

**Παρουσίαση στην Ημερίδα ΣΥΝΕΡΓΕΙΑ
15 Ιανουαρίου 2016**

A success story: Waste management in UK

Δρ. Θάνος Μπουρτσάλας

COLUMBIA UNIVERSITY

EARTH ENGINEERING CENTER



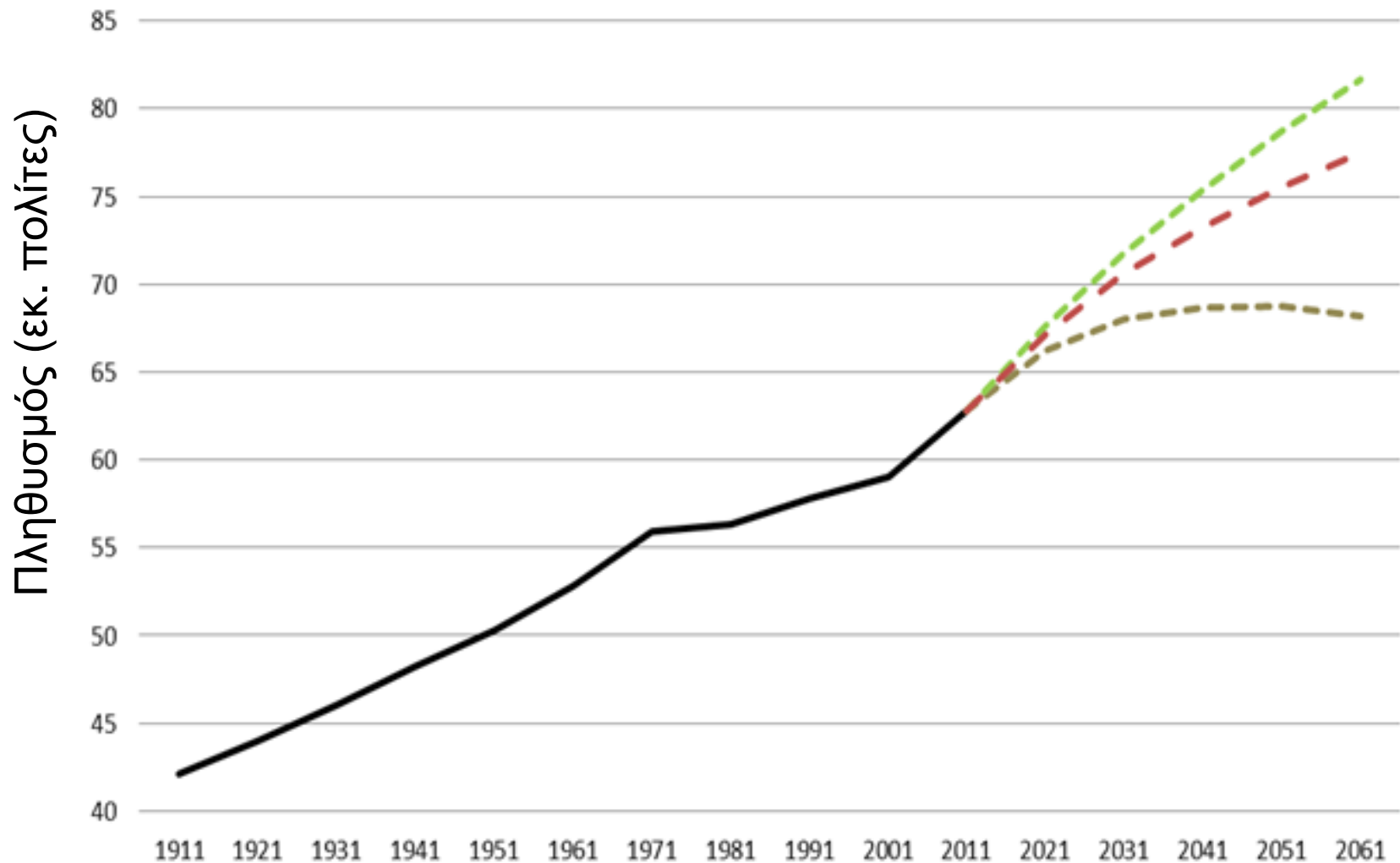


