



Roadmap for Incorporating Energy Efficiency/Renewable Energy Policies and Programs into State and Tribal Implementation Plans

Appendix E: Baseline Emissions Projection Pathway

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SECTION E.1: BASICS OF BASELINE EMISSIONS PROJECTION APPROACHES

Pathway Description

When developing a State Implementation Plan/Tribal Implementation Plan (SIP/TIP), jurisdictions start with an inventory of current emissions and a baseline projection of future emissions. The baseline emissions projection shows the level of emissions in the future target year that will result if no additional control strategies, policies or programs are implemented. The baseline emissions projection includes effects of existing federal, state, tribal and local regulations and programs that will come into effect by the future attainment year, but does not include any additional explicit (“on the way”) strategies not yet in statute or codified by a regulatory body.

The goal of developing a baseline emissions forecast is to account for as many variables as possible that affect future year emissions and, in turn, would impact ambient air quality levels. Emission levels (in addition to meteorology and topography, transport and fate of pollutants) are one of the most important parameters in determining resultant ambient air quality. For the electric generating unit (EGU) sector, future emission levels are affected by electricity demand growth rates and the future resource mix and pollution control utilization of electricity generators. Existing energy efficiency/renewable energy (EE/RE) policies and programs directly affect these inherent electric power sector characteristics and are important to consider when projecting future emissions.

Task Checklist:
Baseline Emissions Projection Pathway

- ✓ Identify and describe EE/RE programs and policies to include in the baseline emissions projection
- ✓ Ensure EE/RE policies and programs will be in place for the duration of the planning period
- ✓ Perform an analysis of the energy impacts expected from the policies and programs
 - ✓ Select a baseline demand forecast to use for EGU projections
 - ✓ Assess new and existing generation capacity of EGUs in future year(s)
 - ✓ Determine what EE/RE policy assumptions are already in EGU baseline forecast
 - ✓ Select energy model or other approach for projecting EGU emissions
 - ✓ Account for “on the books” mandatory EE/RE policies in modeling or other approach
 - ✓ Document results of modeling or other approach
- ✓ Ensure EE/RE emission reductions in the baseline emission projections are not accounted for as part of another pathway to avoid double counting

Emissions and ambient concentrations are not linear. So, to assess the relationship between emission levels and the resultant ambient air quality, state, tribal and local agencies need to perform an air quality modeling analysis for a base year and a future attainment year. In addition, emission projections provide a basis for developing and analyzing the impacts of control strategies for SIPs/TIPs, conducting attainment analyses, and tracking progress towards meeting air quality standards.

Tradeoffs of Pathways

State, tribal and local agencies can, of course, select more than one pathway for their jurisdiction’s different EE/RE policies and programs. It is important to understand the tradeoffs between the baseline emissions projection pathway and other possible pathways, such as control measure, emerging/voluntary and weight of evidence pathways. State, tribal and local

agencies can include EE/RE policies that are currently “on the books” in a baseline emissions projection. This means the EE/RE policy must already be adopted in federal or state regulation, a public utility commission order and/or local law. (The policies included in SIP/TIP baseline emissions forecasts are not subject to the same federal enforceability criterion as SIP/TIP control measures. For more information, see Appendix F.) During implementation of the SIP/TIP, if the EE/RE policy is not being implemented and the area is relying on the EE/RE policy in the baseline to help the area attain a NAAQS and the EE/RE policy is not implemented as assumed and air quality does not improve so as to meet the NAAQS as anticipated in the SIP/TIP, then the jurisdiction may be required to implement backup policies to make up for the emissions shortfall. The air agency might also agree voluntarily to revise their SIP. Alternatively, EPA may initiate a SIP call under section 110 of the CAA in which EPA can require that the state revise the SIP to make up the emissions relied upon to meet the applicable NAAQS.

