - After EI is determined than project selection is based on overall value to Company

# Proposal

- **Current:**

A7X Global Reserve Rationalization requirements:

- < 1 Year Payback;
- > 1.5 NPV-R

- **Proposal:**

With MC-A Chairman ,CFT#2 and B26 Support, make formal request to A7X to change rationalization criteria for FY12 and beyond as follows:

- < 3 Year Payback

**Current criteria was established during crisis mode, now that Nissan is in recovery/growth mode, criteria should be changed to reflect this. Failure to change criteria will lead to Nissan falling behind competitors in meeting energy reduction targets**

# Benefits

## Currently Identified Projects (Summary)

	Cost of Projects	mmbtu/yr	C02/yr	Savings/Yr	5 Year Savings	10 Year Savings
Smyrna	\$ 5,156,779	250,066	27,736	\$ 1,785,618	\$ 8,928,088	\$ 17,856,176
Canton	\$ 6,030,860	393,271	27,598	\$ 3,073,140	\$ 15,365,698	\$ 30,731,396
Decherd	\$ 2,244,000	47,504	2,204	\$ 735,848	\$ 3,679,240	\$ 7,358,480
Totals	\$ 13,431,639	690,841	57,538	\$ 5,594,605	\$ 27,973,026	\$ 55,946,053

- Notes:
  - \$13.4M investment will deliver \$56M in Energy savings over 10 years while reducing both BTU and C02 consumption
  - Presently 35 Energy Investment proposal for Smyrna, Canton and Decherd
  - The 5 and 10 year savings are calculated using today's energy rates. The savings will grow with each increase of energy costs in the future
  - These identified projects include capital and expense requests. Some of the projects listed have a >3 year payback.

# Next Steps

- Work cross functionally with B26, Global CFT#2 and A1E to propose formal change in criteria to A7X (Global CAPEX CNTL)