REMI   Regional Economic Models, Inc.

Economic Impact of a Bio-Diesel Industry in New York State

Prepared for
Environmental Protection Agency and New York State Energy Research and Development Authority

By
Regional Economic Models, Inc.

Using
Policy Insight Single-Region State Model of New York

September 1, 2004

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EXECUTIVE SUMMARY

The Environmental Protection Agency (EPA) with the New York State Energy Research and Development Authority (NYSERDA) contracted Regional Economic Models, Inc. (REMI) to conduct an economic-impact assessment of a potential biodiesel industry in New York State. The expansion of the New York biodiesel industry is the result of the State of New York passing a B2 mandate requiring diesel use for one or more end use segments contain a certain percentage of biodiesel (e.g. two percent, or B2). The B2 mandate is intended to attract investment, stimulate the economy, and increase revenue for the State of New York. New York is also considering several options combined with the mandate further stimulating the economy. EPA and NYESERDA asked REMI to analyze one option that combined the mandate with a biodiesel supply incentive. The incentive would provide a grant of $0.10 per gallon of biodiesel produced in New York State up to a maximum of 10 million gallons, capped at five years. This combination is intended to stimulate demand for biodiesel fuel as well as provide an incentive for investment in capital.[1]

Currently the United States Congress is considering an Energy Bill that will provide Federal Excise Tax incentives for specific types of biodiesel. The bill will result in an exemption of $0.65 per gallon for New York consumers reducing business costs between 2007 and 2012 from $219.2 million to $5.1 million. The large disparity in costs for business and consumers in the State of New York will cause a dampened economic effect pending a veto of the Energy Bill. [1] EPA and NYSERDA asked REMI to analyze the effect with both the passage and veto of the Energy Bill.

A six-year time horizon from 2007 up to and including 2012 was used for the analysis. The assumptions for the time frame and data pertaining to the biodiesel industry were taken from the report Statewide Feasibility Study for a Potential New York State Biodiesel Industry prepared by LECG, LLC, and MARC-IV. To perform this analysis, REMI used a 53-industry sector, single-region model for the state of New York, with data specific to the state of New York and other factors including detailed employment, population, and personal income. Using this model, REMI generated the regional baseline forecast and then used information provided to develop two alternative forecasts (with and without a federal subsidy) representing economic impacts due to the creation of a biodiesel industry through a B2 mandate.

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[1] This data is taken from Statewide Feasibility Study for a Potential New York State Biodiesel Industry prepared by LECG, LLC, and MARC-IV

Major Findings

A summary of the major findings of the effects for both scenarios upon the State of New York:

Table 1: Major Economic Effects of a Biodiesel Industry in the State of New York
        (Cumulative 2007-2012)

	Energy Bill	Non-Energy Bill
Output (Mil 96$)	923.40	689.40
GSP (Chained Mil $96)	550.41	417.29
Employment (avg. total increase)	1,008	652
Population	2,752	27
Real Disp Pers Income (Mil 96$)	202.69	-74.71
State Revenue (Mil 96$)	40.78	-4.18

Both scenarios have a positive impact on output, gross state product, employment, and population,[2] with a dampened effect for the Non-Energy bill scenario. The negative effects incurred are a loss in real disposable income and indirect state revenue in the Non-Energy Bill Scenario. This effect results from the higher costs for consumers and businesses in the State of New York. As stated in the executive summary, the increase in costs for consumers and businesses amounts to $219.2 million from 2007 to 2012. The B2 mandate will increase the production costs for businesses (which explains the slightly dampened effect in output and GSP) and increase the price of fuel for consumers (which explains the decrease in real disposable income). Even though there is an increase in economic activity due to the creation of the biodiesel industry, without an Energy Bill the increase in economic activity will not offset the increased fuel cost for consumers, resulting in a decrease of Real Disposable Income.

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[2] The population for both columns is taken as summation over the six-year period. For the non-Energy Bill scenario the population increased initially, but actually decreased over towards the end of the forecast period. Please see Section 2-4 for greater detail.

1 METHODOLOGY & ASSUMPTIONS

1-1 REMI Policy Insight

REMI Policy Insight™ is the leading regional economic forecasting and policy analysis model. For this study, REMI developed Policy Insight™ for the State of California. This model was built using the REMI model building system, which consists of hundreds of programs developed over the last two decades. The system assembled the State of California model using data from the Bureau of Economic Analysis, the Bureau of Labor Statistics, the Department of Energy, the Bureau of Census, and other public sources. REMI Policy Insight™ is a structural model, meaning that it clearly includes cause-and-effect relationships. The model is based on two key underlying assumptions from mainstream economic theory: households maximize utility and producers maximize profits. Since these assumptions make sense to most people, lay people as well as trained economists can understand the model.

In the model, businesses produce goods to sell to other firms, consumers, investors, governments and purchasers outside the region. The output is produced using labor, capital, fuel, and intermediate inputs. The demand for labor, capital and fuel per unit of output depends on their relative costs, since an increase in the price of any one of these inputs leads to substitution away from that input to other inputs. The supply of labor in the model depends on the number of people in the population and the proportion of those people who participate in the labor force. Economic migration affects the population size. People will move into an area if the real after-tax wage rates or the likelihood of being employed increases in a region.