Circumstances the Pathway is Best Suited For

The baseline pathway is best suited for “on the books” EE/RE policies that state, tribal and local agencies want to include in their SIP/TIP baseline, as long as these policies are not accounted for elsewhere in the SIP and are not emerging/voluntary programs. If incorporated in the baseline, such policies would not be federally enforceable but, if the jurisdiction is relying on the EE/RE policy to attain a NAAQS, EPA could initiate a Clean Air Act SIP call, as noted above, if the circumstances warranted. The baseline pathway works well when multiple states are coordinating on emissions baseline development and air quality modeling due to the complexity, resources and expertise needed to complete the task.

The baseline pathway can also include cases where a local community wants to capture local EE/RE SIP measures that are not part of federal or state regulations or statutes. The EPA is open to the concept of a state entering into a binding commitment with a community in order to capture such reductions within the baseline pathway, and the details of such a commitment are crucial. Any such commitment must provide for complete restoration of any shortfall in emission reductions if the local community does not successfully implement the local EE/RE SIP measures and the measures are needed to attain the applicable National Ambient Air Quality Standards (NAAQS). The state would be ultimately responsible for achieving the emission reductions, so the language in the commitment must satisfy the state. The EPA regional offices are prepared to give timely feedback to states on acceptability of such commitment language, as the states pursue a memorandum of understanding or similar written commitments with local communities

SECTION E.2: BASELINE EMISSIONS PROJECTION APPROACHES FOR ELECTRIC GENERATING UNITS

EPA’s Baseline Emissions Projections

The EPA develops and periodically updates a power sector database, the National Electric Energy Data System (NEEDS). The NEEDS contains the following data on EGUs:

- Current and future projections for the unit level records of all existing and planned/committed EGUs as reflected in EPA's power sector modeling applications;
- Basic geography;
- Operating assumptions;
- Air emissions; and
- Other EGU characteristics.

The EPA uses the Integrated Planning Model (IPM) to simulate the behavior of the power sector and to analyze the impact of environmental regulations.¹ The IPM is a multi-regional, dynamic, deterministic linear programming model of the U.S. electric power sector. It provides forecasts of least cost capacity expansion, electricity dispatch, and emission control strategies, while meeting energy demand and environmental, transmission, dispatch, and reliability constraints. The IPM can be used to evaluate the cost and emission impacts of proposed policies that limit emissions of key pollutants from the electric power sector, including sulfur dioxide, nitrogen oxides, carbon dioxide, and mercury. Other emissions (including PM_{2.5} and PM₁₀) are also calculated with a post-processing step. The IPM's capabilities in power sector modeling include the ability to analyze the impact of:

- On-the-books or proposed EE/RE policies for the baseline and control strategy pathways, respectively; and
- Constraints such as federal or state-level rules, settlements and consent decrees, cap and trade programs as well as EE/RE policies.

Outputs from IPM are processed to be used as direct inputs into air quality models.

Non-EPA Baseline Emission Projections for Electric Generating Units

State, tribal and local agencies have the choice to independently develop baseline emissions projections for the EGU sector or to use EPA's baseline emissions projections. If a state, tribal or local agency chooses to develop its own baseline emissions projections for SIP/TIP purposes, the agency must make and document assumptions that reflect (1) electricity demand and electricity supply, (2) EGU emission characteristics and (3) how and when EGUs will operate in the future. The projection of new generation does not need to be an independent forecast developed by the state, tribal or local air agency, but can be derived from other available forecasts. When other forecasts of generation capacity are used, there should be documentation of the assumptions in those forecasts and how the assumptions relate to other assumptions of the baseline emission projection, such as demand and emissions.

Regardless of whether the EGU baseline projection is developed in-house or externally, the following assumptions should be documented:

¹ For more information on detailed documentation of the latest publicly available versions of NEEDS and IPM, go to: <http://www.epa.gov/airmarkets/progsregs/epa-ipm/BaseCasev410.html>.

