

## Select Climate Change and Renewable Energy Terminology

**Additionality:** A concept that, to qualify for “offset credits” or “carbon credits,” a project that reduces or avoids GHG emissions must demonstrate that the reductions would not have otherwise occurred in a “business as usual” setting. In general, avoided or reduced emissions otherwise required by law are not “additional.” Further, the requisite demonstration generally includes a financial test to demonstrate that the value of offset credits is an important factor in the investment decision.

**Afforestation/reforestation:** An offset project to establish forest on land that has not been forested for a long period of time (generally 50 years) or on non-forested land.

**Cap and Trade:** A legal mechanism to place an aggregate cap on the emission of defined pollutants (such as GHGs) and to require emitters to acquire in the market an “allowance” or an “offset” for each unit of pollutant emitted. The media sometimes refers to allowances and offsets as “permits” to pollute. In the case of GHGs, most proposals involve a cap that declines over time between now and 2050.

**CCS (Carbon Capture and Storage):** The capture of GHGs and injection of them into geologic formations deep underground. U.S. EPA is currently rulemaking on a permitting scheme for CCS injections. The technology and feasibility of CCS are under study, including in DOE demonstration programs. A+B has formed and is counsel to the North American Carbon Capture and Storage Association, a trade group interested in feasible commercialization of CCS.

**CDM (Clean Development Mechanism):** Created under Kyoto Protocol, the CDM is a system for recognizing offset credits, called CERs, generated by “clean” projects undertaken in the developing world that reduce or avoid GHGs. CERs are negotiable instruments that can be used for compliance in a cap and trade market. Thousands of CDM projects are in the pipeline, representing billions in development and in CER value.

**CERs (Certified Emissions Reductions):** A negotiable offset credit generated by CDM projects and issued by the CDM Executive Board under the Kyoto Protocol, generally involving “clean” projects to reduce or avoid GHGs in the developing world.

**CO2e (Carbon dioxide equivalent):** GHGs have different effects in terms of creating a greenhouse effect. One ton of methane, for example, has 25 times greater “global warming potential” than one ton of carbon dioxide, according to the IPCC. To normalize these differences, units of the various GHGs are converted to CO2e for purposes of determining, for example, the number of units of allowances or offsets an emitter must acquire in a cap and trade setting.

**Copenhagen:** Site of the 2009 United Nations Climate Change Conference, the meeting intended to determine what international climate system will come after the expiration of the Kyoto Protocol in 2012.

**EU ETS (European Union Emissions Trading Scheme):** The carbon emissions trading scheme developed in the EU to implement the Kyoto Protocol.

**GHGs (Greenhouse Gases):** Naturally occurring and man-made gases that have heat trapping properties when emitted to the atmosphere. EPA defines GHGs to include CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, SF<sub>6</sub>, and other specified fluorinated compounds.

**GWP (Global Warming Potential):** The relative magnitude of heat-trapping properties that different GHGs exhibit. A higher GWP results in a higher CO2e value per ton of the relevant gas.

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**IPCC (Intergovernmental Panel on Climate Change):** International body formed in 1988 by the World Meteorological Organization and the United Nations Environment Programme to assess climate change. The IPCC publishes reports on topics relevant to implementing the UNFCCC. The IPCC does not do independent research but reviews and assesses scientific, technical and socio-economic information provided by third parties.

**Kyoto Protocol:** The existing international scheme to limit GHGs. Adopted pursuant to the UNFCCC, it creates a hybrid of a cap and trade system, with legally binding caps on developed nations that participate ("Annex I countries"), and incentives for "green" investments in developing countries ("non-Annex I" countries) that generate negotiable offset credits. Presidents Clinton and Bush declined to submit the Kyoto Protocol to the Senate for ratification. The Kyoto Protocol expires in 2012.

**LCA (Lifecycle Assessment):** A method of evaluating the cumulative environmental impact of a project or product, from raw material extraction and procurement, through production and use, to final disposition.

**Offsets:** In a cap and trade market, offsets are a type of credit that can be utilized for compliance (subject to whatever limits are in the applicable legislation) in lieu of a government-issued allowance. Offsets generally result from approved projects that reduce or avoid GHG emissions, such as methane destruction, or energy switching. Waxman-Markey envisions a substantial role for agricultural offsets, which are controversial in some quarters due to verification and authenticity concerns.

**RES/RPS (Renewable Electricity Standard/Renewable Portfolio Standard):** Legal requirements that require electricity retailers to procure a certain percentage of their base load from qualified renewable energy sources (or acquire negotiable credits representing such renewable energy production). A majority of states have an RPS of some type. Waxman-Markey would impose the first-ever national RES.

**RFS (Renewable Fuel Standard):** A requirement under the Clean Air Act that a certain percentage of liquid fuels for transportation come from qualified renewable sources. The RFS targets were substantially increased in 2008. Significantly, the RFS now includes an LCA requirement, and the first-ever federal standards for LCA are under development in this context.

**UNFCCC (United Nations Framework Convention on Climate Change):** The 1988 agreement that generally governs the international response to climate change but which requires the development and member ratification of protocols in order for binding emissions targets to apply to member nations.

**Waxman-Markey (the American Clean Energy and Security Act):** a bill passed in June 2009 in the House of Representatives, the first ever legislation passed in either house of Congress concerning climate change. Would create a U.S. cap and trade system for GHGs and a federal RES for electricity retailers. Fate in Senate is uncertain.

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