USCAP BLUEPRINT FOR LEGISLATIVE ACTION, EU EMISSIONS TRADING SYSTEM SIDE-BY-SIDE

February 6, 2009

	USCAP Blueprint for Legislative Action	European Union Emissions Trading System	
		Phase II (2008-2012)	**Phase III (2013-2020)**
Targets & Timetables	• 97-102% of (**3% - +2%** below) 2005 levels by 2012 • 80-86% of (**14%-20**% below) 2005 levels by 2020 • 58% of (**42%** below) 2005 levels by 2030 • 20% of (**80%** below) 2005 levels by 2050	ETS wide reduction level of **6.5% below 2005 levels by 2012**; individual Member States (MS) set their own target levels (with approval from EU commission) Aviation in 2012: 97% of 2004-2006 emissions	**EU-ETS** cap: 21% below 2005 levels in 2020 (linear decline from 2013 levels). **EU-Wide** GHG target: 20% below 1990 levels by 2020 (**equivalent to 14% below 2005 levels by 2020).** Target can increase to 30% below 1990 if other industrialized nations take comparable action Aviation: 95% of 2004-2006 emissions Sectors not covered by the trading system are expected to reduce emissions approximately 10% below 2005 levels (using other policies)
Scope of Coverage	Direct **GHG** emissions from large stationary sources, plus carbon content of fuels. More specifically: • Large stationary sources: Existing facilities emitting over 25,000 metric tons (mt)/yr; new facilities emitting over 10,000 mt/yr • Transportation fuels: Regulated upstream – refineries and fuel importers must hold allowances to cover carbon content of fuels provided • Natural gas (residential and small commercial use): Local distribution companies must hold sufficient allowances to cover carbon content of natural gas delivered to customers	Direct emissions of **CO_2** by large energy intensive installations Large stationary sources: over 10,000 installations in sectors including: power and combustion, oil refineries, coke ovens, iron and steel, cement, glass, lime, bricks, ceramics, and pulp, paper Aviation: Coverage starts in 2012 for internal outbound and inbound aviation (unless covered by equivalent measures in other countries) All combustion sources with a thermal input larger than 20 MW are covered. Other sources have varied threshold levels for inclusion	Direct emissions of **CO_2** from sectors in Phase II, **plus** CO_2 emissions from petro-chemicals, ammonia, aluminum, and aviation, **nitrous oxide emissions** from acid production and **PFC** emissions from the aluminum sector Member States (MS) have greater flexibility to exclude small installations provided they are subject to equivalent measures. Under certain conditions, MS can exclude installations emitting less than 25,000 mt in each of the 3 years preceding the year of application. For combustion installations, a new capacity threshold of 35 MW is applied.

	USCAP Blueprint for Legislative Action	European Union Emissions Trading System	
		Phase II (2008-2012)	Phase III (2013-2020)
	Scope of coverage: Approximately 79% of total US GHG emissions would be under the cap (notably higher than the EU because of inclusions of fuels).	Scope of coverage: approximately 46% of EU CO_2 emissions (~40% of GHG emissions) are covered by the ETS in Phase II.	Scope of coverage: coverage is expected to increase by about 6% from Phase II.
Allowance Allocation	A significant portion of allowances should be initially distributed for free, transitioning to full auction over time. Specific uses of allowance value include: • Electric and natural gas sector: 40% of allowance value should be directed to regulated local distribution companies (LDCs) to cushion price impact on electricity and natural gas customers. Some allowance value should also go to competitive power generators and other non-utility large stationary sources • Transport sector: some allowance value should be used to ensure price impacts in this sector are proportionate to impacts experienced in electric and natural gas sectors • Energy intensive manufacturers: some allowance value should be set aside for trade exposed energy intensive manufacturers to guard against jobs and emissions leakage • Adaptation: some allowance value should go towards adaptation including natural ecosystems, public health, infrastructure, and international efforts	Vast majority of allowances distributed for free. Per EU directive, a maximum of 10% of allowances can be auctioned in Phase II. In Phase I (2005-2007) only 5% could be auctioned. The gap between expected EU emission levels and the level of free allocation is **17%**.[1] If the number of allowances held in the New Entrant Reserve, the JI reserve and those held for auction are included, the gap between estimated emissions and total program allowances (or the total cap) is estimated to be 6.5%. Auctioning is expected to account for less than 4% of EU allowances (only 9 countries have decided to auction). The three countries with the largest auction include: Germany, auctioning 8.9% UK auctioning 7% Norway auctioning 49% [2]	Auctioning increases in Phase III with a move towards 100% . From 2013 onward, the EU anticipates that more than 50% of allowances will be auctioned. Power sector: MS that meet certain criteria will have the option to receive a maximum of 70% of allowances free in 2013 increasing to 100% auctioning by 2020. If this option is exercised, then MS must invest in upgrading infrastructure and clean technologies. In all other MS, 100% will be auctioned in power sector. Industrial sectors **not exposed** to carbon leakage: 20% of allowances auctioned in 2013, 70% by 2020 increasing to 100% by 2027. Industrial sectors **affected** by carbon leakage: 100% free allocation based on top tier benchmark comparison. New entrants: Approximately 5% of allowances are set aside for new entrants (installations and airlines). Allocations will be conducted similar to existing installations. However, no new entrants in

