

CASE FOR RENEWABLE ENERGY IS COMPELLING

- SAVING \$\$ NOW AND IN THE FUTURE
- SAVES WATER AND REDUCES POLLUTION
- ENSURES STABLE ENERGY SOURCE-SUSTAINABLE
- TECHNOLOGY READY AND IMPROVING

Objective is to encourage the City of Mesa and the City Council to implement solar focused policies for the betterment of our community. This is important now and for future generations. Solar energy is the most abundant energy resource available: 173,000 terawatts strikes the earth continuously. More than 10,000 times the world's total energy use.

SAVES \$\$

- Major savings from existing City of Mesa solar installations
- Even W/O incentives, Red Mtn. Police Dept.: saves \$90K over 20 years
- With Incentives \$206K.

SAVES WATER/ REDUCES POLLUTION

WATER- Does not count billion of gal. to extract oil/gas and
“clean” coal

COAL PLANT (CLOSED CYCLE) - 500 GAL. /MWh
(OTHER REF. 1000 GAL)

Navajo Plant - 8,476,000,000 gal. /yr.

POLLUTION – Health, Tourism (e.g. Grand Canyon), Climate
CO2

COAL (With scrubbers): 2201-2219 LB/MWh

Navajo Plant – 37,321,640,000 LBS. /YR.

OIL: 1672 LB/MWh

GAS: 1135 LB/MWh

RENEWABLE ENERGY- CONCLUDED

SUSTAINABLE

- Solar/other renewables ensure our future.
- Hydro-carbons (Oil, Gas, and Coal) have water and pollution problems

AND

Shale/Fracking not as rosy as pictured

“Shale wells start strong and fade fast”

“Red Queen Effect”

BUSINESS WEEK, 10 OCT. 2013

TECHNOLOGY PROVEN

- Here and throughout the world, even without the huge tax incentives enjoyed by the oil and gas industry:
\$4.86 B AVG/YR 1918-2009 in 2010 dollars
- Solar has large upside with efficiencies and cost- see one example in the attachment:
Efficiency of cells from .2 to .35 with goal of .5
(Minimum of 75% improvement; cost equal to coal)

RECOMMENDATIONS

As a forward-looking city in the Valley of the Sun, we urge you to continue to invest in our future through solar as you have done. Build upon a solid foundation of previous work to make Mesa a solar leader by pursuing the following goals:

- Finding innovative ways to make solar more available to residents by addressing the upfront cost as many municipalities have done
- Increasing the use of solar powering our city government operations
- Setting goals for attaining a percentage of energy use in the city as a whole and for government operations.

Challenging Ambitious Goals Move People, Create Energy and Excitement to Achieve Major Changes that Make a Difference

At least 50% of city government electricity by solar (renewable) energy and 20% of the city as a whole by 2025.

Benefits (<http://my.solarroadmap.com/national>)

- \$112.8 M from economic activity
 - 5850 Job years created
 - Pollution cut by equivalent of 120,000 cars
- Plus benefits from previous pages

Other Cities'/University Goals

- Denver: 50% Ren. by 2020
- Lancaster: 100% Ren by 2020
- ASU: Carbon Neutral by 2025

Thank you and the city staff for the support and we look forward to working with and assisting you in this important endeavor.

REFERENCES

Introduction

Energy.gov Official Website

Red Mtn. Police Dept. - City staff

Water Use/Pollution

Dept. of Energy Official Website

Peabody Energy Official Company Website

Wikipedia- Navajo Generating Station, 69 References

Sustainable Energy

Shale Oil/Gas – Red Queen Effect Business Week 10 Oct. 2013

Through The Looking Glass- Lewis Carroll

Technology Ready

Oil/Gas Subsidies/Incentives

Report: “What Would Jefferson Do? The Historical Role of Federal Subsidies in Shaping America’s Energy Future”, Dec., 2011, DBL Investors Venture Capital Firm

Article from Science and Technology Section of the Economist, 22 Feb. 2014 ATTACHED

Recommendations

Solar Road Map, Official Website

Denver Sustainability Official Website

Lancaster Power Authority; Lancaster Official Website

ASU Official Website