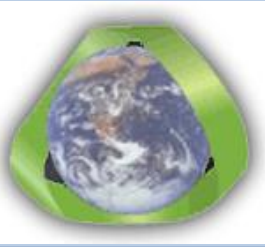
Ηνωμένο Βασίλειο



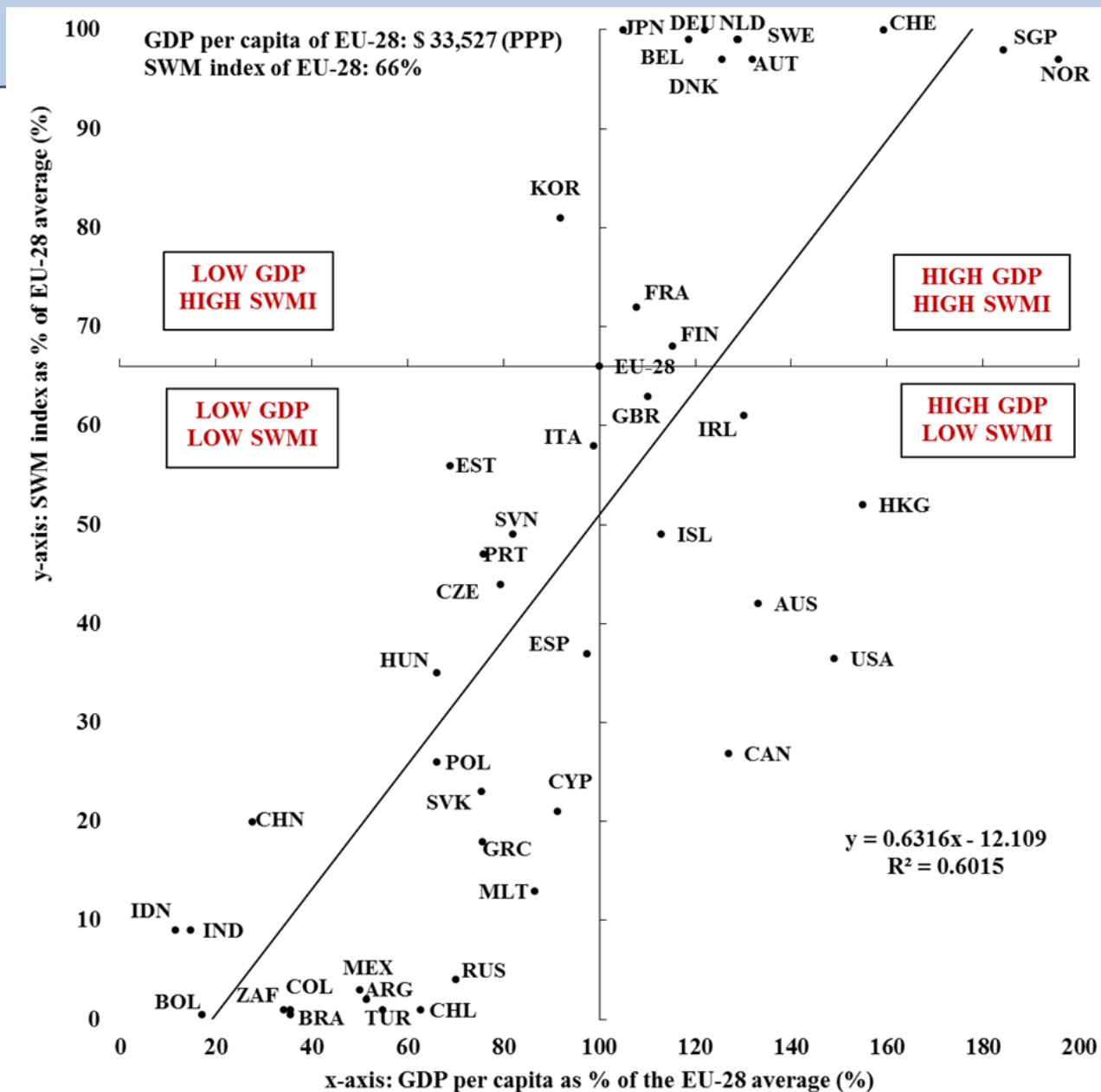


Πληθυσμός και προβλέψεις



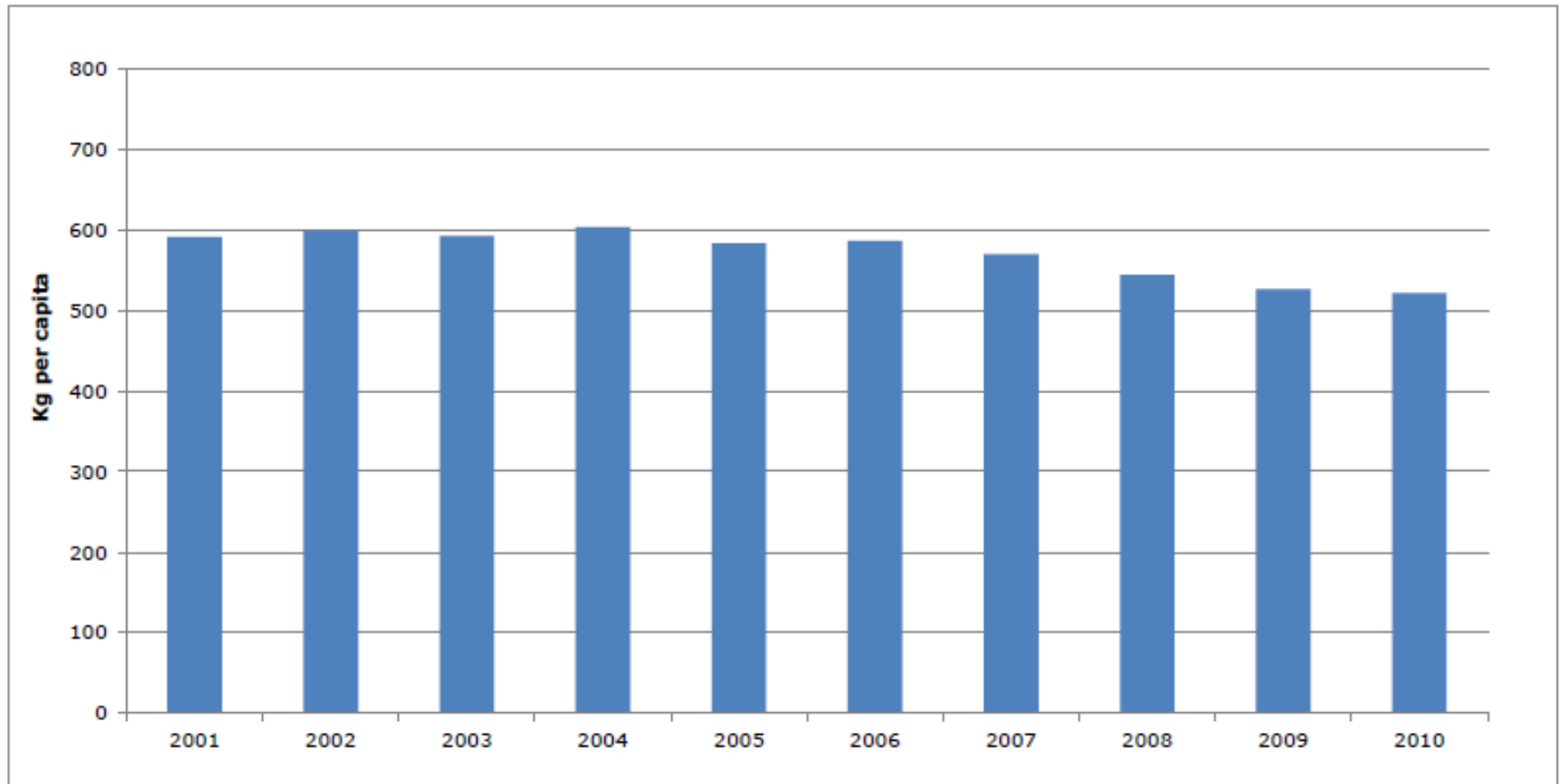