- Projected economic growth, fuel prices, and wholesale and retail electricity prices
- Projected emissions based on the above electricity demand forecast assumptions with:
 - Cost and performance of future generation
 - Cost and performance of future retrofit technology
 - Emission limits and rates and retirements as a result of environmental and economic constraints
- The methodology for projecting new generating capacity
- Alternative baseline emission projections (should include the methods used for projecting future emissions, determining how generating capacity was dispatched to meet the assumed demand, and how emissions projections are related to the dispatch of generation)²
- Identify and quantify energy impacts of EE and demand response policies and programs in the baseline projections
- Identify and quantify energy impacts of RE policies and programs in the baseline projections

SECTION E.3: STEPS FOR INCORPORATING “ON THE BOOKS” ENERGY EFFICIENCY POLICIES

Federal, state, tribal and local EE policies that are currently “on the books” can be incorporated into an electricity demand forecast used for a baseline emissions projection. Use the following four steps to account for the EE policies within the baseline emissions projection pathway.

- **Step 1:** Choose a baseline demand forecast for electric generating unit projections
- **Step 2:** Document EE policy assumptions in electric generating unit baseline demand projections
- **Step 3:** Review “on the books” EE policies for inclusion in the electric generating unit baseline demand projections
- **Step 4:** Project electric generating unit baseline emissions for attainment year(s) in the future

(Step 4 also applies to the steps in Sections E.4 and E.5 for incorporating “on the books” combined heat and power policies and “on the books” renewable energy policies, respectively. The step is the same in all three sections, E.3, E.4 and E.5.)

Step 1: Choose a Baseline Demand Forecast for Electric Generating Unit Projections

State, tribal and local agencies can reference a number of information sources that produce electricity demand forecasts. Each information source may already reflect different levels of “on the books” EE policies, so it is important to understand and document how these are

² The method used to estimate the dispatch of generation can differ from the method used in EPA's baseline forecast, but should establish a clear relationship between forecasts of demand, costs, generating capacity, and emissions.

incorporated. Jurisdictions can determine the most appropriate source for their electricity demand forecast (to be used for the emissions baseline projection) by reviewing the forecast's growth rates, policy assumptions and economic conditions. Keep in mind that if a group of states uses electricity demand forecasts from different information sources, then any inconsistencies between approaches and assumptions should be addressed.

Energy Information Administration's Demand Forecasts

The standard national baseline projection for the EGU sector comes from the Energy Information Administration (EIA), which is the statistical arm of the U.S. Department of Energy (DOE), and the projection is called the Annual Energy Outlook (AEO).³ It is published every year and forecasts the future 25 years of U.S. energy demand, supply, and price. For its power sector demand projections, EPA uses EIA's electricity demand forecast, likewise growth rates for U.S. electricity demand forecasts, and underlying EE policy assumptions, can be found in AEO.⁴ The EPA updates IPM platforms with the new AEO forecasts as they become available. Energy supply and demand projections from the AEO are also used as growth indicators upon which growth factors for fuel/combustion-related processes are based.

Projections included in the AEO forecast are generated from the National Energy Modeling System (NEMS), which is a computer-based, energy-economy modeling system developed and maintained by DOE. It projects the production, imports, conversion, consumption, and prices of energy. These projections are subject to assumptions about macroeconomic and financial factors, world energy markets, resource availability and costs, behavioral and technological choice criteria, cost and performance characteristics of energy technologies, and demographics.

Regional or State Specific Electricity Demand Forecasts

State, tribal and local agencies can choose to use regional or state specific electricity demand forecasts for their baseline emission projections. Many organizations have an electricity demand forecast air agencies can use in the baseline emissions projections for SIPs; these organizations include:

- North American Electric Reliability Corporation (NERC)
- Regional Transmission Organizations (e.g., PJM)
- Independent Service Operators (e.g., ISO NE, ISO NY)
- Electric system operators (e.g., a large power company that operates the electricity system for a specific region)
- State energy agencies (e.g., State Energy Office or Public Utility Commission)
- Regional councils that develop energy planning (e.g., Northwest Power and Conservation Council)

³ Most recent version as of the release of this document is AEO 2012.

