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Carbon Credits & Carbon Markets

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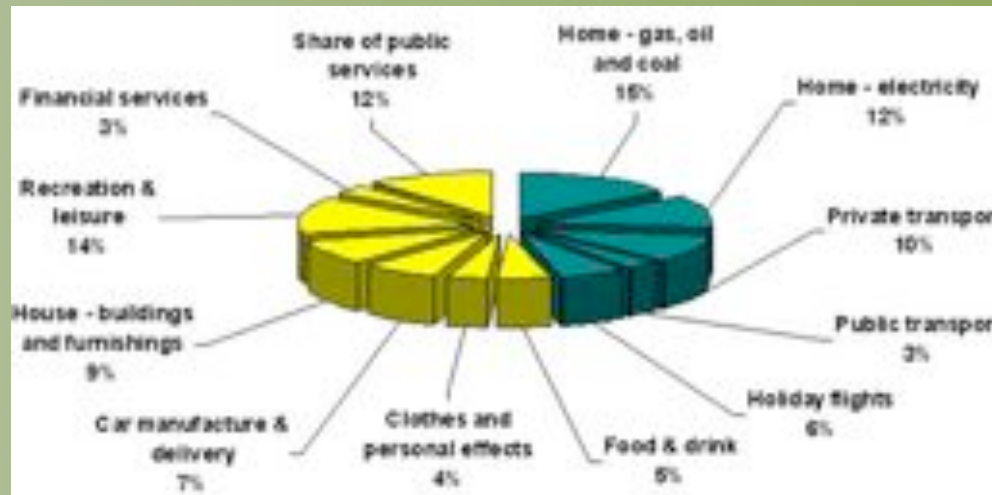
Overview

- ▣ The Basics – What is a Carbon Footprint? What are Carbon Credits?
- ▣ Carbon Markets – What currently exists and how do they compare?
- ▣ The Future – Where are carbon credits and carbon markets heading?
- ▣ Questions?



The Basics – What is a Carbon Footprint?

❏ A **carbon footprint** is a measure of the impact our activities have on the environment, and in particular climate change. It relates to the amount of greenhouse gases produced in our day-to-day lives through burning fossil fuels for electricity, heating and transportation etc.



Yellow = secondary emissions

Blue = primary emissions

<http://www.carbonfootprint.com>



11/13/09

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The screenshot shows the Carbon Footprint Calculator website. At the top left is the 'carbon footprint' logo. To its right is a phone number '01256 345645' and navigation links: 'Contact Us', 'Join In', 'My Account', and 'Shopping Basket'. A blue banner below reads 'Saving you cost and emissions' with a subtext 'You are not logged in. Log In / Create Account'. A green sidebar on the left contains a menu with items: 'Carbon Footprint', 'About Us', 'What we do', 'Calculators' (with sub-items 'Business Calculator', 'Home Calculator', 'Integration Tools'), 'CO₂ Reduction', 'Carbon Offsetting', 'Shop', and 'My Account'. The main content area is titled 'Carbon Footprint Calculator' and includes a language dropdown set to 'English (United States)', a 'Why create an account?' link, and a navigation bar with tabs: 'Welcome', 'House', 'Flights', 'Car', 'Motorbike', 'Bus & Rail', 'Secondary', and 'Results'. The 'Welcome' tab is active, showing a calculator image and the text 'Welcome to the web's leading carbon footprint calculator'. Below this is a prompt: 'First, please tell us where you live: [why?]', followed by dropdown menus for 'Country: United States' and 'State: (average for country)'. A note states 'Carbon footprint calculations are typically based on annual emissions from the previous 12 months'. At the bottom, there is a form to 'Enter the period this calculation covers (optional):' with 'from' and 'to' date pickers and a 'Save' button.

http://www.epa.gov/climatechange/emissions/ind_calculator.html

<http://www.nature.org/initiatives/climatechange/calculator/>

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11/13/09

Reducing your carbon footprint:

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Turn it off when not in use (lights, television, DVD player, Hi Fi, computer etc. etc. ...)

Turn down the central heating and water heating slightly (try just 1 to 2 degrees C)

Use a programmable thermostat

Fill your dish washer and washing machine with a full load

Fill the kettle with only as much water as you need

Do your weekly shopping in a single trip

Hang out the washing to dry rather than tumble drying it

Sign up to a green energy supplier, who will supply electricity from renewable sources

Fit energy saving light bulbs

Install thermostatic valves on your radiators

Insulate your hot water tank, your loft and your walls

Recycle your grey water

Replace your old fridge / freezer (if it is over 15 years old), with a new one with energy efficiency rating

Replace your old boiler with a new energy efficient condensing boiler

Car share to work, or for the kids school run

Use the bus or a train rather than your car

For short journeys either walk or cycle

Try to reduce the number of flights you take, etc, etc, etc.....

