The Highland Council
Comhairle na Gàidhealtachd

From Middens to Plasma Arcs

Colin Clark
Head of Waste Management
The Highland Council
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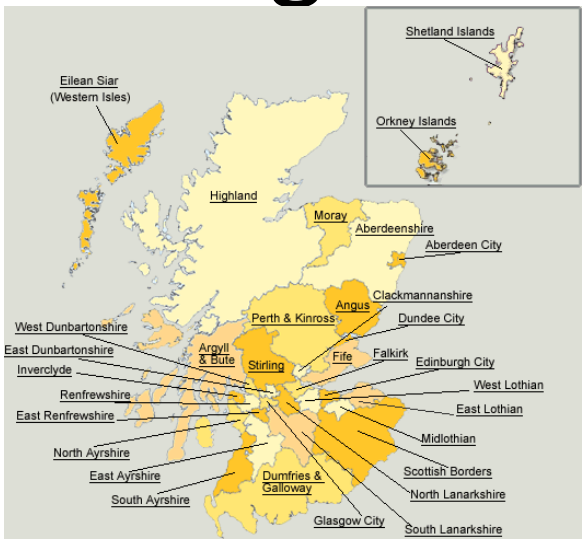
Today I'll Discuss…

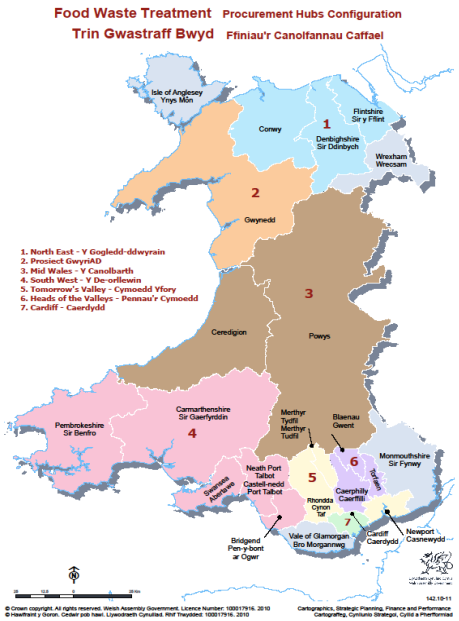
- The UK & Devolved Administrations
- Some vital statistics
- The policy approaches of the DAs
- Scotland – Past, Present & Future
- Zero Waste
- Some Conclusions