⁴ The AEO serves as the basis for EPA's forecasts of future demand for electricity, which is an input to IPM. IPM provides future estimates of EGU emissions. It is important to know which version of AEO EPA is using in a given IPM run. There is a brief time lag between EPA's modeling platform update and the most recent AEO forecast release. For more information, go to: <http://www.eia.gov/forecasts/aeo/>.

Determining the most appropriate electricity demand forecast will be based on reviewing the growth rates, policy assumptions, and economic conditions used in developing the forecast. Keep in mind that if a group of states working jointly on SIP modeling analyses uses electricity demand forecasts from different information sources, it will be important to reconcile any inconsistencies between approaches and assumptions.

An organization's reason for developing a demand forecast may also influence which information resource a state, tribal or local agency chooses. For example, the NERC demand forecasts are developed from utility level forecasts provided to NERC as part of annual, long-term reliability assessments. Available regional forecasts may be developed as a part of regional transmission planning activities established by the Federal Energy Regulatory Commission, which may also include separate scenarios incorporating alternative assumptions about environmental regulations. State, tribal and local agencies should work closely with their EPA regional office if their demand forecast information comes from one of these organizations to ensure all environmental regulations are accounted for in the analysis.

Step 2: Document Energy Efficiency Policy Assumptions in Electric Generating Unit Baseline Demand Projections

Energy Information Administration Energy Efficiency Policy Assumptions

The Energy Information Administration's AEO documentation includes descriptions of the assumptions reflected in their modeling. For AEO 2010, EIA includes several EE/RE federal policies and regulations that are "on the books" as of September 2009. The EE policies that are explicitly in the AEO 2010 baseline projections⁵ are:

- Federal Appliance Standards⁶
 - 10 Residential and 10 Commercial Appliance Categories
- Federal Funding for EE and Related Programs (e.g., through the American Recovery and Reinvestment Act)⁷
 - State Energy Program and Energy Efficiency Community Block Grant
 - Weatherization Program
 - Green Schools
 - Smart Grid Expenditures
- Building Energy Codes⁸
 - All states adopt and enforce:
 - International Energy Conservation Code (IECC) 2006 (Residential Building Code) by 2011
 - IECC 2009 by 2018
 - American Society of Heating, Refrigerating and Air-Conditioning Engineers 90.1-2007 (Commercial Building Code) by 2018

⁵ For more information, go to: <http://www.eia.doe.gov/oiaf/archive/aeo10/index.html>.

⁶ EIA (2010), Appendix A, pp. 170-185.

⁷ EIA (2010), pp. 8-10.

⁸ EIA (2010), p. 8.

Regional or State Specific Policy Assumptions

If a state, tribal or local agency is using a demand forecast that is an alternative to EIA's AEO, then it is important to understand if and how the following EE policies are captured in, the electricity demand forecast:

- EE policies or programs funded by utility ratepayers
- Existing federal appliance and lighting efficiency standards that are already in effect
- New federal appliance and lighting standards that are scheduled to take effect over the forecast period
- State appliance or lighting efficiency standards (if applicable)
- State building energy codes
- CHP capacity additions
- Other distributed generation capacity additions
- Other applicable policies/programs (e.g., codified local policies)

There are at least two ways these policies can be captured in an existing demand forecast:

- 1) Explicitly model EE policies to show a direct connection between the EE policy and its impacts on energy demand.
- 2) Fully or partially reflect the impacts of EE policies in a demand forecast indirectly, through econometric or other assumptions in the model.