Δείκτης αιφόρου διαχείρισης αποβλήτων vs ΑΕΠ ανά κάτοικο





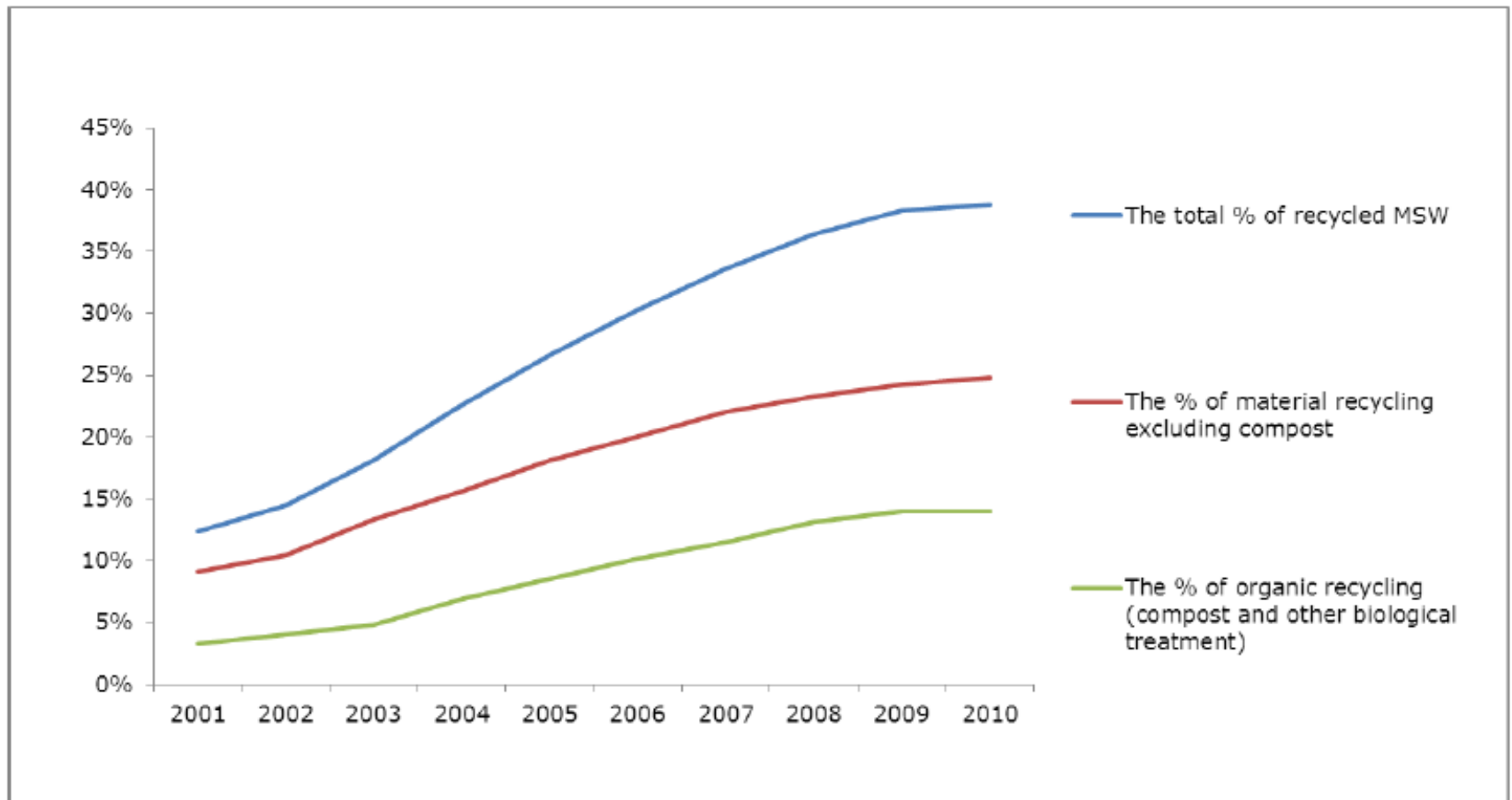
Παραγωγή ΑΣΑ στο Ηνωμένο Βασίλειο



Source: Eurostat, 2012



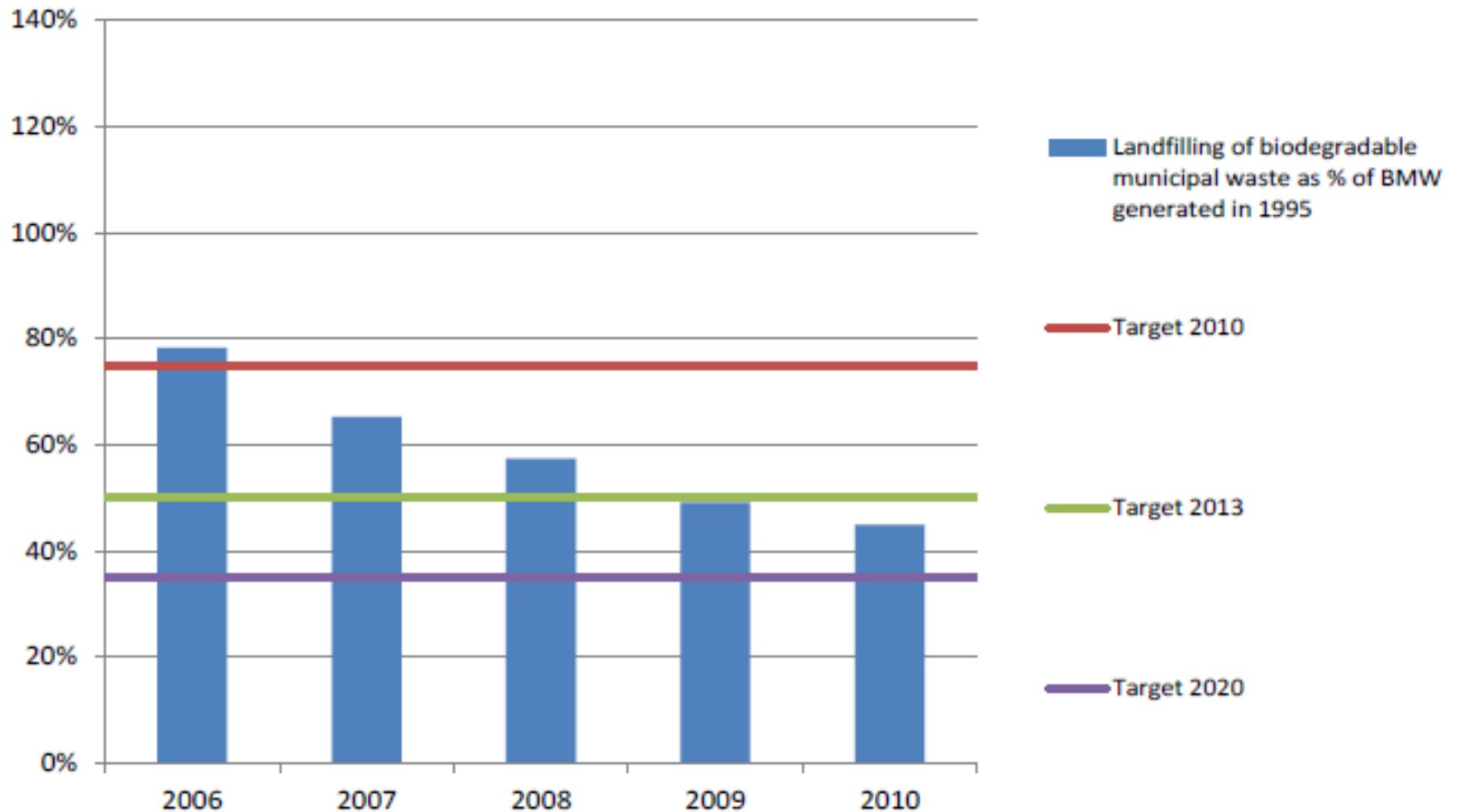
Ανακύκλωση ΑΣΑ