Supply and demand for labor in the model determines the wage rates. These wage rates, along with other prices and productivity, determine the cost of doing business for every industry in the model. An increase in the cost of doing business causes either an increase in prices or a cut in profits, depending on the market for the product. In either case, an increase in costs would decrease the share of the local and U.S. market supplied by local firms. This market share combined with the demand described above determines the amount of local output. Of course, the model has many other feedbacks. For example, changes in wages and employment impact income and consumption, while economic expansion changes investment and population growth impacts government spending. Figure 2-1 is a pictorial representation of REMI Policy Insight. The Output block shows a business that sells to all the sectors of final demand as well as to other industries. The Labor and Capital Demand block shows how labor and capital requirements depend both on output and their relative costs. Population and Labor Supply contribute to demand and to wage determination. Economic migrants in turn respond to wages and other labor market conditions. Supply and demand interact in the Wage, Price and Profit block. Prices and profits determine market shares. Output depends on market shares and the components of demand.
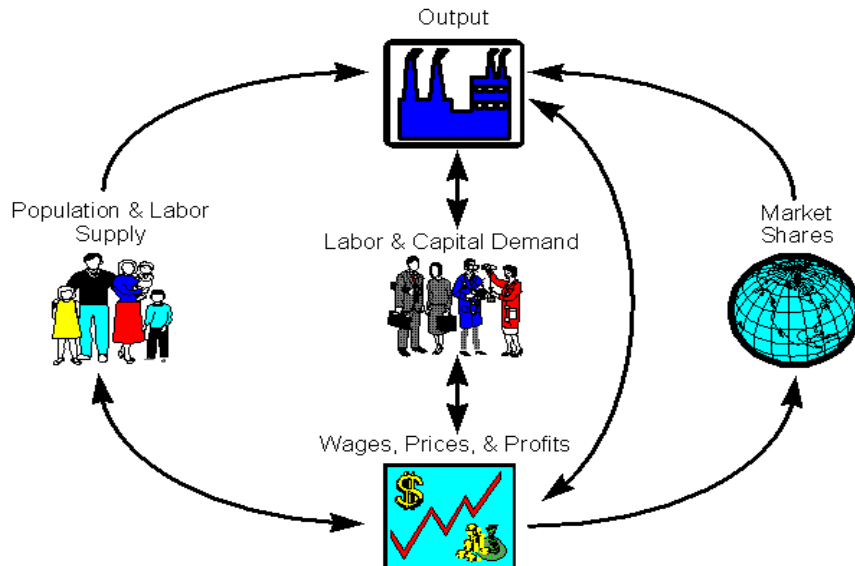
Figure 2-1 REMI Policy Insight® overview

The REMI model brings together all of the above elements to determine the value of each of the variables in the model for each year in the baseline forecast. The model includes all the inter-industry interactions that are included in input-output models in the Output block, but goes well beyond an input-output model by including the linkages among all of the other blocks shown in Figure 2-1.

In order to broaden the model in this way, it was necessary to estimate key relationships. This was accomplished by using extensive data sets covering all areas in the country. These large data sets and two decades of research effort have enabled REMI to simultaneously maintain a theoretically sound model structure and build a model based on all the relevant data available.

The model has strong dynamic properties, which means that it forecasts not only what will happen but also when it will happen. This results in long-term predictions that have general equilibrium properties. This means that the long-term properties of general equilibrium models are preserved while maintaining accurate year-by-year predictions and estimating key equations using primary data sources.

Figure 2-2 shows the policy simulation process for a scenario called Policy X. The effects of a scenario are determined by comparing the baseline REMI forecast with an alternative forecast that incorporates the assumptions for the scenario. The baseline REMI forecast uses recent data and thousands of equations to generate projected economic activity for a particular region. The policy variables in the model are set equal to their baseline value (typically zero for additive variables and one for multiplicative variables) when solving for the baseline forecast. To show the effects of a given scenario, these policy variables are given values that represent the direct effects of the scenario. The alternative forecast is generated using these policy variable inputs. Figure 2-2 shows how this process would work for a policy change called Policy X.
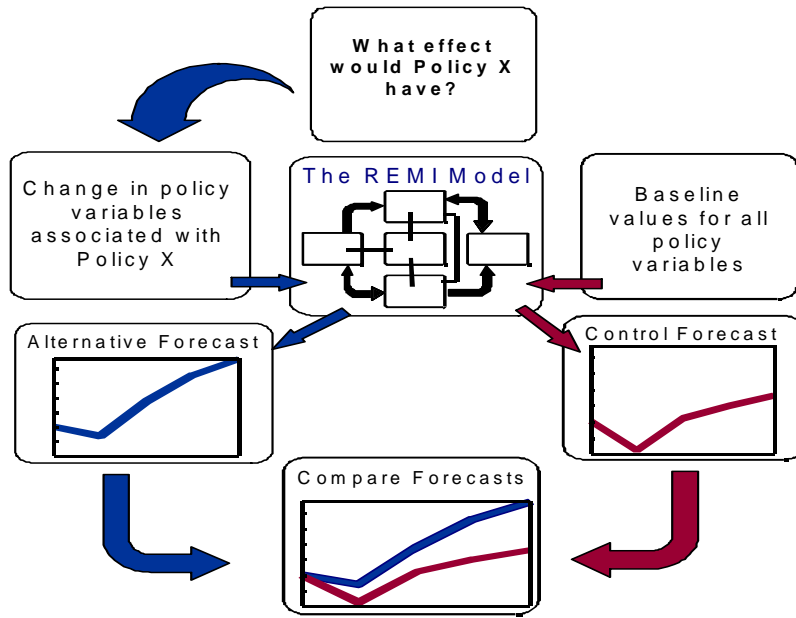
Figure 2-2 Policy X scenario

1-2   Assumptions

For this project, REMI examined the economic effects of a potential biodiesel industry in New York. Based on the information provided the following assumptions were made:
1. The first year of the B2 mandate begins in 2007
2. The B2 mandate combined with the $0.10 per gallon supply incentive will stimulate demand for biodiesel at 40 million gallon per year.
3. Biodiesel cost is $2.12 per gallon
4. The biodiesel industry will have to invest $64 million to upgrade and expand their existing terminals to operate at the proposed capacity
5. 50% of the $64 million investment by the biodiesel industry will be used to purchase of machinery and 50% will be used for construction[3].
6. The closest accurate representation of the biodiesel industry in SIC codes is represented in the chemicals sector (SIC code 28).