[1] Point Carbon, January 2009.
[2] Norway can exceed the 10% max auction rule because it is not an EU member.

	USCAP Blueprint for Legislative Action	European Union Emissions Trading System	
		Phase II (2008-2012)	Phase III (2013-2020)
	• Other: some credit for early action; low-income rebates, worker transition and training programs, and technology RD&D		the electricity sector will receive free allocations. Allowances that have not been used in new entrants reserve in 2020 could be auctioned (or potentially retired)
Offsets	EPA directed to establish an offset program using a standards-based approach within 18 months of enactment. Offsets must be real, additional, permanent, enforceable, and verifiable. Offsets may include domestic and international (including forest carbon) More specifically: • Initial overall annual program limit set at 2 billion mt (but could be increased to 3 billion if Carbon Market Board (CMB) anticipates economic harm from high allowance prices.) • Separate limits within the overall limit, for domestic and international offsets at no more than 1.5 billion mt for each. • Government is also a buyer of domestic and international offsets for the Strategic Reserve Pool. There is no limit for this use.	No domestic offset program per se. International offsets from the Clean Development Mechanism (CDM) and from Joint Implementation (JI) allowed (notably no forest carbon or sinks based offsets are allowed). Phase II limit on CDM/JI is currently set at approximately 13% of the total annual EU ETS allocation. CDM offsets are allowed from 2005 onwards. JI offsets are only allowed during the first commitment period, 2008-2012. MS have discretion to set their own limits on CDM/JI as part of their National Allocation Plans but this amount is overseen and limited by the EU commission.	If no international climate change agreement reached: CDM and JI limited to credits from projects that are pre-approved. Additional CDM/JI credits will only be allowed from countries with formal agreements. If there is an international agreement: additional credits and project types will likely be allowed from countries that have ratified the agreement. Domestic Offset Program. Some discussion of implementing a domestic offsets program from sectors not covered by the ETS, however, little planning or certainty about this program exists.
Other Cap-and-Trade Cost Containment Elements	• Unlimited banking of offset and allowance • Strategic Offset & Allowance Reserve Pool: Stocked with certified offsets plus limited number of allowances borrowed from future compliance periods. Offsets/allowances released into market at a specific allowance price. CMB charged with pool administration, including setting threshold price.	Banking of allowances and CDM allowed during Phase I, but not between Phases I and II. CDM credits purchased in Phase I can be used in Phase II or III. Unlimited Banking of allowances allowed from Phase II into subsequent periods. Limited borrowing and multi-year compliance	Banking allowed between Phases II and III and subsequent periods. If for more than 6 consecutive months, the allowance price is more than 3 times the average price of allowances during the 2 preceding years, the Commission, through Comitology, is empowered to auction up to 25% of the New Entrant Reserve, or bring