The DAs & England

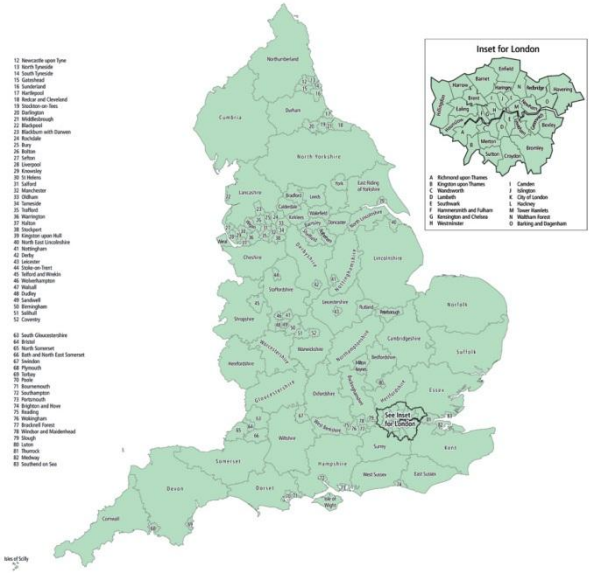
23 unitary authorities



32 unitary authorities



22 unitary authorities



Unitary 56
London 33
Metropolitan 36
Shire County 27
Districts 201
Total 353

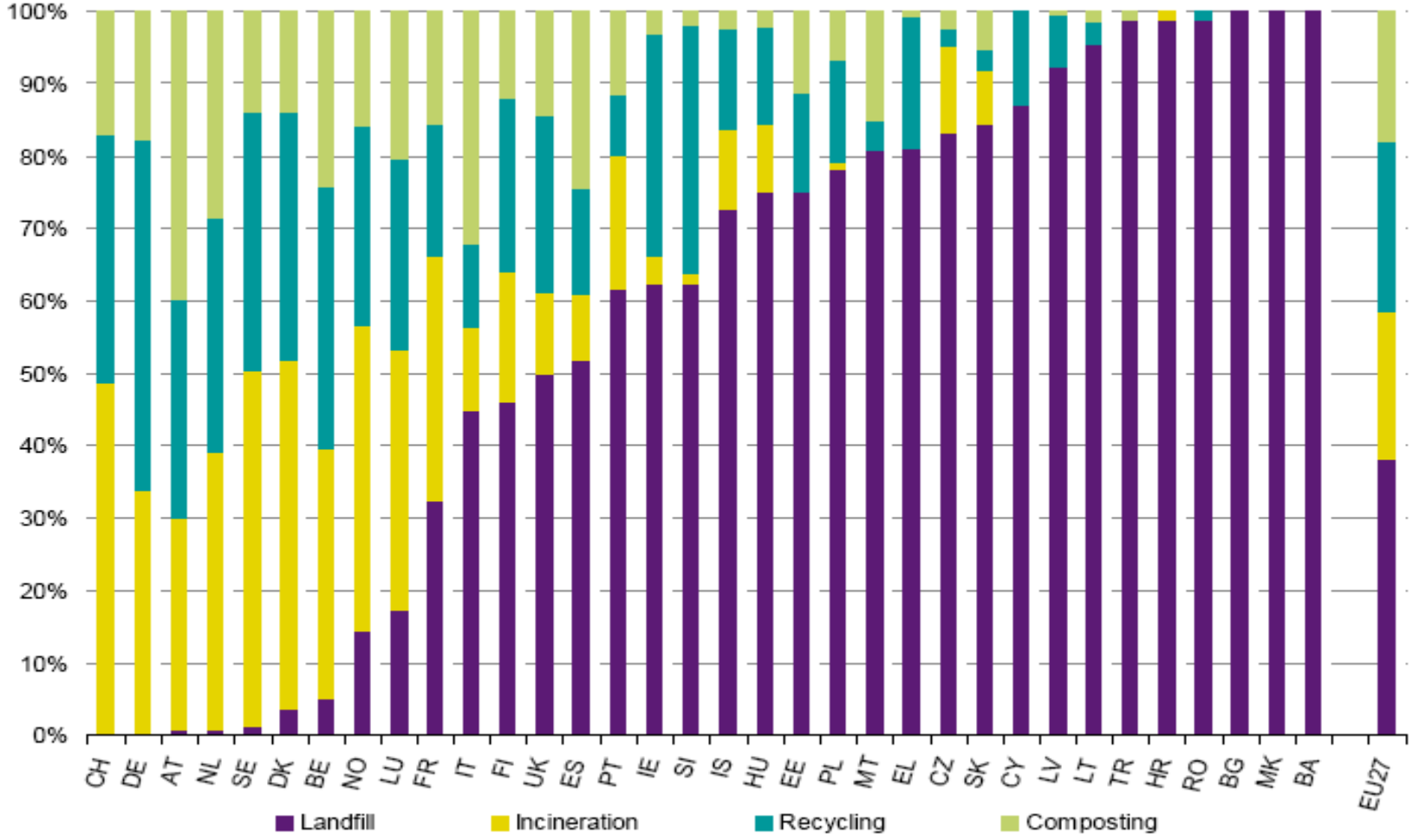
Vital Statistics

Variable	Netherlands	UK	Scotland	Highland
Population	16.5M	62.5M	5.5M	0.22M
Households	7.5M	22.5M	2.8M	0.11M
Hhd Size	2.2	2.7	2	2
Land Area	41.5sqkm	244sqkm	78sqkm	25sqkm
Density	404/sqkm	256/sqkm	66/sqkm	9/sqkm

Waste Statistics

Country	M/HSW	Total Waste	Recycling	EfW
Netherlands	9.5MT	100MT	62%	3.2MT (36%) ?
UK	31.5MT ?	288MT	40%	3.3MT
Scotland	3MT	17MT	40%	0.08MT
Wales	1.7MT	15MT	45%	0
England	23MT	252.7MT	40%	3.3MT
N Ireland	0.26MT	3.3MT	40%	0
Highland	0.15MT	0.45MT	39%	0.001MT