Step 3: Review “On the Books” Energy Efficiency Policies for Inclusion in the Electric Generating Unit Baseline Demand Projections

Comparing “On the Books” Policies Against Energy Information Administration Assumptions

If state, tribal and local agencies are using AEO 2010 demand forecast assumptions, EPA has already identified “on the books” EE policies not explicitly incorporated into AEO 2010. To estimate the energy savings of these policies, EPA accounted for impacts of existing state EE policies that are embedded within EIA's load forecast (e.g., accounted for econometrically). By taking this extra step, EPA avoided double counting the energy savings from existing EE policies and programs.

The EPA is providing a methodology and energy savings information for future years through 2030 (see Appendix J) for the following EE policies:⁹

- Energy Efficiency Resource Standards
- EE programs funded by Public Benefits Funds
- EE programs funded by the Regional Greenhouse Gas Initiative¹⁰

⁹ For more details on the methodology and energy savings/generation information for the policies listed here, go to Appendix J.

¹⁰ For more information, go to: <http://www.rggi.org/>.

If states are using a different version of EIA's AEO, then state, tribal and local agencies should review the EE assumptions with the respective AEO forecast to determine which policies could be added.

Comparing “On the Books” Policies to State or Regional Forecast Assumptions

If a state, tribal or local agency does not use EIA's demand forecasts, then the jurisdiction should talk with the organization providing the demand forecast to determine if additional “on the books” state EE policies can be incorporated in their forecast.

Documentation Procedures

Energy efficiency policies represent just one of many assumptions made in EGU baseline emissions projections. Any EE policies that are explicitly included in an EGU baseline projection should include the following information:

- Policy name
- Whether the policy is codified in state or local rule
- Year enacted
- Last year of policy requirement
- Policy requirements (e.g., targets in megawatt hours (MWh) or percentage)
- Annual energy savings base year (MWh)
- Annual energy savings in the future attainment year (MWh)

Step 4: Project Electric Generating Unit Baseline Emissions for Attainment Year(s) in the Future

Considerations for Choosing an Electric Generating Unit Baseline Emissions Projection Method

The baseline emissions projection method is an important decision for state, tribal and local agencies because having a consistent emissions quantification method for the EGU sector will produce the most reliable results. However, agencies have the option to use the same or different EGU emissions quantification approaches throughout the SIP process. If different EGU emission quantification approaches are applied throughout the SIP process, the state, tribal and local agency should explain the procedures taken to ensure that differences in methodologies do not lead to inconsistencies in future EGU emissions results. (Refer to Appendix I for all available emission quantification approaches.)

Perform Energy Modeling To Project Electric Generating Unit Baseline Emissions

Integrated Planning Model of Electric Generating Unit Baseline Emission Projections

The EPA uses IPM to simulate the power sector behavior and to analyze the impact of environmental regulations.¹¹ The emission outputs generated by EPA's modeling are average seasonal emissions (ozone and non-ozone seasons) at the emission unit level and are streamlined to be used as direct inputs into air quality models. Even where jurisdictions use the

¹¹ For more information on detailed documentation of the latest publicly available versions of NEEDS and IPM, go to: <http://www.epa.gov/airmarkets/progsregs/epa-ipm/BaseCasev410.html>.

baseline emission projections generated by IPM, state, tribal and local agencies need not use IPM in the SIP process. However, if a jurisdiction uses IPM in part for its EGU SIP analysis in conjunction with an alternative method, then it is important for state, tribal and local agencies to explain the procedures taken to help ensure consistent results.

Future Attainment Year Baseline Using Other Approaches

State, tribal and local agencies can develop their own SIP/TIP baseline emissions growth/forecast for the electric power sector. If an agency chooses to develop its own baseline emissions projections for SIP/TIP purposes, assumptions must be made to reflect:

- 1) Electricity demand and electricity supply,
- 2) EGU emission characteristics, and
- 3) How and when EGUs will operate in the future.

