

**MODESTO CITY COUNCIL
RESOLUTION NO. 2016-43**

**A RESOLUTION SUPPORTING THE NATIONAL REVENUE-NEUTRAL
CARBON FEE AND DIVIDEND PROGRAM**

WHEREAS, having determined that the Carbon Fee and Dividend legislative principles proposed by the non-partisan Citizens Climate Lobby, **attached** hereto as Appendix A, would provide an efficient approach to shifting the incentives that keep the United States reliant on fossil fuel energy and would, thereby, help support the rapid deployment of cleaner energy alternatives; and

WHEREAS, having determined that this approach would be fair to everyone and would protect middle and low income households by providing them with a dividend (also known as a rebate) that, on average, would be higher than the increased costs for energy for two-thirds of all households (specifically the lowest income two-thirds) during the transition to cleaner energy; and

WHEREAS, per the non-partisan study by Regional Economic Models, Inc. (REMI), this approach would ensure a substantial increase in private investment in cleaner energy options because they will become significantly less expensive relative to fossil fuels within a known time frame; and

WHEREAS, the City continues to experience high unemployment and struggles with economic development of businesses within the City limits, and

WHEREAS, this approach would encourage consumers and businesses to keep their carbon footprint smaller while still ensuring that all households would be able afford the energy they need during the transition to cleaner energy; and

WHEREAS, the City wishes to respond to these challenges with a business minded focus, and

WHEREAS, having determined that early adoption of the National Revenue Neutral Carbon Fee and Dividend Legislation in the United States would grow our economy, add nearly two million jobs, help make us a world leader in cleaner-energy technology, and help establish the United States as a leader in future global climate negotiations; and

WHEREAS, the national revenue-neutral carbon fee and dividend has already garnered widespread support from Republicans as well as Democrats as evidenced by recent op-eds and public statements in 2015 by prominent Republicans.

NOW, THEREFORE, BE IT RESOLVED by the Council of the City of Modesto that the City Council requests that the United States Congress immediately enact legislation and the United States President sign into law a national revenue-neutral carbon fee and dividend program, as provided for in Appendix A, in order to protect the economy and the climate for future generations; and

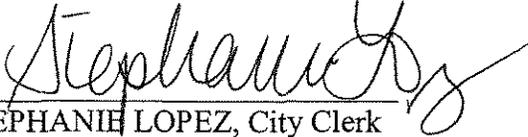
BE IT FURTHER RESOLVED that the City of Modesto directs the Mayor to send a letter no later than 30 days after passage of this Resolution by the Modesto City Council to all Mayors and City Councils, County Boards of Supervisors, School Boards, and State and Federal legislators in San Joaquin, Stanislaus, and Merced Counties, the Governor of California, and the Stanislaus Council of Governments urging support for a National Revenue Neutral Fee and Dividend Act and urging them to adopt a resolution in Favor of National Revenue-Neutral National Carbon Fee and Dividend Legislation.

The foregoing resolution was introduced at a regular meeting of the Council of the City of Modesto held on the 2nd day of February, 2016, by Councilmember Ah You, who moved its adoption, which motion being duly seconded by Councilmember Madrigal, was upon roll call carried and the resolution adopted by the following vote:

AYES: Councilmembers: Ah You, Kenoyer, Madrigal, Mayor Marsh

NOES: Councilmembers: Grewal, Ridenour, Zoslocki

ABSENT: Councilmembers: None

ATTEST: 
STEPHANIE LOPEZ, City Clerk

(SEAL)

APPROVED AS TO FORM:

By: 
ADAM U. LINDGREN, City Attorney

APPENDIX A
To the Resolution in Favor of the
National Revenue-Neutral Carbon Fee and Dividend Legislation

Findings:

1. Causation: there is a consensus^{1,2} among climate scientists, domestic and international science bodies such as the National Academy of Sciences and the International Panel on Climate Change and the World Meteorological Organization (IPCC, WMO), that greenhouse gas emissions from human activities such as the burning of fossil fuels are driving the current rise in global temperatures and climate change,³
2. Mitigation (Return to 350 ppm or below): the weight of scientific evidence also indicates that a return from the current concentration of more than 400 parts per million (“ppm”) of carbon dioxide (“CO₂”) in the atmosphere to 350 ppm CO₂ or less is necessary to slow or stop the rise in global temperatures,⁴
3. Endangerment: further increases in global temperatures pose imminent and substantial dangers to human health⁵, the natural environment⁶, the economy⁷, national security⁸, and an unacceptable risk of medium and long-term future harm⁹,
 - a. Climate change caused by global warming-related greenhouse gas emissions including CO₂ already is leading to large-scale problems including increasing acidity of oceans and rising sea levels; more frequent, extreme, and damaging weather events such as heat waves, storms, heavy rainfall and flooding, and droughts; more frequent and intense wildfires; disrupted ecosystems affecting biodiversity and food production; and an increase in heat-related deaths¹⁰; and
 - b. We are approaching a dangerous threshold whereby, if it is crossed, humans will no longer be able to influence the course of future global warming, as tropical forests, peat bogs, permafrost and the oceans¹¹ switch from absorbing carbon to releasing it; and
4. Local effects on agriculture: the following effects of climate change are likely to occur if we do not reduce our CO₂ emissions to 350 ppm by 2050:
 - a. It’s predicted that by 2100 in the Modesto region the summer maximum average will likely rise to 99°F from the current 91°F¹² if we do not decrease current emissions.
 - b. Given increased heat waves, droughts and higher temperatures^{13,14}, California farmers will face an increasingly uncertain future, where current crops may fail and water may be even more scarce,^{15, 16, 17}
 - c. If heat-trapping emissions continue to rise at today’s levels the snowpack in the Sierra Nevada is likely to decline as much as 40% from historical levels by 2050 and as much as 90% by 2100, thus severely reducing the availability of water in summer. However if we make significant emissions reductions the decline by 2050 could be as little as 12%.¹⁸

- d. Two thirds of California's 2,400 endemic plants could lose more than 80% of their current ranges if climate change worsens,¹⁹
 - e. The number of chilling hours at the end of this century is expected to be half or less than during the 20th century such that many currently lucrative crops will no longer be commercially viable in large areas of California,^{20, 21, 22}
 - f. We can expect a range expansion and rapid increase in populations of insects already present and the arrival of new insect pests to newly warmer regions amid ecosystem changes thus negatively affecting agriculture and health,^{23, 24}
5. Local effects on health: the following effects of climate change are likely to occur if we do not reduce our CO2 emissions to 350 ppm by 2050 especially given that the San Joaquin Valley air basin is one of the two most polluted air basins in the United States that consistently violates the National Ambient Air Quality Standards (NAAQS)²⁵:
- a. Higher temperatures will likely lead to a doubling of peak ozone pollution concentrations and an increase in small particle pollution at lower elevations such as the San Joaquin Valley thus increasing asthma rates in children as well as increases in chronic obstructive pulmonary disease, allergies, and pulmonary disease.^{26, 27, 28, 29}
 - b. By the end of the century, under both the IPCC's medium (B1) and medium-high (A2) scenarios, the number of extreme heat days during the summer months is projected to at least double and in some areas increase by 500 percent. Impacts will be largest in the inland parts of California³⁰ including Modesto.
6. The present costs of fossil fuels are externalized: Presently the environmental, health, and social costs of CO2 emissions are not included in prices paid for fossil fuels, but rather these externalized costs are borne directly and indirectly by all Americans and global citizens; and
7. Co-Benefits: the measures proposed in this legislation will benefit the economy, human health, the environment, and national security, even without consideration of global temperatures, by correcting market distortions, reducing in non-greenhouse-gas pollutants, reducing the outflow of dollars to oil-producing countries and improving in the energy security of the United States,³¹
8. Benefits of Carbon Fees: phased-in carbon fees on greenhouse gas emissions (1) are the most efficient, transparent, and enforceable mechanism to drive an effective and fair transition to a domestic-energy economy, (2) will stimulate investment in alternative-energy technologies, and (3) give all businesses powerful incentives to increase their energy-efficiency and reduce their carbon footprints in order to remain competitive,³²
9. Equal Monthly Per-Person Dividends: monthly dividends (or "rebates") from carbon fees paid equally to every American household will stimulate the American economy and help ensure that families and individuals can afford greenhouse gas-free energy,

Therefore the National Revenue Fee and Dividend Act³³ contain the following elements:

1. Collection of Carbon Fees/Carbon Fee Trust Fund: The Act would impose a carbon fee on all fossil fuels and other greenhouse gases at the point where they first enter the economy. The fee shall be collected by the Treasury Department. The fee on that date shall be \$15 per ton of CO₂ equivalent emissions and result in equal charges for each ton of CO₂ equivalent emissions potential in each type of fuel or greenhouse gas. The Department of Energy shall propose and promulgate regulations setting forth CO₂ equivalent fees for other greenhouse gases including at a minimum methane³⁴, nitrous oxide, sulfur hexafluoride, hydrofluorocarbons (HFCs), perfluorocarbons, and nitrogen trifluoride. The Treasury shall also collect the fees imposed upon the other greenhouse gases. All fees are to be placed in the Carbon Fees Trust Fund and be rebated 100% to American households as outlined below.
2. Emissions Reduction Targets: To align US emissions with the physical constraints identified by the Intergovernmental Panel on Climate Change (IPCC) to avoid irreversible climate change, the yearly increase in carbon fees including other greenhouse gases, shall be at least \$10 per ton of CO₂ equivalent each year. Annually, the Department of Energy shall determine whether an increase larger than \$10 per ton per year is needed to achieve program goals. Yearly price increases of at least \$10 per year shall continue until total U.S. CO₂-equivalent emissions have been reduced to 10% of U.S. CO₂-equivalent emissions in 1990.
3. Equal Per-Person Monthly Dividend Payments: Equal monthly per-person dividend payments shall be made to all American households (½ payment per child under 18 years old, with a limit of 2 children per family) each month. The total value of all monthly dividend payments shall represent 100% of the total carbon fees collected per month.
4. Border Adjustments: In order to ensure that U.S.-made goods can remain competitive at home and abroad and to provide an additional incentive for international adoptions of carbon fees, Carbon-Fee Equivalent Tariffs shall be charged for goods entering the U.S. from countries without comparable Carbon Fees/Carbon Pricing. Carbon-Fee-Equivalent Rebates shall be used to reduce the price of exports to such countries and to ensure that U.S. goods can remain competitive in those countries. The Department of Commerce will determine rebate amounts and exemptions if any.

¹ Anderegg, William R. L. et al. "Expert Credibility in Climate Change." *Proceedings of the National Academy of Sciences* 107.27 (2010): 12107–12109. www.pnas.org.

² Doran, Peter T., and Maggie Kendall Zimmerman. "Examining the Scientific Consensus on Climate Change." *Eos, Transactions American Geophysical Union* 90.3 (2009): 22. *CrossRef*.

³ *IPCC, 2013: Summary for Policymakers*. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA: Intergovernmental Panel on Climate Change, 2013. *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*.

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- ⁴ Hansen, J. et al. "Target Atmospheric CO₂: Where Should Humanity Aim?" *The Open Atmospheric Science Journal* 2.1 (2008): 217–231. arXiv.org.
- ⁵ McMichael, Anthony J, Rosalie E Woodruff, and Simon Hales. "Climate Change and Human Health: Present and Future Risks." *The Lancet* 367.9513 (2006): 859–869. *CrossRef*.
- ⁶ Hughes, I. "Biological Consequences of Global Warming: Is the Signal Already Apparent?" *Trends in ecology & evolution* 15.2 (2000): 56–61.
- ⁷ Nordhaus, William D. "A Review of the 'Stern Review on the Economics of Climate Change.'" *Journal of Economic Literature* 45.3 (2007): 686–702
- ⁸ Hagel, Chuck. *Department of Defense: 2014 Climate Change Adaptation Roadmap*. Alexandria, VA: Office of the Deputy Under Secretary of Defense for Installations and Environment, 2014.
- ⁹ Borgerson, Scott G. "Arctic Meltdown." *Foreign Affairs* Apr. 2008. *Foreign Affairs*.
- ¹⁰ *IPCC, 2013: Summary for Policymakers*.
- ¹¹ Archer, David, Bruce Buffett, and Victor Brovkin. "Ocean Methane Hydrates as a Slow Tipping Point in the Global Carbon Cycle." *Proceedings of the National Academy of Sciences* 106.49 (2009): 20596–20601. www.pnas.org.
- ¹² Weare, Bryan C. "How Will Changes in Global Climate Influence California?" *California Agriculture* 63.2 (2009): 59–66.
- ¹³ *Agricultural Water Management Plan for 2012*. Modesto Irrigation District, 2012.
- ¹⁴ Moser, Susanne, Julia Ekstrom, and Guido Franco. *Our Changing Climate 2012 - Vulnerability & Adaptation to the Increasing Risks from Climate Change in California - A Summary Report on the Third Assessment*. California Climate Change Center, 2012.
- ¹⁵ Gleick, Peter H. *Water -- the Potential Consequences of Climate Variability and Change for the Water Resources of the United States*. Pacific Institute for Studies in Development, Environment, and Security, 2000. agris.fao.org.
- ¹⁶ Joyce, B. et al. *Climate Change Impacts on Water Supply and Agricultural Water Management in California's Western San Joaquin Valley, and Potential Adaptation Strategies*. California Climate Change Center, 2009.
- ¹⁷ Purkey, D. R. et al. "Robust Analysis of Future Climate Change Impacts on Water for Agriculture and Other Sectors: A Case Study in the Sacramento Valley." *Climatic Change* 87.1 (2007): 109–122. link.springer.com.
- ¹⁸ Cayan, Dan et al. *Climate Change Scenarios and Sea Level Rise Estimates for the California 2009 Climate Change Scenarios Assessment*. California Climate Change Center, 2009.