1-3   Methodology

The analysis comprises two scenarios. Both scenarios analyze the impact of the B2 mandate and $0.10 supply incentive. Scenario 1 analyzes the impact if Congress does not pass the Energy Bill; scenario 2 analyzes the impact of Congress passing the Energy Bill. The time horizon for both simulations is from 2007 to 2012.

B2 mandate with a $0.10 supply incentive

New York State is considering a B2 mandate that would require diesel use for one or more end use segments contain 2 percent biodiesel. The B2 mandate is intended to create a demand for biodiesel in New York stimulating the biodiesel industry. Demand is expected to increase to 23.3 million gallons in 2007 and 73.7 million gallons by 2012. The increased investment costs for fuel distributors is estimated at $64 million to update terminals to accommodate the new mandate requirements and demand. To help stimulate production the State of New York is considering combining with the B2 mandate a $0.10 supply incentive for up to a maximum of 10 million gallons capped at five years.

Currently the United States Congress is considering an Energy Bill that will provide Federal Excise Tax incentives for specific types of biodiesel. This will result in an exemption of $0.65 per gallon for New York consumers reducing business costs between 2007 and 2012 from $219.2 million to $5.1 million. The large disparity in costs for business and consumers in the State of New York will cause a dampened economic effect pending a veto of the Energy Bill. REMI was asked to analyze the effect with both the passage and veto of the Energy Bill.

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[3] This assumption of dividing the costs into 50% is made by REMI

Non-Energy Bill simulation (Scenario 1)

The following simulation analyzes the economic impact of the B2 mandate with the $0.10 supply incentive if Congress does not pass the Energy Bill. Without an Energy Bill most of the cost of the mandate will fall upon consumers and businesses as seen in Table 1-1 in rows 4-7. The simulation had the following inputs:

Table 1-1 Data Inputs for Non-Energy Bill scenario (Mil 96 $)

	Economic Variable	2007	2008	2009	2010	2011	2012
1	Farm Sales of Oil Crops	6.6	6.6	6.6	6.6	6.6	6.6
2	Investment in Machinery	5.33	5.33	5.33	5.33	5.33	5.33
3	Costs of Construction	5.33	5.33	5.33	5.33	5.33	5.33
4	Gasoline & Oil Price	17.1667	17.1667	17.1667	17.1667	17.1667	17.1667
5	Fuel Oil & Coal Price	12.6833	12.6833	12.6833	12.6833	12.6833	12.6833
6	Residual Fuel Cost (commercial)	3.33333	3.33333	3.33333	3.33333	3.33333	3.33333
7	Residual Fuel Cost (industrial)	3.33333	3.33333	3.33333	3.33333	3.33333	3.33333
8	Biodiesel Industry Sales	84.8	84.8	84.8	84.8	84.8	84.8
9	Government Spending	-1	-1	-1	-1	-1	-1

- Row 1 – The projected revenue of soybean farmers during the timeframe New York farmers should expect and increase in $6.6 million per year[4].
- Row 2 & 3 – The B2 mandate would require distributors to make $64 million in investment[3]. REMI divided the $64 million dollars over the 6-year time frame with 50% percent going to machinery and equipment and 50% going to construction costs.
- Row 4 – The B2 mandate increased costs for highway users to purchase gasoline. The expected increase will amount to $102.6 million from 2007 to 2012 dividing to $17.20 million annual increase[5].
- Row 5 – Residential home heating oil consumers will expect a total increase of $76.1 million over the projected time period amounting to $12.68 million dollars annually[4].
- Row 6 & 7 – Business and industry will experience a total increase of $40.5 million divided to $3.3 million annual dollars for commercial and industrial business sectors[4].
- Row 8 – Expected sales for the biodiesel industry is calculated by the assumptions of price per gallon of biodiesel multiplied by the expected annual capacity (assumptions 2 & 3).
- Row 9 – Amount of government spending needed for the $0.10 supply incentive.

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[4] LECG, 2
[5] LECG, 5

Energy Bill simulation (Scenario 2)

With the veto of the Energy Bill in Congress the price of fuel for consumers and business in New York will be substantially lower as seen in rows 4-7 in Table 1-2. The reduced financial burden upon consumers and businesses, now almost negligible when compared to the entire state of New York, will prevent a loss in purchasing power in the state. The passage of the Energy Bill will allow New York to stimulate the economy via a supply side incentive without any negative effects on consumers.

