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Enabling Sustainable Energy for Low Income Households: Economic Sustainability

The participation of low income households is essential to economic sustainability.

The high proportion of direct spending in the retail economy that is a feature of low income households can power sustainable energy making wide scale carbon mitigation practical for the state.

A way to measure economic sustainability is to divide revenue expansion by tax revenue expended. A program is fiscally sustainable if the program results in more tax revenues (from retail spending of utility savings) than the tax revenue expended to fund the program.

The basic driver is that avoided carbon emissions can stimulate the retail economy and expand tax revenues. However, when retail economic expansion is a factor, all carbon mitigations are not created equal.

For example, many carbon mitigations reduce household post tax utility spending. However, a consumer that has already satisfied their essential spending and disposable spending needs will tend to save or invest utility savings outside of their local retail economy. On the other hand, a consumer that is struggling to meet their essential needs will tend to spend their first dollar of utility savings in the retail economy close to home.

The basic behavior of consumers is that high income consumers tend to save and invest while low income consumers tend to spend immediately. In addition, the lower the income, the more local the intensity of their spending.

Carbon mitigation tends to be the same per dollar of avoided utility spending independent of household income while tax revenue expansion is highly dependent on income (inversely related).

This means that the most fiscally sustainable environmental spending will tend to serve the lowest incomes first.

Economic justice is served because higher income households tend to benefit from economic expansion as business and capital owners.

Revenue expansion per Revenue expended (Re / Re) application:

1. Determine the avoided utility expense resulting from a public tax revenue expenditure (ie incentive).
2. Determine the Marginal Propensity to Consume (MPC) of the target household.
3. Determine the geographical spending pattern of the target household.
4. Use MPC and geographical data (accounts for economic leakage) to determine retail expansion within the taxing jurisdiction.
5. Use an economic Regional Input / output Modeling System (RIMS) to determine the jobs and economic multipliers.
6. Determine the total tax revenue expansion caused by the direct/indirect economic expansion (net of multipliers).
7. Divide the revenue expansion (over a scoring period) by the revenue expended (one time).
8. If the Re / Re score is greater than one, a revenue surplus is produced and the economics are sustainable. The larger the number, the faster the program can expand.
9. If the Re / Re score is less than one, a revenue deficit is produced.

Consumer MPC and geographical spending data comes from commercial consumer surveys. RIMS data comes from the US Bureau of Economic Analysis and others. This is the data commonly used to justify public investment

(tax incentives, land, roads, infrastructure) to attract or finance private employers, stadiums etc.

By way of example, the Claremont Locally Grown Program (CLGP) scores 2.0 when applied to households at the Claremont median income and below. That means that it generates \$2 in incremental tax revenue over 10 years for every \$1 expended.

The economic model deployed by CLGP produces the following results:

Income Expansion: \$6,500,000/Yr total Disposable Personal Income for LMI households

JOB Creation: 765 Peak jobs during construction, 125 permanent

Households served: CalEnviroScreen, Renters, Multi family at median income and below

Workforce served: Veterans, developmentally disabled, students, structurally unemployed in light manufacturing, construction and maintenance

Retail Expansion: 12%, primarily expanding incomes for small local businesses

“Claremont is combining cutting-edge solar technology with enlightened macro-economics to improve the personal budgets of our low and moderate income households [LMI] while stimulating both the state’s and our local economy.”

Sam Pedroza, Mayor of Claremont

“We are creating a replicable, non-profit, solar panel assembly factory that is uniting physicists, economists, City Hall, local businesses, and hundreds of local volunteers, to bring back middle-class manufacturing jobs and cut green-house gasses on a massive scale.”

Devon Hartman, Executive Director “ CHERP