<http://www.carbonfootprint.com>

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The Basics — What are Carbon Credits?

- ❏ Carbon Credits (aka Carbon Offsets) are a market-based financial mechanism for supporting behaviors that result in measurable, verified increases in carbon storage (or decreases in carbon dioxide, CO₂, emissions).
- ❏ Other market-based mechanisms that can drive environmental behaviors include tax incentives and subsidies, public payment programs, and private or voluntary eco-labels and consumer actions.
- ❏ Carbon Credits can be voluntary or regulatory; domestic or international; large or small projects; short or long commitments; and are associated with everything from landfills to farms to forests to power plants.



Current Carbon Markets

- ❏ Chicago Climate Exchange (CCX)
- ❏ Voluntary Carbon Standard (VCS)
- ❏ California Climate Action Registry (CCAR)
- ❏ Clean Development Mechanism (CDM)
- ❏ Regional Greenhouse Gas Initiative (RGGI)
- ❏ Department of Energy's National Reporting Program (DOE 1605b Registry)
- ❏ Midwestern Regional Greenhouse Gas Accord
- ❏ *Etc, etc, etc...*

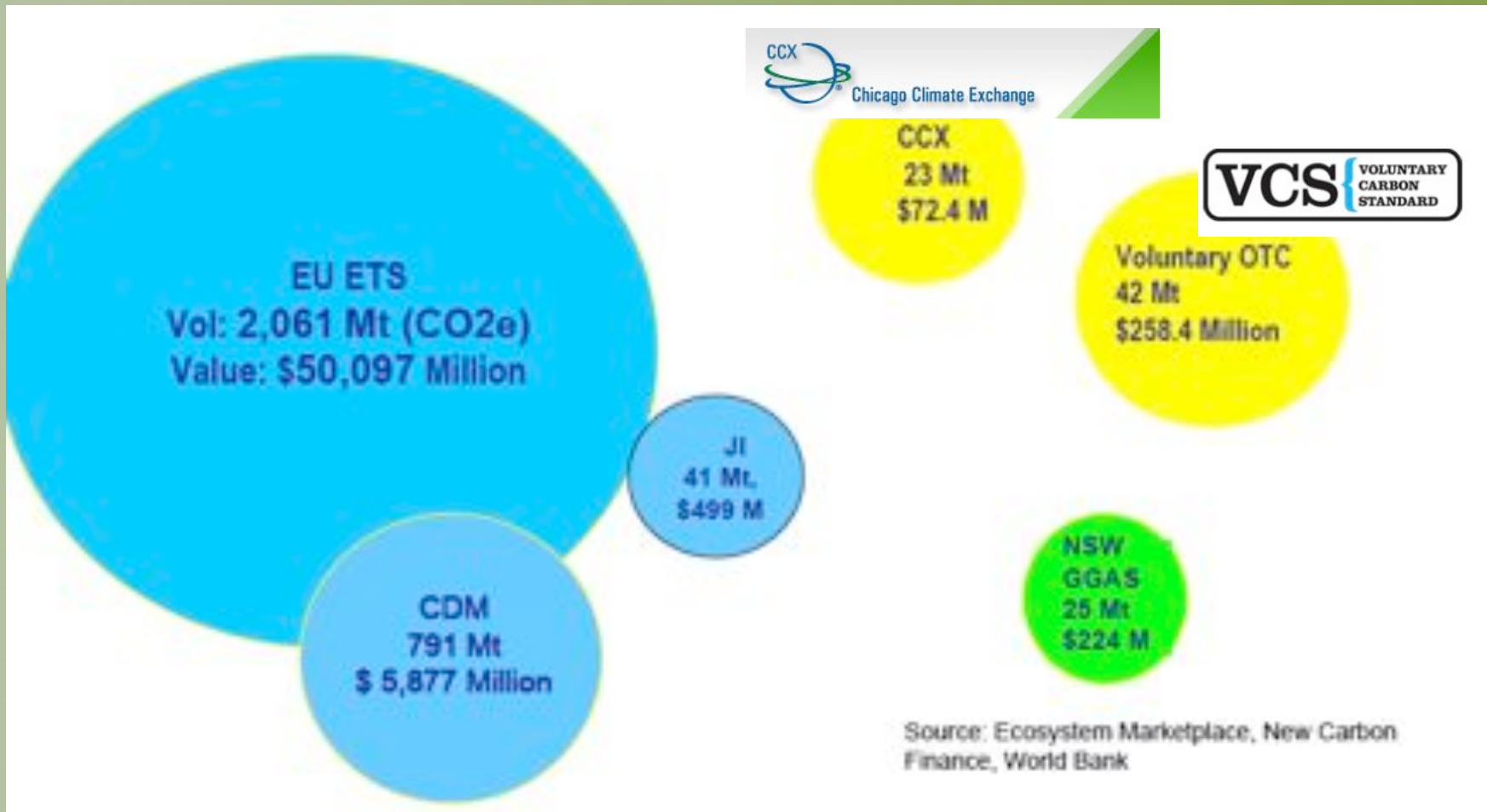


Standards

- ❑ Carbon standards provide a set of rules and procedures for creating offsets/credits.
- ❑ The standards address:
 - ❑ Eligibility requirements
 - ❑ Calculation methodology
 - ❑ Validation process
 - ❑ Measuring and monitoring requirements
 - ❑ Public disclosure, registration, etc