Table 1-2 Data Inputs for Energy Bill scenario (Mil 96 $)

	Economic Variable	2007	2008	2009	2010	2011	2012
1	Farm Sales of Oil Crops	6.6	6.6	6.6	6.6	6.6	6.6
2	Investment in Machinery	5.33	5.33	5.33	5.33	5.33	5.33
3	Costs of Construction	5.33	5.33	5.33	5.33	5.33	5.33
4	Gasoline & Oil Price	0.53333	0.53333	0.53333	0.533333	0.53333	0.53333
5	Fuel Oil & Coal Price	0.21667	0.21667	0.21667	0.216667	0.21667	0.21667
6	Residual Fuel Cost (commercial)	0.05467	0.05467	0.05467	0.054667	0.05467	0.05467
7	Residual Fuel Cost (industrial)	0.05467	0.05467	0.05467	0.054667	0.05467	0.05467
8	Biodiesel Industry Sales	84.8	84.8	84.8	84.8	84.8	84.8
9	Government Spending	-1	-1	-1	-1	-1	-1

- Row 1 – The projected revenue of soybean farmers during the timeframe New York farmers should expect and increase in $6.6 million per year[6].
- Row 2 & 3 – The B2 mandate would require distributors to make $64 million in investment[5]. REMI divided the $64 million dollars over the 6-year time frame with 50% percent going to machinery and equipment and 50% going to construction costs.
- Row 4 – The B2 mandate increased costs for highway users to purchase gasoline. The expected increase will amount to $3.2 million from 2007 to 2012 dividing to $533 thousand annual increase[7].
- Row 5 – Residential home heating oil consumers will expect a total increase of $1.3 million over the projected time period amounting to $217 thousand dollars annually[6].
- Row 6 & 7 – Business and industry will experience a total increase of $656 thousand divided to $55 thousand annual dollars for commercial and industrial business sectors[6].
- Row 8 – Expected sales for the biodiesel industry is calculated by the assumptions of price per gallon of biodiesel multiplied by the expected annual capacity (assumptions 2 & 3).
- Row 9 – Amount of government spending needed for the $0.10 supply incentive.

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[6] LECG, 2
[7] LECG, 5

2   RESULTS & ANALYSIS

This analysis focuses on the economic impacts of a biodiesel industry in New York for both veto and passage of the Energy Bill in Congress. It does not address any change in health or pollution in New York due a greater increase in biodiesel.

Table 2-1 and 2-2 show the annual economic effects for the Non-Energy Bill and Energy Bill scenarios. As expected there are net positive benefits for all economic variables in the Energy Bill Scenario. In the Non-Energy Bill Scenario the positive impacts on Employment, Output, and Gross State Product are slightly lower, but real disposable personal income and state revenue show negative impacts. These negative impacts are due to a lose in purchasing power from higher fuel costs for consumers (more money spent on gas means less they can spend on other goods) and higher costs of production for businesses (now necessary to reduce costs in labor, either by using fewer employees or reducing wage.)

Table 2-1 Major Economic Effects of a Biodiesel Industry (Non-Energy Bill Scenario)

	2007	2008	2009	2010	2011	2012
Output (mil 96 $)	125.5	121.8	117.6	112.7	108.0	103.8
GSP (chained) (mil 96 $)	73.85	72.69	70.92	69.03	66.65	64.15
Employment	764	723	680	628	584	536
Population	16	27	21	8	-8	-37
Real Disp Pers Inc (mil 96 $)	-8.972	-9.644	-11.050	-12.570	-15.140	-17.330
State Revenue (mil 96 $)	-0.105	-0.205	-0.442	-0.740	-1.136	-1.550

Table 2-2 Major Economic Effects of a Biodiesel Industry (Energy Bill Scenario)

	2007	2008	2009	2010	2011	2012
Output (mil 96 $)	165.3	160.3	155.9	151	147.3	143.6
GSP (chained) (mil 96 $)	95.95	94.18	92.83	90.94	89.23	87.28
Employment	1,147	1,085	1,031	973	930	883
Population	184	326	441	527	609	664
Real Disp Pers Inc (mil 96 $)	34.91	34.12	34.42	33.63	33.08	32.53
State Revenue (mil 96 $)	6.589	6.694	6.886	6.881	6.891	6.839

2-1 Output

The Output of an economy is the amount of production in dollars, including all intermediate goods purchased as well as value-added (labor, capital, and fuel investments and profit). Output can also be thought of as sales for both final goods and intermediate goods. Output is dependent upon the consumption in the area, the state government spending, investment, and exports of the industries in the region. State government spending, investment, and industry sales remain relatively equal between the two scenarios. The difference in output is based upon the decrease in consumption due to higher costs for consumers.