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- ¹⁹ Meadows, Robin. "UC Scientists Help California Prepare for Climate Change" in California Agriculture." *California Agriculture* 63.2 (2009): 56–58.
- ²⁰ Weare, Bryan C.
- ²¹ Baldocchi, Dennis, and Simon Wong. "Accumulated Winter Chill Is Decreasing in the Fruit Growing Regions of California." *Climatic Change* 87.1 (2007): 153–166. link.springer.com.
- ²² Luedeling, Eike, Minghua Zhang, and Evan H. Girvetz. "Climatic Changes Lead to Declining Winter Chill for Fruit and Nut Trees in California during 1950–2099." *PLoS ONE* 4.7 (2009): e6166. *PLoS Journals*.
- ²³ Trumble, John T., and Casey D. Butler. "Climate Change Will Exacerbate California's Insect Pest Problems." *California Agriculture* 63.2 (2009): 73–78.
- ²⁴ Bale, Jeffery S. et al. "Herbivory in Global Climate Change Research: Direct Effects of Rising Temperature on Insect Herbivores." *Global Change Biology* 8.1 (2002): 1–16. *Wiley Online Library*.
- ²⁵ Kleeman, M. J., S.-H. Chen, and R.A. Harley. *Climate Change Impact on Air Quality in California: Report to the California Air Resources Board*. N.p., 2010.
- ²⁶ Cooley, H., M. Heberger, and L. (Pacific Institute) Allen. *Social Vulnerability to Climate Change in California*. California Energy Commission, 2012.
- ²⁷ Gould, Solange, and Kathy Dervin. *Climate Action for Health: Integrating Public Health into Climate Action Planning*. California Department of Public Health, 2012
- ²⁸ Bedsworth, Louise Wells. *Clearing the Air in the San Joaquin Valley: Developing an Action Plan for Regulators, Legislators, and the Public*. Kirsch Foundation, Union of Concerned Scientists, 2004.
- ²⁹ "Climate Effects on Health." *Centers for Disease Control and Prevention*. N.p., 22 Dec. 2014.
- ³⁰ Cooley, H., M.
- ³¹ Nystrom, Scott, and Patrick Luckow. *The Economic, Climate, Fiscal, Power, and Demographic Impact of a National Fee-and-Dividend Carbon Tax*. Regional Economic Models, Inc. (REMI) and Synapse Energy Economics, Inc., 2014.
- ³² Nystrom, Scott, and Patrick Luckow (REMI study)
- ³³ "Carbon Fee and Dividend." *Citizens' Climate Lobby*. N.p., n.d. <https://citizensclimatelobby.org/carbon-fee-and-dividend/>. 12 Apr. 2015.
- ³⁴ Methane is a much more potent greenhouse gas than CO₂ with both direct and indirect effects contributing to warming. It is therefore important to place a fee on methane that leaks to the atmosphere. Some of this leakage will occur after

the fee has been assessed on methane under the assumption that it will be burned to yield the less potent CO₂. To ensure the integrity of the program and that markets receive accurate information with regard to the climate forcings caused by various fossil fuels, the carbon fee shall be assessed on such leaked methane at a rate commensurate with the global warming potential (“GWP”) of methane including both its direct and indirect effects. Given the importance of tipping points in the climate system, the 20-year GWP of methane shall be used to assess the fee, and not the 100-year GWP. As proper accounting for such leakage is necessary for honest assessment of progress towards program goals, reasonable steps to assess the rate of methane leakage shall be implemented, and leaked methane shall be priced accordingly. The entity responsible for the leaked methane shall be responsible for paying the fee.