Source: Eurostat, 2012. Note: all figures are shown as % of generated MSW



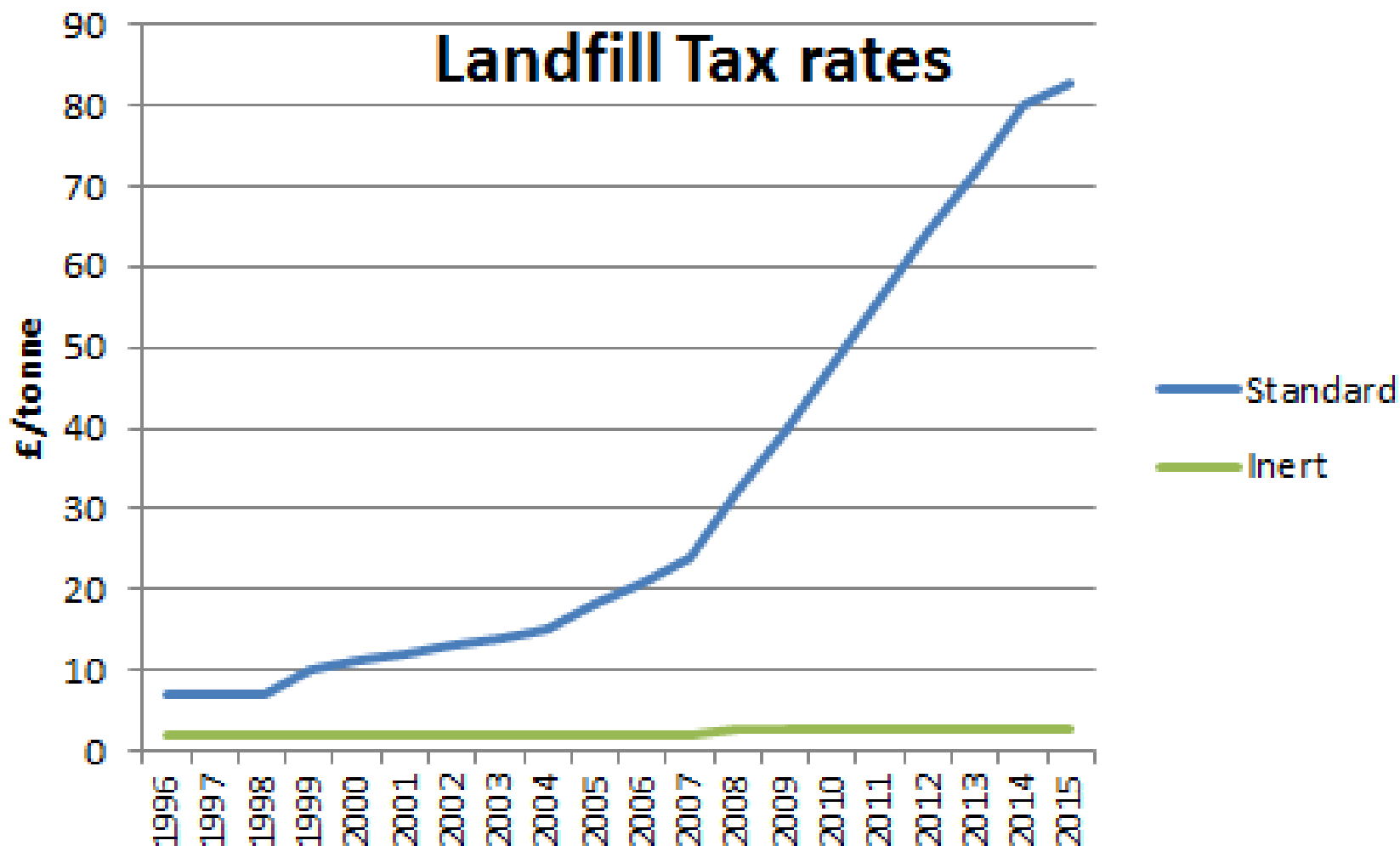
Ταφή βιοαποδομήσιμου κλάσματος





Κόστος ΧΥΤΑ

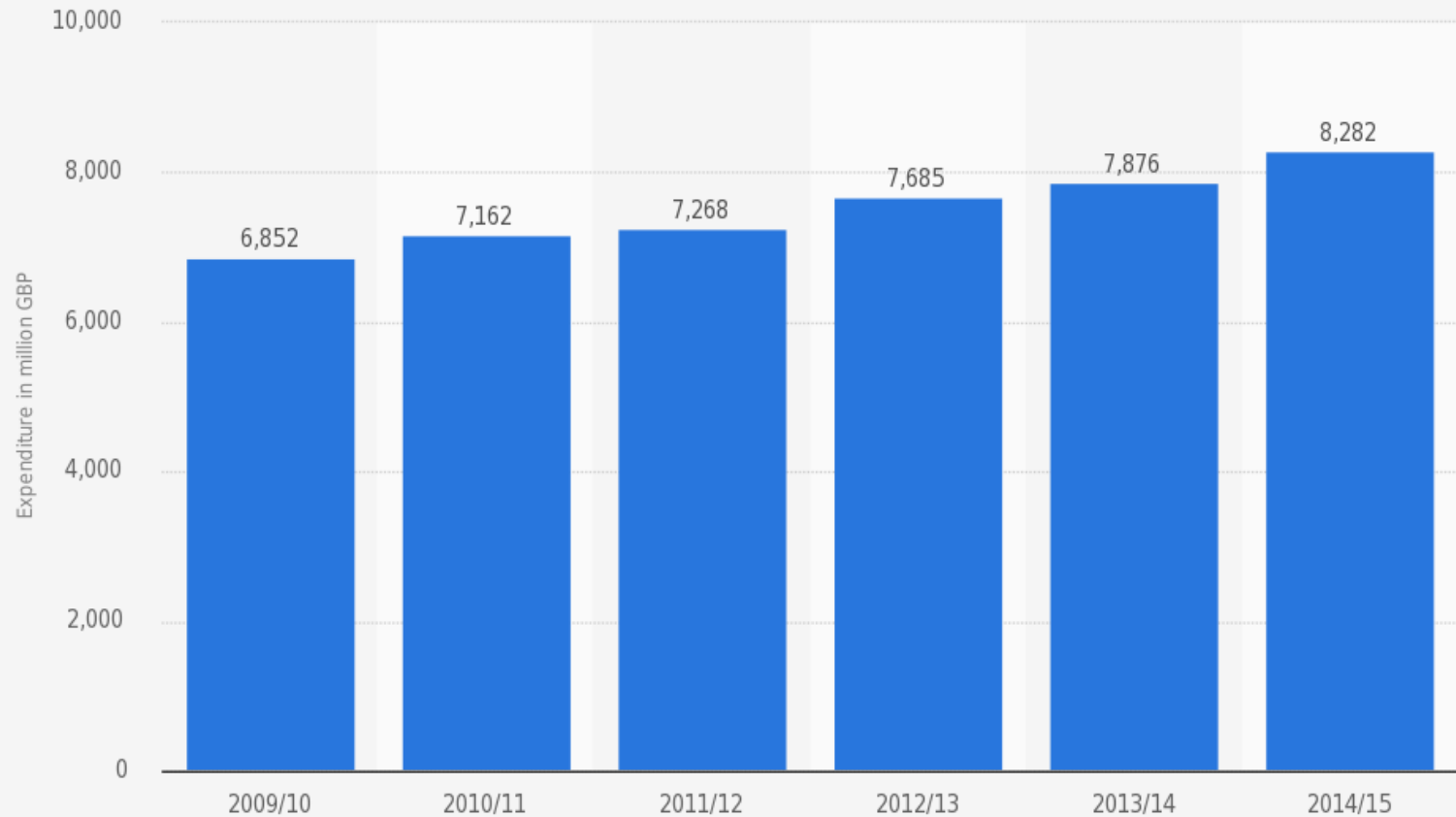
Landfill Tax rates





Δημόσια δαπάνη για διαχείριση αποβλήτων

**Public sector expenditure on waste management in the United Kingdom (UK)
from 2009/2010 to 2014/2015 (in million GBP)**