The projected increase in output in 2007 is $125.5 million in the Non-Energy Bill scenario and $165.3 million in the Energy Bill Scenario. The growth in Output settles slightly to an increase of $143.6 million by 2012 for the Energy Bill scenario and $103.8 million for the Non-Energy Bill Scenario. As seen in Figure 2-1 and Table 2-1 there is an annual difference of approximately $39 million in Output between the two scenarios amounting to a total difference of $234 million by 2012.
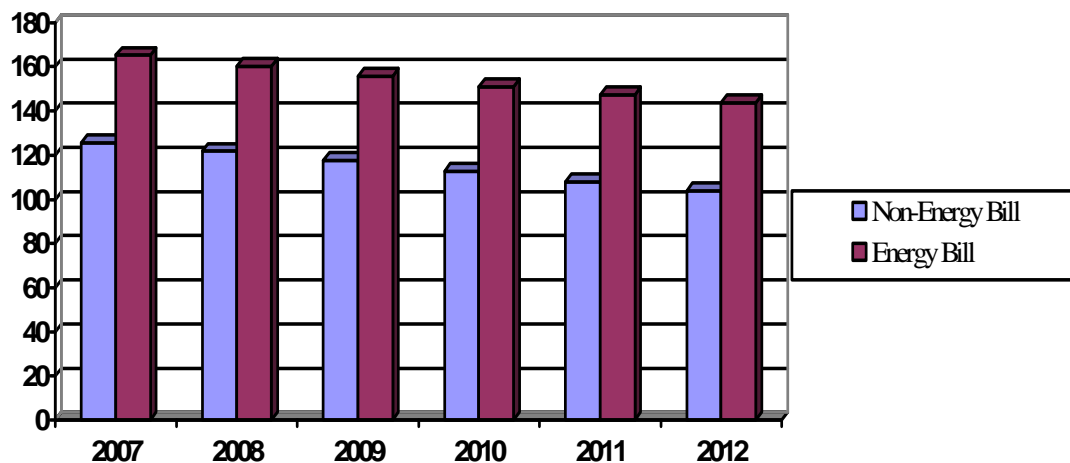
Figure 2-1 Increase in Output (Mil 96 $)
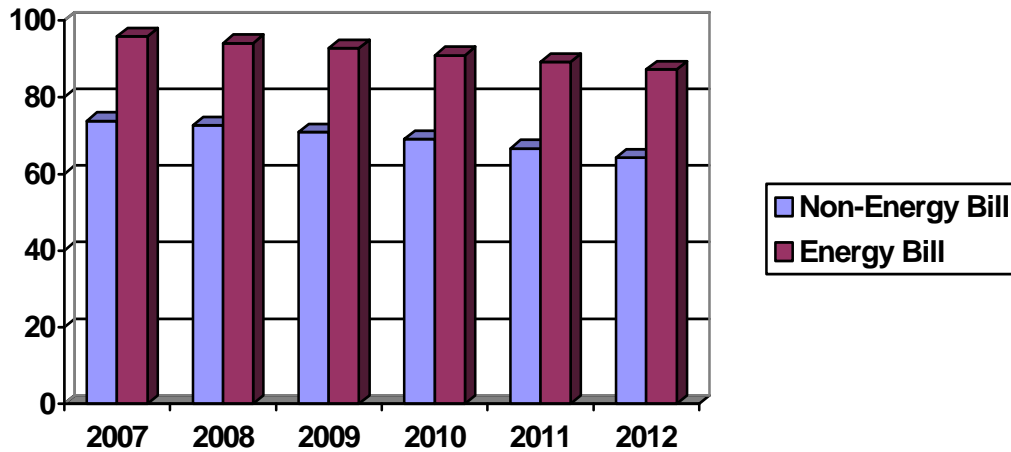

Table 2-1 Annual increase in Output (Mil 96 $)

	2007	2008	2009	2010	2011	2012	Total
Non Energy-Bill	125.5	121.8	117.6	112.7	108.0	103.8	689.4
Energy Bill	165.3	160.3	155.9	151	147.3	143.6	923.4

2-2 Gross State Product

Gross State Product (GSP) as a value added concept is analogous to the national concept of Gross Domestic Product. It is equal to Output, excluding intermediate inputs. The value-add concept is equal to compensation and profits.

The projected increase in GSP in 2007 is $73.6 million for the Non-Energy Bill Scenario and $95.95 million for the Energy Bill Scenario. By 2012 the growth settles slightly to $64.15 for the Non-Energy Bill and $87.28 million for the Energy Bill. There is an average annual difference of $22.19 million between the two scenarios totaling to a difference of $133.12 million by 2012.

Figure 2-3 Annual increase in Gross State Product (Mil 96 $)

Table 2-3 Annual increase in Gross State Product (Mil 96 $)

	2007	2008	2009	2010	2011	2012	Total
Non-Energy Bill	73.85	72.69	70.92	69.03	66.65	64.15	417.29
Energy Bill	95.95	94.18	92.83	90.94	89.23	87.28	550.41

2-3   Employment

The Employment variable in REMI Policy Insight uses historical data from the Bureau of Economic Analysis (BEA) and is based upon place of work, including part-time and full-time employees. The employment figures projected below are the difference from baseline and should not be cumulated.

As expected Employment in the Energy bill scenario shows the highest increase, with an initial increase of 1,147 workers by 2007 and settling down to 883 workers by 2012. The slightly dampened effects of the Non-Energy Bill scenario are an increase of 764 workers in 2007 to 536 workers in 2012. The average difference between the two scenarios is 356 workers during the time frame.

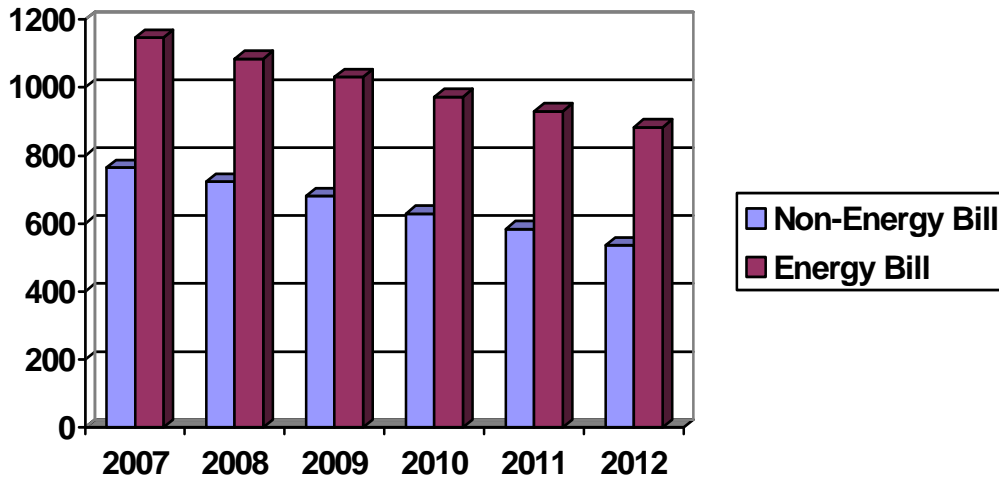**Figure 2-3-1 Increase in Employment from baseline**