	USCAP Blueprint for Legislative Action	European Union Emissions Trading System	
		Phase II (2008-2012)	Phase III (2013-2020)
	• Effective multi-year compliance periods Auction reserve price ($10/ton) at start of program is a price floor to encourage long-term, low-carbon investment. Floor elevates over time above rate of inflation, leveling off in 2025.	period. Since yearly allocation is in advance of past year true-up, firms may use their allocation from the next year for current year compliance. This is form of limited borrowing and multi-year compliance.	forward the auctioning schedule to reduce the price fluctuation.[3]
Additional Climate Related Measures	The goal is a robust technology transformation program that results in substantial investment in new energy efficiency and advanced low-emissions technologies. More specifically: • Coal: no free allowances for coal plants after 2009 CCS: Direct all relevant agencies to develop national CCS strategy by Jan. 1, 2010; increase funding for CCS pilots; direct cash payments for sequestered CO_2 Performance Standard: 1100 pounds/CO_2 per MWH performance standards for facilities permitted after Jan. 1, 2015; 800 pounds/CO_2 per MWH performance standards for facilities permitted after Jan. 1, 2020; retrofit	The goal is economy wide emission reductions with multiple programs and policies at the national and MS level. Coal: No specific climate measures Transport: EU reached a voluntary agreement with automakers to reduce emissions to **140 gm/km CO2 by 2008 and 120 g/km CO_2 by 2012.**	Reduction targets for non-covered sectors average about **10% below 2005 levels by 2020.** Targets vary by MS based on per capita GDP (targets range from +20% to -20%).[4] CCS: Allowance reserve pool of 300 million available for CCS and renewable energy demonstration projects until end of 2015.[5] Legislative framework is to be developed to provide certainty to industry and remove barriers for safe deployment of CCS. Transportation: Limit CO_2 emissions to **120 g/km for 65% of new cars in 2012; 75% in 2013; 80% in 2014 and 100% in 2015.** Long-term target is 95g of CO_2/km for new car fleets by 2020.[6] To address concerns related to the use of biofuels, the Commission is proposing

[3] Comitology in the European Union refers to the committee system which oversees the delegated acts implemented by the European Commission.
[4] Non-covered sectors, including transport, waste, and buildings, account for about 60% of EU GHG emissions.
[5] Notably operators receive support after demonstrated performance.
[6] The EU's CO_2 targets are equivalent to a fuel economy of 48.9mpg by 2015 and 65.2mpg by 2020 for new vehicles. In comparison, the current fuel economy standard requires new passenger vehicles to achieve, on average, a fuel economy of 35mpg by 2020.

	USCAP Blueprint for Legislative Action	European Union Emissions Trading System	
		Phase II (2008-2012)	Phase III (2013-2020)
Additional Climate Related Measures (cont.)	requirements for facilities built after Jan. 1, 2009, but before first performance standard takes effect • Transportation: Convert renewable fuels standard to a low carbon fuels standard; measures to reduce vehicle miles traveled (VMT) and improve system efficiency • Energy Efficiency: Update or establish new codes and standards for buildings and end-use technologies; expand incentives for buildings and appliances that outperform codes; align utility incentives to pursue and promote energy efficiency; track and support state efforts to improve efficiency	Energy Efficiency: For energy end-use efficiency and energy services, MS must draw up national action plans to achieve 1% annual energy savings over nine years, starting from 2008 until 2017. Energy efficiency requirements for new commercial and residential buildings with floor area of over 1,000 m^2; other directives, include incorporating eco-design criteria for consumer electrical appliances; efficiency requirements for boilers and refrigerators; labeling requirements for ovens, air-conditioners and office equipment. Renewable Energy: Non-binding target to increase renewables in the EU's electricity supply to 21% by 2010.	sustainability criteria and addressing the needs for making second generation biofuels commercially available. A minimum renewable fuels target of 10% has also been included in the renewable energy target. A Fuel Quality Directive also requires suppliers to reduce GHGs from the entire fuel production chain by 6% by 2020. A review in 2012 will consider increasing the ambition level to 10% greenhouse gas reduction by 2020 through the inclusion of international projects, carbon capture and storage as well as electricity for cars. Energy Efficiency: Target of cutting energy consumption by 20% of projected 2020 levels. Previous policies continue (as described in Phase II). In 2012, Commission will undertake a review to determine if significant progress has been made to achieve this target and could propose additional policies if required. Renewable Energy**:** Mandatory target to increase renewable energy to 20% of energy mix by 2020 (minimum of 10% from renewable transportation fuel sources including biofuels). Individual targets for renewable electricity varies by MS, based in part on per capita GDP (targets range from 10% to 49%). The proposal creates a tradable Guarantee of Origin Scheme.