Current Carbon Markets



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Comparing Carbon Offset Standards

Standard	Baseline	Additionality	Permanence
CCX	Base Year	=Growth – Harvest	15 years
VCS	5-10 Years Prior	Practices	Permanent
CCAR	Regulatory	Practices	Perm. Easement

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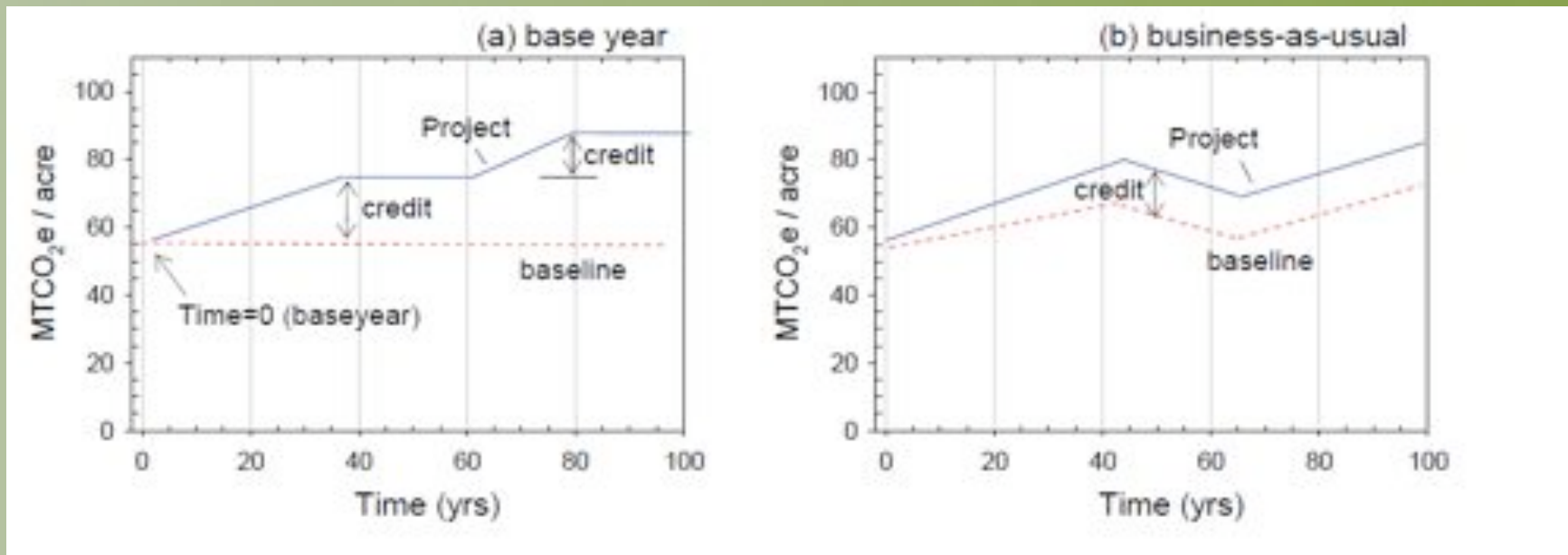
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Comparing Eligible Projects

CCX

VCS



Cap-and-Trade

- ❑ Cap-and-Trade: The legislation would cap emissions of carbon dioxide by utilities and other companies. But companies that came in below the limits would get credits; companies that emit more could buy credits to exceed the caps.
- ❑ Strength: defined limit on emissions; Weakness: widespread speculation on market impacts and costs
- ❑ Track record: the European Union is going into its fifth year of cap-and-trade for emissions
- ❑ States and regions are already taking action; but lack national consistency of a Federal approach



The Future

- ❏ Increased rigor (*better accounting, more verification and stronger guidelines*)
- ❏ Increased diversity (*more markets, more protocols, more projects*)
- ❏ Increased demand (*more regulation, more private and public sector interest*)
- ❏ **The Bottom Line:** Carbon credit projects that are in-place (or started today) and that are scientifically rigorous can benefit from and help inform the continued development of these markets.



Questions?

❏ Dovetail Reports:

- ❏ Wood Products and Carbon Protocols: Carbon Storage and Low Energy Intensity Should Be Considered
- ❏ Ecosystem Markets: New Mechanisms to Support Forestry

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