Table 2-3 Increase in Employment from baseline

|	2007	2008	2009	2010	2011	2012
Non-Energy Bill	764	723	680	628	584	536
Energy Bill	1,147	1,085	1,031	973	930	883

Industry Employment

The increase in employment falls heavily on a few specific industries. The composition of the affected industries varies by percentage and industry type between the two scenarios. The largest growth for both scenarios is in the farm sector due to the increase in sales of agricultural goods. The chemicals, service, and construction industries represents the largest portion of the private non-farm sector growth. The large difference in composition between the two scenarios is the retail and wholesale trade sector and the government sector. The retail and wholesale trade and government sectors account for

thirteen percent of the job growth in the Energy Bill scenario and zero percent in the Non-Energy Bill scenario. In the Non-Energy Bill Scenario the same three sectors experience a combined marginal loss of 30 employees over the projected time horizon. The wholesale and retail loss is the result from a decreased purchasing power for consumers. Because of the increase in costs for fuel oil and gasoline, consumers now have less money (Real Disposable Income) to spend on other goods, hurting the retail sector. The government sector shows a loss due to the decrease in government spending necessary for the $0.10 supply incentive[8]. While both scenarios show the decrease in government spending, there is no population increase in scenario 1 to compensate for the loss in government spending.

Figure 2-3-3 Average composition of net new employment, Non-Energy Bill Scenario (2007 – 2012)
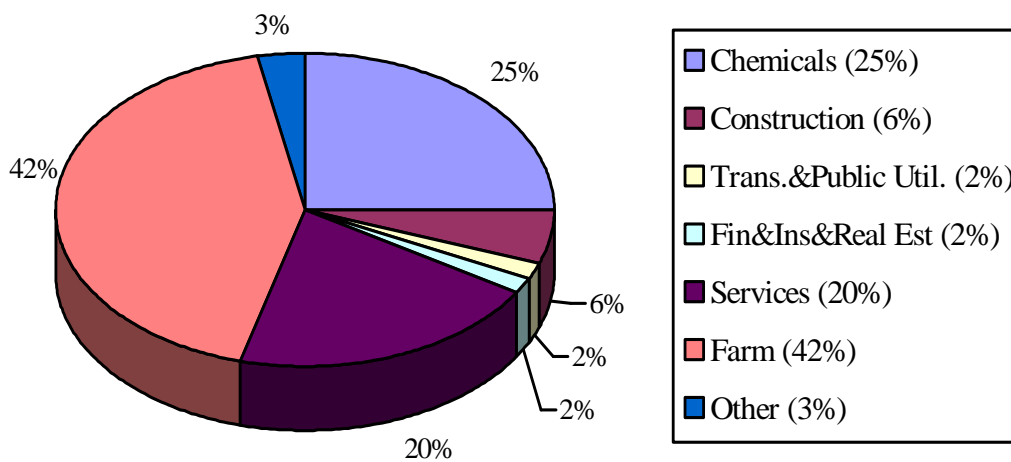
Figure 2-3-2 Average composition of net new employment, Energy Bill Scenario (2007 – 2012)

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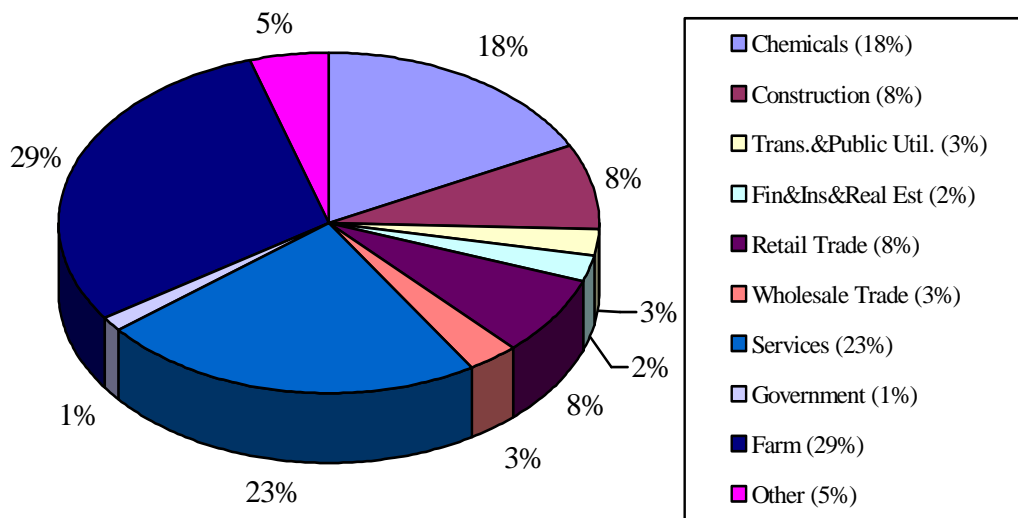
[8] Row 9 in the tables 1-2 and 1-2

2-4   Population

Population is a key variable in REMI Policy Insight which affects the potential labor force, government spending, consumption spending, and housing prices. The changes in population are due to changes in migration, the result of either economic growth or loss.

