

supplying electricity to the grid, the preferred measure of output is clear: kilowatt hours. Certain large manufacturers also have well-established measures of output that have already been widely used for many years, such as tons of cement. But many product manufacturers may have some difficulty identifying useful output indicators especially if they desire to develop indicators that represent the output associated with a large number of different processes and products. Broad physical units, such as pounds of product (sometimes used by chemical manufacturers), often encompass a wide range of different products, and a similarly wide range of production processes and product values. As a result, some important shifts between processes or product types may not be captured by such a broad indicator. As an alternative, some entities might consider the use of economic indicators, although analysis of some entity-level economic indicators suggests that they may be significantly affected by changes in market conditions and may serve as poor indicators of production-related changes by individual entities. DOE intends to identify in the Technical Guidelines various output indicators and provide guidance on the selection of appropriate indicators. DOE may specify the use of particular indicators for certain types of economic activity, but is likely to give most reporters the flexibility to adopt the best indicators for their particular circumstances. Given the potential deficiencies of some output indicators, DOE invites public comment on what information entities should be required to provide to justify the selection of their output indicators and what criteria DOE should use to determine whether a particular output measure is acceptable.

A related issue concerns entities that base their emission reductions on changes in their "absolute" emissions. The proposed Guidelines would require such entities to demonstrate that any reported reductions were not associated with declines in the output associated with those emissions. Because entities should only use this approach if they could not develop an output indicator that would enable them to track their emissions intensity, they may have difficulty demonstrating that their output had not declined. Again, DOE is interested in receiving comments on what output measures or other information such entities should be required to provide to demonstrate that their output has not declined and what criteria DOE might use to determine

whether the information provided was sufficient.

4. Emissions and Reductions Associated With Electricity Generation and Use

Several key provisions of the Guidelines deal with how entities are to report emissions and emission reductions associated with electricity generation and use. Approximately 32 percent of total U.S. emissions of greenhouse gases are released in the generation of electricity. As there are substantial opportunities to reduce the emissions associated with both the generation and use of electricity, it is important that the program cover both electricity generators and consumers. In doing so, however, it is also important to ensure: (1) That electricity-related emissions and emission reductions are not double counted; (2) that the conversion factors used to translate kilowatt hours into emissions are accurate indicators of the actual emissions associated with the generation of the electricity; and (3) that recognition for reductions is given to those entities primarily responsible for those reductions. Both these proposed General Guidelines and the Technical Guidelines, to be proposed subsequently, will attempt to achieve these objectives.

To avoid double counting, the proposed General Guidelines would require users to distinguish between the "indirect" emissions associated with electricity purchases (as well as purchased steam, and chilled/hot water) and their direct emissions. This will enable entity-level emission inventories to include such indirect emissions, while permitting DOE to exclude such emissions from compilations of multiple reports, if desired. In the Technical Guidelines, DOE will specify the factors to be used to convert purchased electricity use to greenhouse gas emissions. For the purposes of emission inventories, DOE is likely to specify a factor based on the average emissions per kilowatt hour for the region in which the electricity was consumed. However, for the purpose of calculating emission reductions associated with reduced electricity demand, DOE may specify an alternative factor, such as one based on the emissions associated with regional electricity supplies at the margin (largely excluding electricity generated by hydro, nuclear power plants and some coal, which tend to be fully utilized, regardless of changes in regional demand for power). These factors might change annually and could be required to be used by all consumers of purchased electric power,

unless the reporter could demonstrate special circumstances.

There may be two methods for determining emission reductions associated with the generation of electricity. One method might be used to calculate reductions in the emissions intensity of existing power production (e.g., through fuel switching or increased efficiency) and the other might be used to calculate the indirect reductions (or avoided emissions) that result from increasing the electric power generation from non-emitting or low-emitting sources. DOE is seeking to provide recognition to existing power generators that reduce their emissions intensity, while also establishing a level playing field among producers of new or additional power supplies, and end-users of electricity that reduce their demand.

DOE intends to provide, through its Technical Guidelines, clear direction on how to calculate emission reductions associated with the generation and purchase of electricity. While the specific methodologies and factors to be used have yet to be defined, DOE is soliciting suggested approaches that would achieve the objectives identified, as well as specific recommendations on how to develop the conversion factors described and how to most appropriately distinguish between existing and new power production and emissions.

5. Reporting and Registering Changes in Terrestrial Carbon Stocks

The proposed guidelines would require entity-wide emission inventories to include emissions and sequestration associated with terrestrial carbon stocks. Changes in the amount of carbon stored in sinks within the entity's boundaries over the inventory year would determine the quantities of such emissions and sequestration included in inventories. Entities that meet all of the relevant requirements in the general and technical guidelines may also register year-to-year increases in carbon stocks as "registered reductions." Ongoing reporting will be required to ensure that any future changes in these stocks are fully reflected in the entity's emission inventories and registered emission reductions. The Department seeks comments on this provision as well as alternatives. For example, one alternative approach would calculate registered reductions as the change in carbon stocks during an inventory year relative to the change in stocks during a base year or period.