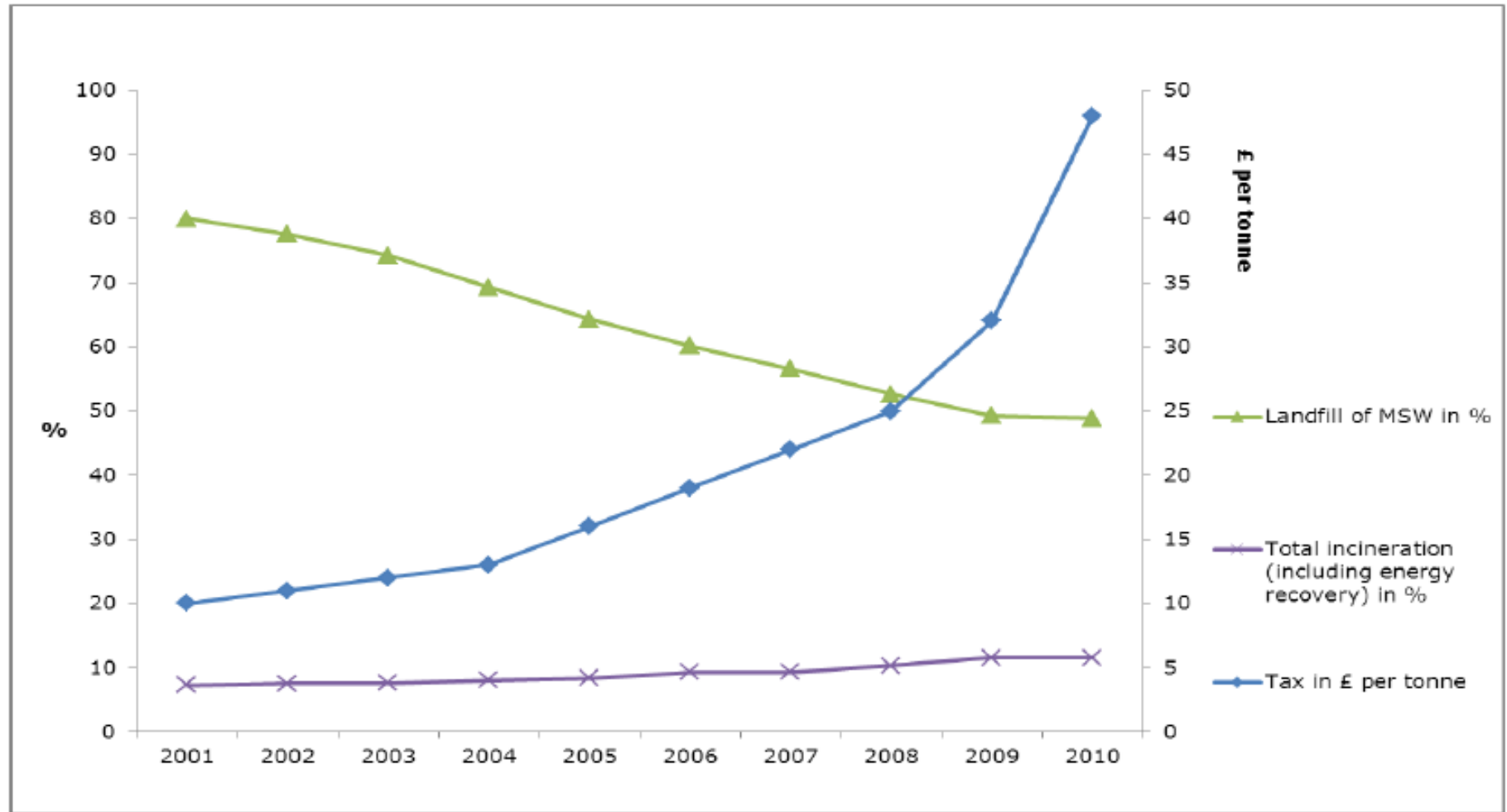


Sources: GOV.UK; HM Treasury
© Statista 2015

Additional Information:
United Kingdom; April 1, 2009 to March 31, 2015



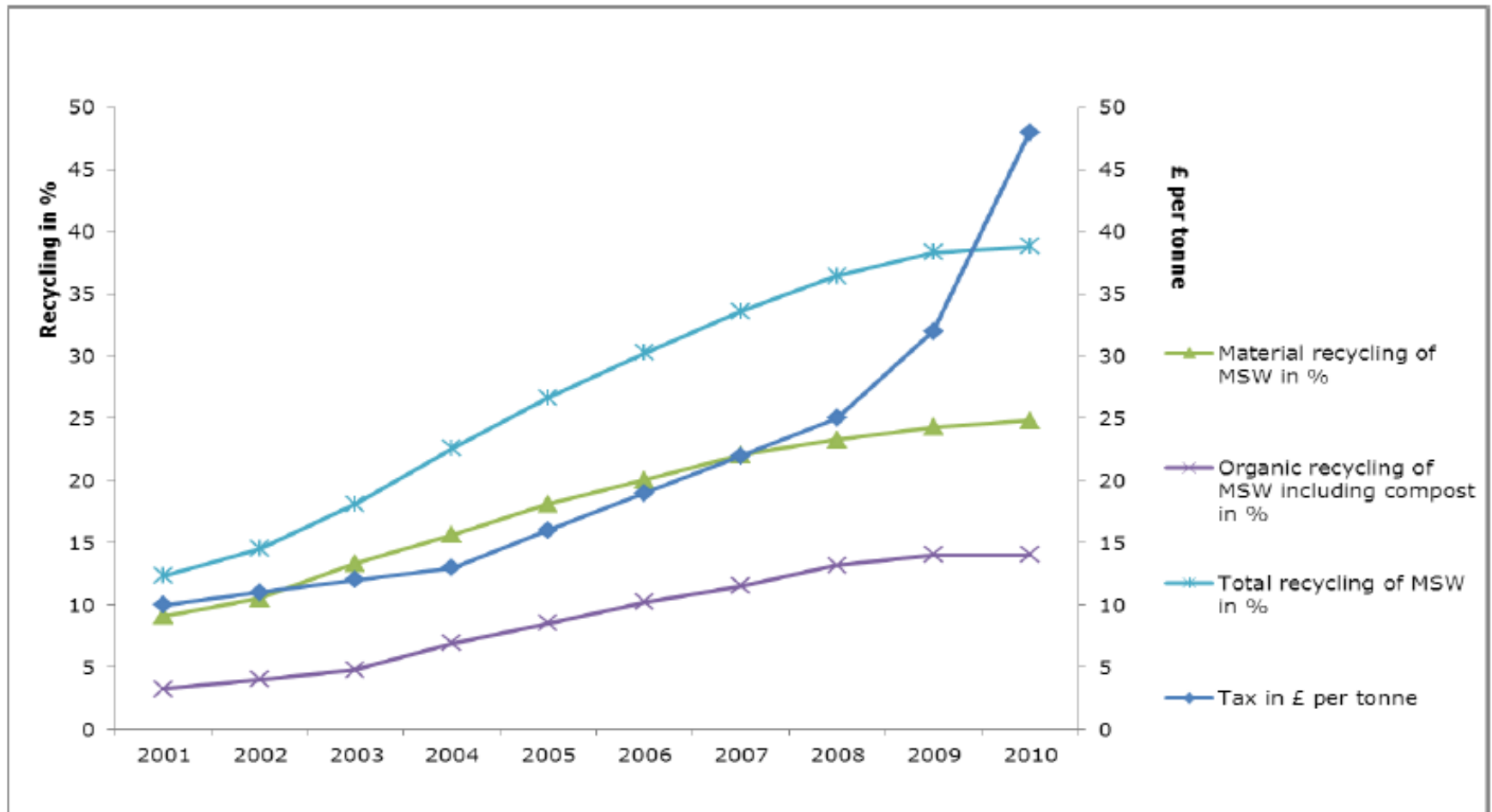
Ταφή, ενεργειακή αξιοποίηση και κόστος ΧΥΤΑ