The projection of new generation does not need to be an independent forecast developed by the state, tribal or local air agency, but can be derived from other available forecasts. When other forecasts of generation capacity are used, document the assumptions in those forecasts and how the assumptions relate to other assumptions of the baseline emission projection, such as demand and emissions.

Refer to pages E-13 and E-14, of this appendix, for more details on the proper documentation state, tribal and local agencies should provide when conducting an analysis with EE/RE policies and programs.

Other appendices in this document describe the emission quantification approaches jurisdictions can use for an alternative baseline emissions projection. Refer to Appendix I for more information on emission quantification approaches. Appendix J provides information on how state, tribal and local agencies can utilize estimates of energy savings and generation for state “on the books” EE/RE policies.

SECTION E.4: STEPS FOR INCORPORATING “ON THE BOOKS” COMBINED HEAT AND POWER POLICIES

This section describes the four steps state, tribal and local agencies should consider when incorporating “on the books” CHP policies within the baseline.

- **Step 1:** Review CHP sources in baseline inventory and the relative emission rates for CHP generation
- **Step 2:** Determine CHP policy assumptions in electric generating unit baseline projections
- **Step 3:** Review “on the books” CHP policies to determine if more can be included in electric generating unit baseline projections
- **Step 4:** Project electric generating unit baseline emissions for attainment year(s) in the future

Step 1: Review Combined Heat and Power Sources in Baseline Inventory and the Relative Emission Rates for Combined Heat and Power Generation

The first step is to review the baseline inventory and assess if combined heat and power facilities are already present in the inventory. The EPA recommends that agencies assume that CHP facilities in baseline inventory will also have the same annual emission rates in the future year inventory, unless the jurisdiction knows a facility is modifying or shutting down prior to the future year inventory.

Step 2: Determine Combined Heat and Power Policy Assumptions in Electric Generating Unit Baseline Projections

The EIA develops CHP capacity (MW) and net generation (MWh) projections in its AEO by fuel type for the commercial and industrial sectors. The projections cover all size ranges, fuels and applications appropriate for CHP. The projections are based on the economics of CHP based on projected electricity and fuel prices and CHP system cost and performance. On-site CHP is then reflected as a reduction in each sectors' purchased electricity demand profile in the AEO projection. Incremental fuel and emissions at the site due to CHP are included in each sectors fuel consumption and emissions projection. The CHP policy that is explicitly included in the 2010 AEO baseline projections¹² is the Federal Investment Tax Credit, which is in place through December 31, 2016 and provides a 10 percent tax credit for the first 15 MW on systems up to 50 MW in size.

Step 3: Review “On the Books” Combined Heat and Power Policies to Determine if More can be Included in Electric Generating Unit Baseline Projections

State, tribal and local agencies should examine if the information source for EGU projections includes adopted state CHP policies. If agencies are using EIA's forecast assumptions, EPA has identified “on the books” CHP policies already explicitly incorporated into AEO 2010, as described above. The EPA is providing a methodology and energy information for future years through 2020.¹³ State-level CHP policies that could potentially be included in the EGU baseline include the following.

- State renewable or energy efficiency portfolio standards that include CHP
- Financial incentive programs for CHP and EE measures

Documentation Procedures

CHP policies are only a few of the many assumptions incorporated into an EGU baseline projection. Any CHP policies that are explicitly included in an EGU baseline projection would need to be documented with the following information:

- Policy name
- Whether the policy is codified in state or local rule
- Are the affects of the CHP policy already captured by another EE or RE policy?

¹² For more information on AEO 2010, go to: <http://www.eia.doe.gov/oiaf/archive/aeo10/index.html>.

¹³ For more details on the methodology and energy savings/generation information, go to Appendix J.

- Year enacted
- Last year of policy requirement
- Policy requirements (e.g., targets in MWh or percent)
- Annual energy savings base year (MWh)
- Annual energy savings in the future attainment year (MWh)

Step 4: Project Electric Generating Unit Baseline Emissions for Attainment Year(s) in the Future

Step 4 is described above in Section E.3. It applies in all three sections – E.3, E.4 and E.5 – for incorporating “on the books” energy efficiency policies, “on the books” combined heat and power policies and “on the books” renewable energy policies, respectively.