Between the two scenarios there is a disparity not only in absolute numbers but in growth versus loss as well. The Energy Bill scenario presents a growth situation with a total increase of 2,752 new migrants by 2012. The Non-Energy Bill scenario presents an initial growth situation, but by 2011 a trend of population loss begins. The initial growth offsets the loss in the final two years for an overall growth of 27 people in 2012, but if the time horizon were to be extended a continuing trend of population loss would be seen[9]. The loss in the population in scenario 2 is due to the increased costs of gasoline and fuel. An increase in the costs of living results in people leaving the area.
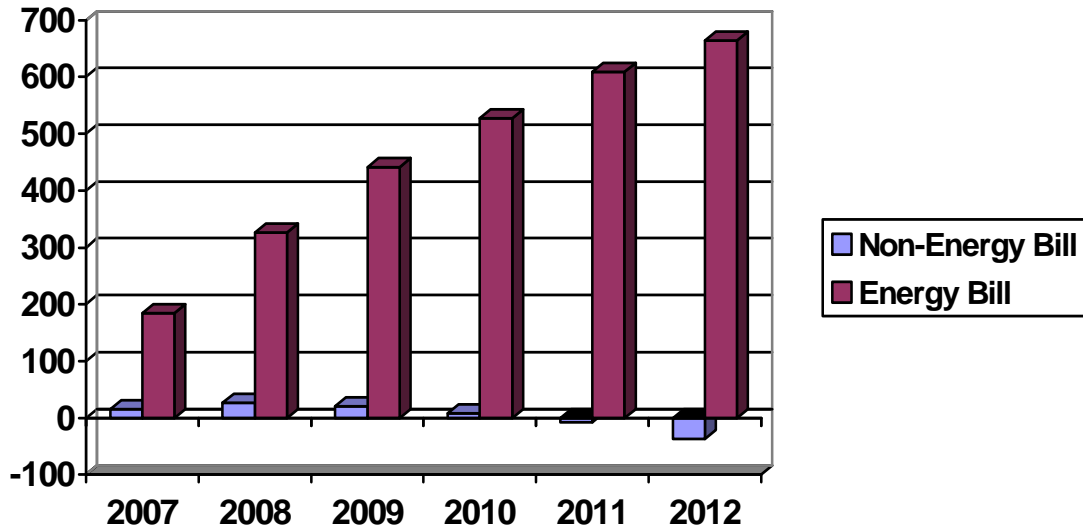
Figure 2-4 Increase in Population from baseline

Table 2-4 Increase in Population from baseline

	2007	2008	2009	2010	2011	2012
Non-Energy Bill	16	27	21	8	-8	-37
Energy Bill	184	326	441	527	609	664

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[9] It is important to note that both impacts scenarios 1 & 2 have are relatively small when compared with entire population of New York.

2-5   Real Disposable Income

Real Disposable Income is the inflation-adjusted income that is available for consumers to spend. It is personal income minus taxes and social contributions plus dividends, rents, and transfer payments. The numbers of employees in the area, their wage rate, and the consumer prices all affect real Disposable Income. An increase in employment or wage, or a decrease in consumers' prices will increase a region's Real Disposable Income. Consequently, the opposite will decrease Real Disposable Income.

Real Disposable Income accounts for a large portion of the disparity between the two scenarios. In the Non-Energy Bill scenario there is a decrease of Real Disposable Income for New York due to the higher prices of diesel for both consumers and businesses. In 2007 there is a loss of $8.97 million and in 2012 there is a loss of $17.33 million amounting to a total loss of $74.71 million in Real Disposable income. These losses will affect consumer spending, since consumers now have less money to spend on other goods and services, and state revenues (see section 2-6). If the Energy Bill passes, the burden on consumers and businesses will be lifted, and Real Disposable Income increases due to an increase in employment (more people have jobs and more money to spend). By 2007, Real Disposable Income increases by $34.91 million and settles slightly to $32.53 million in 2012 amounting to a cumulative increase of $202.69 million by 2012.
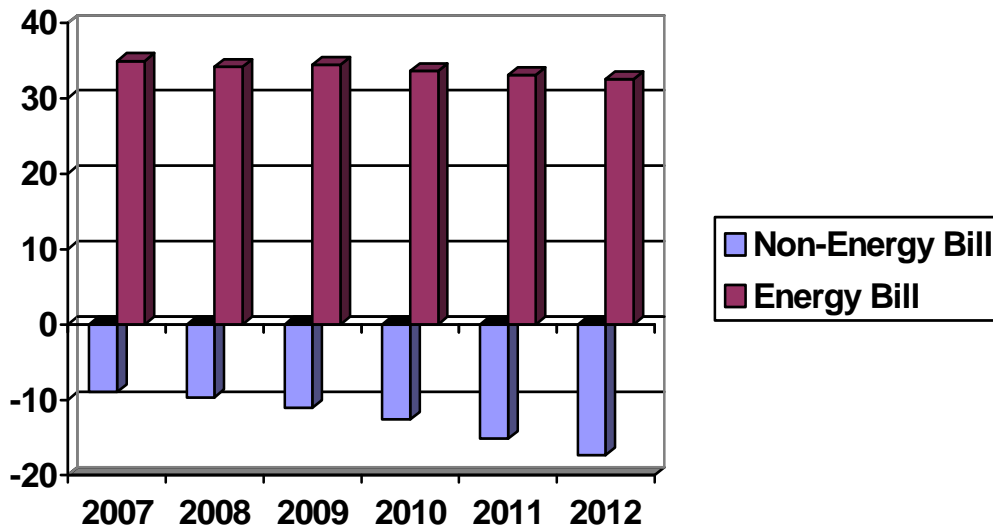
Figure 2-5 Increase in Real Disposable Income (Mil 96 $)