Source: ETC/SCP, 2012 and Eurostat, 2012. Note : landfill tax is shown for active waste – for inactive waste it lies at £2.50/tonne



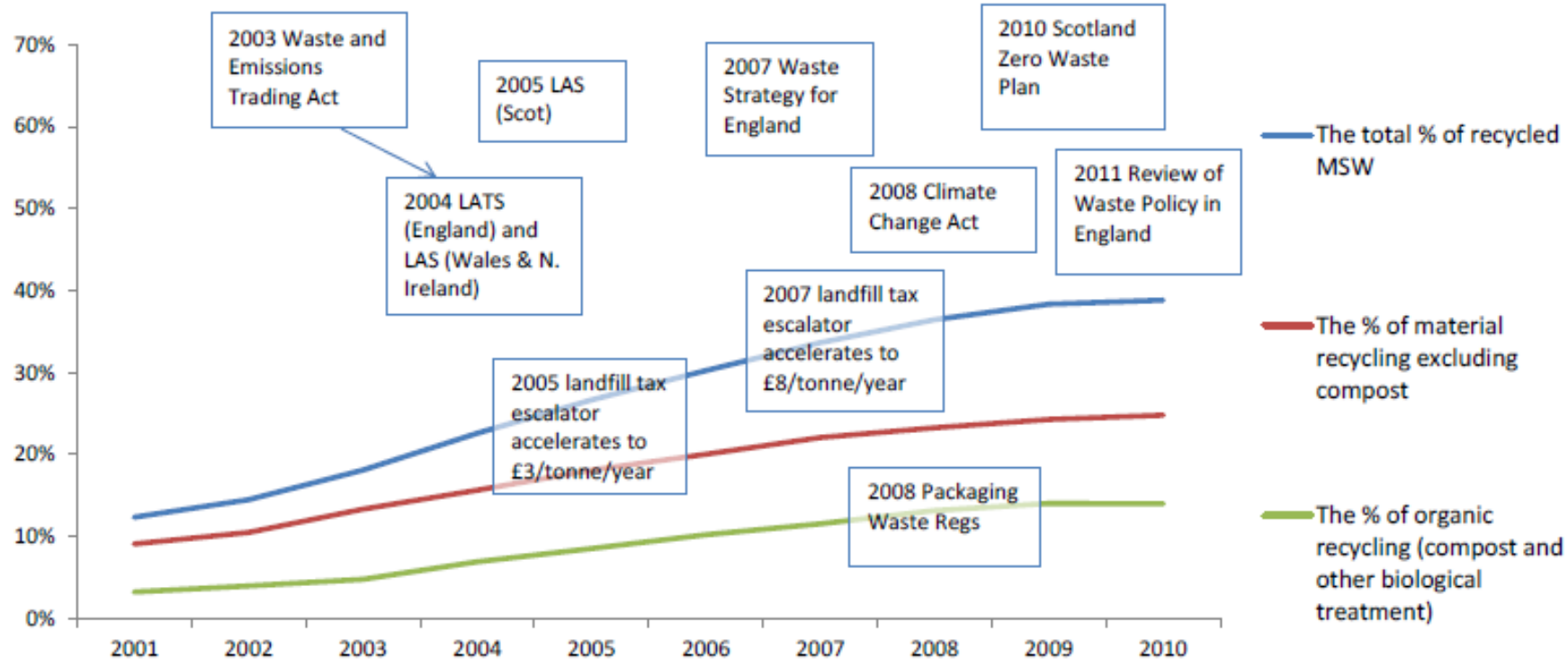
Ανακύκλωση και κόστος ΧΥΤΑ



Source: ETC/SCP, 2012 and Eurostat, 2012. Note : landfill tax is shown for active waste – for inactive waste it lies at GBP 2.50/tonne