SECTION E.5: STEPS FOR INCORPORATING “ON THE BOOKS” RENEWABLE ENERGY POLICIES

This section describes the four steps state, tribal and local agencies should consider when incorporating “on the books” RE policies within the baseline.

- Step 1: Review RE sources in baseline inventory and the relative emission factor for each type of RE
- Step 2: Determine what RE policy assumptions are in electric generating unit baseline supply projections
- Step 3: Review “on the books” RE policies to determine if more can be included in the electric generating unit baseline supply projections
- Step 4: Project electric generating unit baseline emissions for attainment year(s) in the future

Step 1: Review Renewable Energy Sources in Baseline Inventory and the Relative Emission Factor for Each Type of Renewable Energy

The first step is to review the baseline inventory and assess if renewable energy facilities are already present in the inventory. Renewable energy facilities can be defined in different ways; some renewable energy definitions only include zero emitting facilities, while other definitions include facilities that are low emitting facilities. Regardless of the definition, each RE facility should be examined to determine the amount of annual emissions generated by each RE facility in the base and future attainment year.

Step 2: Determine What Renewable Energy Policy Assumptions are in Electric Generating Unit Baseline Supply Projections

The RE policies that are explicitly included in AEO 2010¹⁴ baseline projections and EPA’s EGU projections are the Renewable Portfolio Standards (RPS)¹⁵ for 30 states (and Washington, D.C.) that were adopted and effective as of September 2009. The EIA periodically updates the AEO

¹⁴ For more information on AEO 2010, go to: <http://www.eia.doe.gov/oiaf/archive/aeo10/index.html>.

¹⁵ EIA (2010), pp.14-17.

forecasts and assumptions; therefore, jurisdictions should explain any new assumptions that affect RE policy inclusions in the AEO forecast.

Step 3: Review “On the Books” Renewable Energy Policies to Determine if More can be Included in the Electric Generating Unit Baseline Supply Projections

States should examine if the information source for EGU supply projections includes all state RE adopted policies. If states are using EIA’s supply forecast assumptions, EPA has identified “on the books” RE policies not already explicitly incorporated into AEO 2010. For RE, this includes RPSs for 30 states (and Washington, D.C.) that were adopted and effective as of September 2009.¹⁶

The EPA is providing a methodology for estimating energy impacts of EE/RE policies and energy information for future attainment years through 2020.¹⁷ If states are using a different version of EIA’s AEO, then state, tribal and local agencies should review the RE assumptions with the AEO to determine which policies could be added.

Documentation Procedures

Renewable energy policies represent only one of the many assumptions incorporated into an EGU baseline projection. Any RE policies that are explicitly included in an EGU baseline projection should include the following information:

- Policy name
- Whether the policy is codified in state or local rule
- Year enacted
- Last year of policy requirement
- Policy requirements (e.g., targets in MWh or percent)
- Annual energy generation base year (MWh)
- Annual energy generation in the future attainment year (MWh)

If a state’s RPS allows EGUs using fuels, (such as clean coal or biomass) that emit pollutants to qualify as RE sources, then air quality planners need to account for the emissions associated with the sources used to meet the RPS targets in the base and future attainment year.

Step 4: Project Electric Generating Unit Baseline Emissions for Attainment Year(s) in the Future

Step 4 is described above in Section E.3. It applies in all three sections – E.3, E.4 and E.5 – for incorporating “on the books” energy efficiency policies, “on the books” combined heat and power policies and “on the books” renewable energy policies, respectively.

¹⁶ EIA (2010), pp.14-17.

¹⁷ For more details on the methodology and energy savings/generation information for the policies listed here, go to Appendix J.

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