Table 2-5 Annual increase in Real Disposable Income (Mil 96 $)

	2007	2008	2009	2010	2011	2012
Non-Energy Bill	-8.972	-9.644	-11.05	-12.57	-15.14	-17.33
Energy Bill	34.91	34.12	34.42	33.63	33.08	32.53

2-6   State Revenue

State Revenue represents the gains or losses in income for the State of New York from tax revenues. These revenues include individual income tax, general sales tax, tobacco sales tax, and property tax. All changes in state revenue are indirect effects only. It does not take into account a taxation of biodiesel itself. All effects are the results of a change in economic activity. Real Disposable Income and population affect State Revenues directly.

As seen in section 2-5 Real Disposable Income decreases if the Energy Bill isn't passed, and increases if the Energy Bill is passed. Consequently, State Revenues decrease without a passage of the Energy Bill. In 2007 the State of New York will experience a loss of $105 thousand and increase to $1.55 million by 2012, totaling to a loss of $4.18 million by 2012. If the Energy Bill is passed, New York will benefit from an increase in $6.59 million in 2007 and steadies out to $6.84 million by 2012, totaling $40.78 million by 2012.
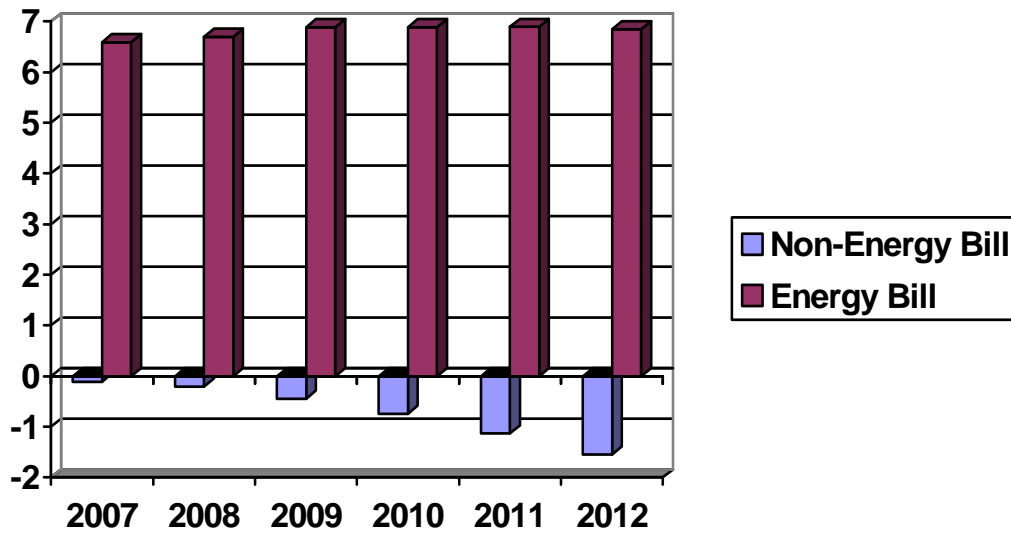
Table 2-6 Annual increase in State Revenue (Mil 96 $)

Table 2-6 Annual increase in State Revenue (Mil 96 $)

	2007	2008	2009	2010	2011	2012
Non-Energy Bill	-0.105	-0.205	-0.442	-0.740	-1.136	-1.550
Energy Bill	6.589	6.694	6.886	6.881	6.891	6.839

3   CONCLUSION

Both the Energy Bill Scenario and Non-Energy Bill Scenario have net positive effects for the overall economy. In regards to Output, Gross State Product, and Employment, the net effect over the forecasted time period is positive. The above variables experience a slightly dampened effect between the two scenarios; a difference of $234 million in output, $133.12 million in GSP, and 356 workers. While the difference may seem large, when compared to the entire New York State economy; $6.425 trillion in Output, $4.106 trillion in GSP, and 10.5 million workers, the differences are marginal to New York, but significant for the development of a new industry.

The worrying part of the simulation is the difference in Population, Real Disposable Income and State Revenue. Without the Energy Bill the costs are passed onto consumers and businesses alike. Increasing the costs for consumers reduces their purchasing power as seen in Real Disposable Income in section 2-5. In the Energy Bill Scenario there is a positive effect in Real Disposable Income netting $202.69 million by 2012. However there is a negative effect without the Energy Bill losing $74.71 million by 2012 with a further decreasing trend. The negative effect of Real Disposable Income ripples through the economy: a loss in Population starting in 2011, a loss of $11.1 million in the retail industry by 2012, and a loss in State Revenue of $4.18 million by 2012.

Without the passage of the Energy Bill, consumers will experience a negative economic impact. It is important to ease the burden on businesses and consumers otherwise the expected benefits upon the economy due to the creation of a biodiesel industry may not be as high as expected.

About REMI

Regional Economic Models, Inc. (REMI) is the nation's leading provider of economic forecasting and policy analysis software. The REMI Policy Insight™ model is used by over half of state governments, and numerous consulting firms, cities, and universities. Established in 1980, REMI has published model developments in the *American Economic Review*, the *Review of Economics and Statistics*, and other highly regarded publications.

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