Measure: Electricity Carbon Surcharge (E15)

Pass by ballot a "clean energy and pollution reduction tariff" or raise City Utility tax rates to fund other GHG mitigation measures. For a discussion on tax-shifting to encourage energy reducing behavior change, please see this report's appendices.

COT ARRA RFP Summary:

Emission reduction potential:	No direct reductions; Helps finance other mitigation programs
Percentage of goal (2012):	See Measures Funded
Percentage of goal (2020):	See Measures Funded
Total annual average implementation costs:	Minimal
Entity that bears the costs of implementation:	See Measures Funded
Cost/Savings per tCO_2e:	See Measures Funded
Net annual savings:	See Measures Funded
Entity that realizes the financial return:	See Measures Funded
Equitability (progressive/regressive, income/revenue neutral, etc):	The surcharge can be structured accordingly
Potential unintended consequences:	NA
Possible public revenue generation:	$21.895 million using Boulder's tax rates

Background information:

Previous reporting to the City of Tucson Office of Conservation and Sustainable Development on "carbon taxing" largely misunderstood the implementation of such a measure in participating cities (ie, Boulder, Colorado). The International Council for Local Environmental Initiatives (ICLEI) Climate and Air Pollution Planning Assistant (CAPPA) model recognizes such programs primarily as a revenue generating activity for participating local governments. In their words:

> "*The emissions reductions associated with a local carbon tax will be those achieved through whatever programs are funded by the tax. Go to the … measures you will be using tax funds to implement to find emissions reductions from them. Depending on the structure of the carbon tax, it may also be a financial incentive to change energy use.*" [1]

If passed by ballot, accomplished by a strong focus on the marketing and wording of such a proposal, a "clean energy and pollution reduction" tariff could provide the City of Tucson with the necessary funds to finance the important and meaningful GHG emission reduction projects outlined in this report.

However, directly changing energy use might not be accomplished through a Tucson-only tax over the time periods contemplated in this report. It is outside the scope of this report to debate price versus quantity (ie, tax v. caps) policy mechanisms. Nevertheless, it is the position of Westmoreland Associates that carbon tax implementation in and of itself will not lead to GHG emission reductions in the short-term. This is partially due to the inelastic qualities of energy demand over in the short-term and, at the rates considered in other cities, the impact is assumed to be too small for the vast majority of consumers to make behavior modifications.[2]

Business as Usual:

Currently, the Arizona Corporation Commission (ACC) has approved a "Renewable Energy Standard Tariff" (REST) that allows utilities to charge a tariff on energy consumption such that the utilities can use that revenue to help meet their mandated renewable energy goals (ACC mandates that renewable energy sources account for 15% of a utility's power generation by 2025).[3]

REST rates were lowered in November 2010 to $0.0071/kWh in 2011. The cap that any residential customer can pay was raised to $4.50 with Tucson Electric Power (TEP) estimating that "typical" residential customers will pay $3.59 per month.[4] Through all sources (residential, small business, large commercial, and industrial), TEP estimates their 2011 revenue at $35.6 million.[5]

The City also taxes utility bills to generate revenue. On July 1, 2009, City Council approved a doubling of the utility tax raising it from 2% to 4%.[6] This increase is

anticipated to generate $14.3 million per year, but the funds are not earmarked for clean energy or emission reduction projects.[7]

The City of Tucson's climate goals could greatly benefit from introducing and supporting the passing of legislation or increases to the utility tax that generates revenue, similar to that described above, for use in implementing GHG mitigation measures such as those in this report.

Description of Measure and Implementation Scenario:

This measure is to introduce by ballot a clean energy and pollution reduction tariff and or raise the utility tax to fund other GHG mitigation measures. Relative to the new tariff, and using just TEP's 2009 Utility Operating Statistics, the breakdown of kWh per retail customers were as follows: [8]

Residential:	3,905,696,000
Commercial:	1,988,356,000
Industrial:	2,160,946,000
Mining:	1,064,830,000
Public Authorities:	250,915,000.

For illustrative purposes, this analysis assumes Boulder's "carbon tax" (also known as their "Climate Action Plan tax") rates of: [9]

Residential:	$0.0049 / kWh
Commercial:	$0.0009 / kWh
Industrial:	$0.0003 / kWh.

Another revenue generation pathway is to increase the City utility tax rate above the current 4% or to allocate some funding already generated to clean energy and other mitigation projects.

Has the Measure been implemented elsewhere and with what results?:

As indicated, Boulder successfully passed by ballot a Climate Action Plan tax with the above indicated rates. The local utility (Xcel) collects the tax for City though their monthly utility billing. Electricity derived from renewables is except from the tax. The tax is projected to generate $1.6 million of revenue in 2010.

Also, the City utility tax is amendable via City Council vote as illustrated by the July 1, 2009 increase.

Energy/Emission analysis:

See measures funded.

Economic analysis:

It is outside the scope of this report to determine rates that would be acceptable to Tucson's constituents, or if such a tariff would be acceptable at all. However, using TEP's 2009 distributed retail kWh and Boulder's rates, the following would be Tucson's revenue generation:

Residential:	3,905,696,000 kWh x $0.0049/kWh = $ 19.138 million
Commercial:	1,988,356,000 kWh x $0.0009/kWh = $ 1.790 million
Industrial:	2,160,946,000 kWh x $0.0003/kWh = $ 0.648 million
Mining:	1,064,830,000 kWh x $0.0003/kWh = $ 0.319 million

TOTAL = $21.895 million

Increasing the utility tax is projected to raise approximately ***$7.15 million*** per each 1% increase.[7]

Co-benefits:

Revenue generated from such an activity can also be used to fund adaptation measures along with mitigation measures. There may also be some behavior change stimulated by the increase in energy costs.

Equitability:

The surcharge can be structured accordingly.

Potential unintended consequences:

Due to the economic downturn over the last two years and voters swing away from public spending as indicated during the 2010 General Election, trying to implement this measure may be a political liability. Mayor and City Council will have to weigh the pros and cons of pursuing such an endeavor.

General Note: All references retrieved October through December of 2010 unless otherwise noted.

Endnotes:

[1] From Carbon Tax tab of ICLEI CAPPA spreadsheet model downloadable from: http://www.icleiusa.org/action-center/tools/cappa-decision-support-tool/
[2] World development report 2010: development and climate change, pg. 213
[3] http://www.tep.com/company/news/REST.asp
[4] Ibid.
[5] Ibid.
[6] City of Tucson Notice to Taxpayers found at: http://cms3.tucsonaz.gov/files/finance/NoticetoTaxpayersJuneReturns.pdf
[7] http://www.azbiz.com/articles/2009/05/29/news/doc4a2021211b61a001024704.txt
[8] From TEP's 2010 SEC filing found at: http://www.faqs.org/sec-filings/100226/TUCSON-ELECTRIC-POWER-CO_10-K/
[9] http://www.bouldercolorado.gov/index.php?option=com_content&task=view&id=7698&Itemid=2844