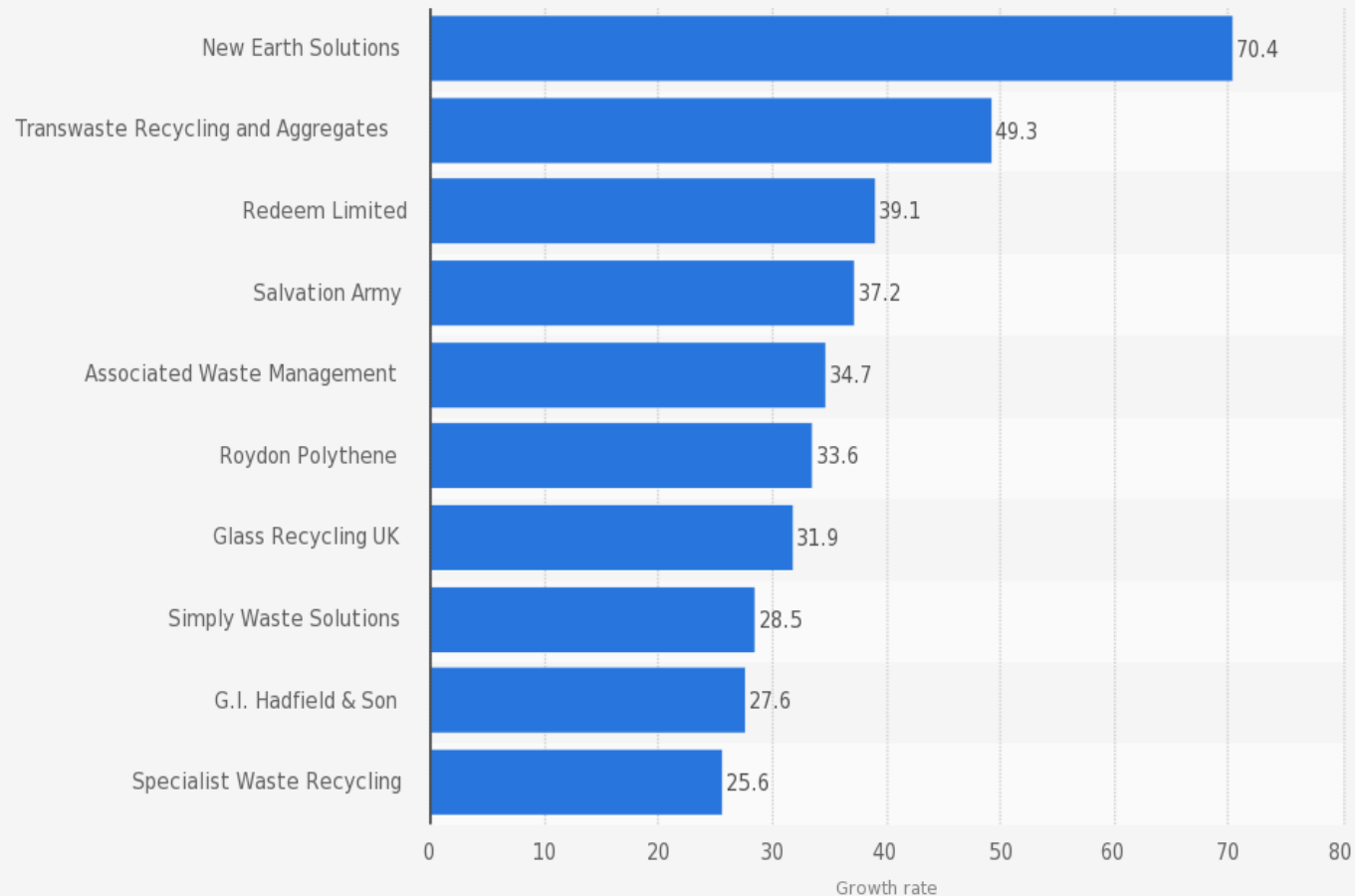
Ανακύκλωση και νομοθετικές πρωτοβουλίες





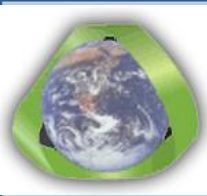
Ταχύτερα αναπτυσσόμενες εταιρείες

Fastest growing waste management service companies in the United Kingdom (UK) in 2014, based on CAGR*



Quellen::
Catalyst Corporate Finance; CIWM
© Statista 2015

Additional Information:
United Kingdom; 2014



UK campaign





UK campaign

I used to be a microwave



**EARN
CASH
BACK**

**Give your unwanted electrics
a new lease of life by recycling.**

All of us have at least one old or unused electrical item in our home which could be recycled. Many of these items contain important plastics and metals that can be recycled to make new products.

Do your bit for the environment and contact WREL for further information on recycling on 0754 0605544



www.weerecycleelectronics.co.uk



**Earn bread from
your old toaster**

Give your unwanted electrics a new lease of life by recycling. WREL specialise in recycling your unwanted electrical items. They'll even come and collect them from you and you could earn money in your pocket too along the way.

Call now WREL Home Recycling Services on 0754 0605544



www.weerecycleelectronics.co.uk



UK campaign



**When i
STOP
SPINNING
i'm COMING
BACK as A
HELICOPTER!**

When the spark's gone from your old electrical equipment don't bin them. Recycling centres, electrical shops, and local reuse groups can all help them live again.

Make a brighter future. Recycle.



Don't let Devon go to waste
0845 450 2477 | recycledevon.org



**Your
RECYCLED
PLASTIC
BOTTLES
can come
back as**

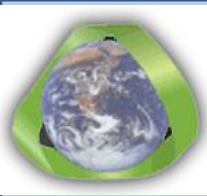
**FOOTY
SHIRTS**



Lots of plastics from around your home can be recycled again and again into amazing things.

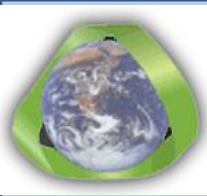


www.recycleforlondon.com



Το Ηνωμένο Βασίλειο στοχεύει στην μείωση των αποβλήτων, στην ανακύκλωση...





... και στην ενεργειακή αξιοποίηση...





...αλλά μέσω μιας μακροχρόνιας εξέλιξης

Sustainability	Waste management description	Characteristics of the waste management system
Level 6	A fully circular economy with all waste materials re-used as resources	A system and associated economy that is regenerative by design. Materials flows are of two types, with biological materials designed to re-enter the biosphere, and technical materials, designed to circulate with minimal loss of quality. The economy ultimately powered by renewable energy. No waste is generated as they are used as materials and energy resources. Products are designed for deconstruction to enable materials and resource extraction.
Level 5	Optimum industrial sector recycling involving local/national industrial symbiosis with EfW with post combustion recycling	Extensive material recycling and reuse in a system that fully exploits industrial symbiosis to benefit the local/national economy. High efficiency energy extraction from the residual waste using a range of technologies combined with optimised extraction of additional resources from combustion residues. System contains elements of a circular economy.
Level 4	Optimum industrial sector recycling combined with EfW with post-combustion recycling	Extensive recycling and reuse involving extensive export of materials. High efficiency energy extraction from the residual waste using a range of technologies combined with optimised extraction of additional resources from combustion residues. System contains elements of a circular economy.
Level 3	Highly engineered landfill, EfW and industrial sector recycling	Significant levels of recycling completed primarily by the formal sector. Residual waste disposal via a combination of engineered landfill and waste to energy with some extraction and reuse of materials combustion ash.
Level 2	Highly engineered landfill and industrial sector recycling	Highly engineered landfills providing full containment, extraction and treatment of landfill leachate and good landfill gas extraction system with combustion of CH ₄ used to generate electricity. Landfills operated to have minimal impact on environment and neighbours. Formal sector recycling and composting systems in operation.
Level 1	Landfill and industrial sector recycling	Landfills provide an intermediate level of environmental protection, involving geological and hydrogeological assessment for site selection, some site management, but no landfill gas or leachate collection. Intermediate level of recycling and materials extraction and local composting schemes.
Level 0	Dumping and informal sector recycling	Uncontrolled dumping of wastes into and onto land with no engineering control to protect the environment from leachate that will contaminate local groundwater. Uncontrolled emissions of landfill gas. Extensive informal sector activity at dumpsite with no or limited use of personal protective equipment. Materials collected from the waste are sold onto local middle men.