University of Missouri
Potential Cap & Trade Legislation Impact
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MU generates most of its energy needs and purchases some electricity from the wholesale market. There are various interpretations of potential cap and trade legislation and how it will impact facilities like MU. This document provides a potential worst case scenario of the financial impact of the legislation. Fiscal Year 2013 may be the first full year for implementation of the regulation and was used for the basis of the following estimates.

- **Coal** – If MU is not considered an exempt facility, MU may have to purchase some greenhouse gas (GHG) allowances for coal burned.

  Projections for coal purchased were converted to metric tons of carbon dioxide (CO_2) equivalent using published conversions from the Energy Information Administration (EIA) [1]. MU may initially have to buy up to 30% of the GHG allowances[2]. The legislation could allow the cost of these allowances to reach $28/Metric Ton equivalent[2]. This could increase MU's cost of burning coal by **$2.4M** as follows:

  130,000 tons of coal X 2.24 MTons Equivalent CO2/ton bituminous coal X 30% X $28.00/MTon Equivalent = $2.4M

- **Purchased Electric** – MU purchases some wholesale electricity when it is cost effective. The cost of greenhouse gas allowances purchased by utility companies supplying electricity to the wholesale market could be passed on to wholesale purchasers. Electric generation in Missouri is primarily coal based which could mean larger wholesale electricity price increases in Missouri compared to many other states. The potential cost of GHG allowances related to purchased electricity may increase MU's purchased power price by up to 50%[3] or up to **$4.0M** in additional costs and can be estimated by one of the following methods:

  Method 1: FY2013 Purchased Power Impact: $8M X 50% = $4M

  Method 2: (136,000 Mwhrs X 0.96 MTons/MWHR[4]) X $28/Ton[2] = $3.7M

- **Natural Gas** – MU purchases natural gas on the wholesale market. Wholesale prices could increase as greenhouse gas allowances are passed on in the rates. Wholesale customers could see a larger increase than retail customers because fuel is a larger percentage of the wholesale price of natural gas.

  Ameren predicts that retail natural gas prices could increase by up to 30%[3]. The impact could be higher for MU because MU purchases natural gas on the wholesale market. Increases in the cost of natural gas purchases could potentially be as much as **$0.3M**, and can be estimated by one of the following methods:

  Method 1: (120,000 MBTU X 0.0531MTons/MBTU[1]) X $28/Ton[2]= $0.2M

  Method 2: FY2013 Natural Gas Budget: $1M X 30% = $0.3M

Summary – The total worst case scenario of these three estimated components of MU's utility cost is about **$6.7M.** There is uncertainty regarding the interpretation of final terms of the legislation and regarding the quantities of fuel and purchased power forecasted. Therefore a factor of +/- 20% could be applied to account for these uncertainties and the result is a range of about **$5M - $8M**.

EIA sources indicate that the cost for allowances could double between 2020 and 2030[5]. Therefore, there could be an added annual cost impact on MU from all three of the above components. This long term impact could reach **$1M - $2M** per year.

[1] *Energy Information Administration (EIA)* http://www.eia.doe.gov/oiaf/1605/coefficients.html
[2] *"On the Road to Copenhagen Next Steps in U.S. Climate Policy", Global Policy Group, Inc.*
[3] *Mr. Shawn Schukar - Vice President of Ameren presentation "Cap and Trade Climate Legislation and the Impact on Missouri"*
[4] *EPA Emissions & Generation Resource Integrated Database (eGRID version 2.1 April 2007)*
[5] *EIA Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009*