Euro Stats


100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
CH
DE
AT
NL
SE
DK
BE
NO
LU
FR
IT
FI
UK
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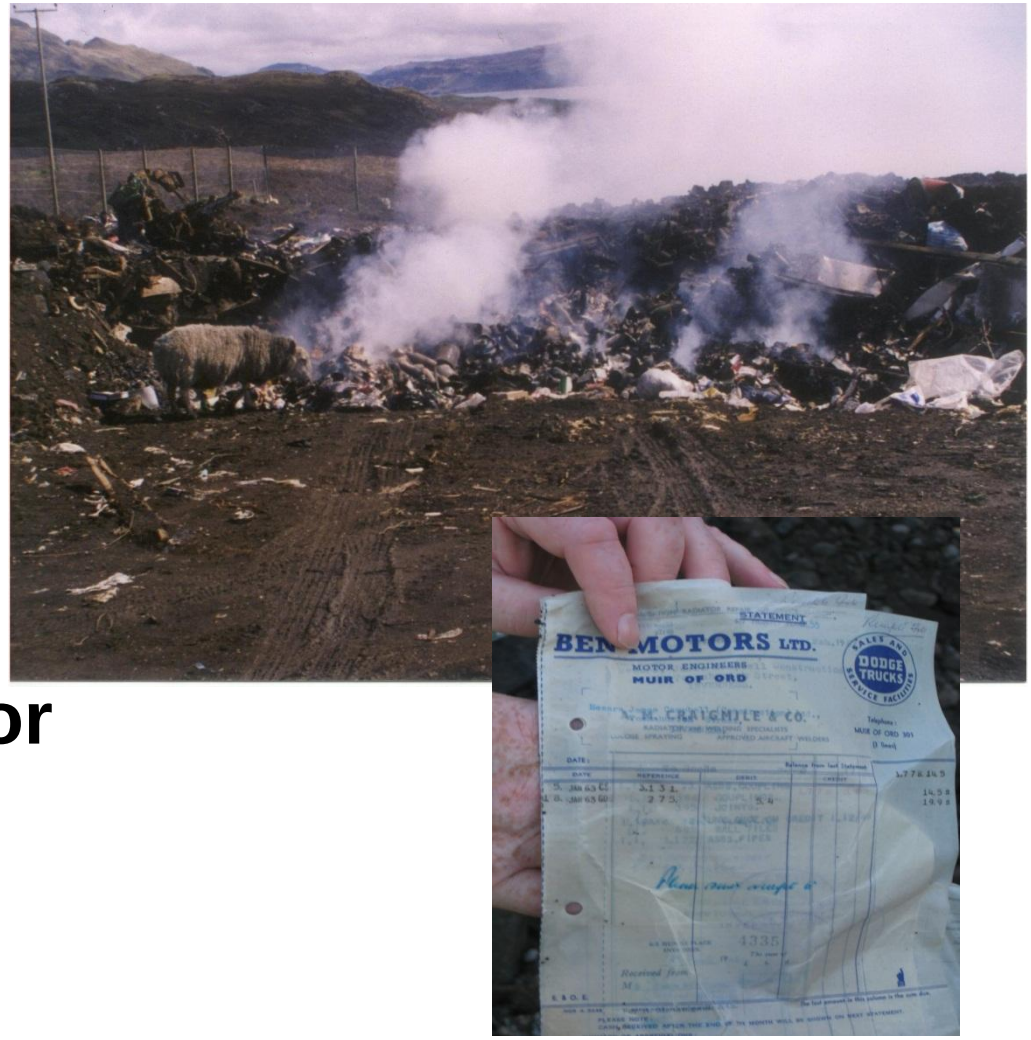
PT
IE
SI
IS
HU
EE
PL
MT
EL
CZ
SK
CY
LV
LT
TR
HR
RO
BG
MK
BA
EU27
Landfill
Incineration
Recycling
Composting

Drivers for Change

- EU Legislation & Policy:
  WFDs, Landfill Directive
  Sustainable Development
  Recycling Society
- Landfill Tax
- Landfill Allowance Scheme (but not really)
- Successive Government Documents but…..

Sterile Debate UK style

- **Dump – (Midden)**
- **Dig & Dump**
- **Dilute & Disperse**
- **Entombment**
- **Flushing Bio-Reactor**



England, Wales & NI Policies

Common UK Goals

- Waste Prevention
- Extended Producer Responsibility
- Carbon Metric/Eco Footprint
- Anaerobic Digestion & Food Waste

Key Issues for DAs

Country	Targets	Other priorities
Wales	2050 1 planet living 2025 RR=70%; EfW =30%	Kerbside sort & food collections for all Sustainable consumption & production
Scotland	2013 HW=50% 2020 HW=60% 2025 HW=70%	“Zero Waste” Cap on EfW; Food waste collections Carbon Metric
N Ireland	2020 HW = 50% MSW=60%	Promote high quality recycling Landfill ban on food waste
England	EU targets	National Plan 2013 Voluntary agreements End of waste criteria AD & the carbon metric

Planland

- 1974 Control of Pollution Act (GB);
- 1980 waste disposal plans (GB);
- 1990 management/recycling plans (GB);
- 1999 National Waste Strategy (Scot);
- 2003 National Waste Plan (Scot);
- 2004 implementation plan(Scot);
- 2006 Strategic Outline Case (Scot);
- 2007 Outline Business Case (Scot);
- 2008 Zero Waste (Scot);
- 2008-10 Review of National Waste Plan(Scot);
- 2011 Consultation on Zero Waste (Scot);
- 2012 Waste Regulations (Scot)

Scotland – Developments 1

PFI “Cambridge” MBT Lochgilphead

PFI – “Eco-Deco” Plant Dumfries

Public Sector - “Linde” AD Plant Stornoway

Scotland – Developments 2

Shetland:

Inclined Grate

26,000 t/year (not anymore);

3.3 t/hour;

Heat: 7MW

Dundee:

Fluidised Bed

400T/day;

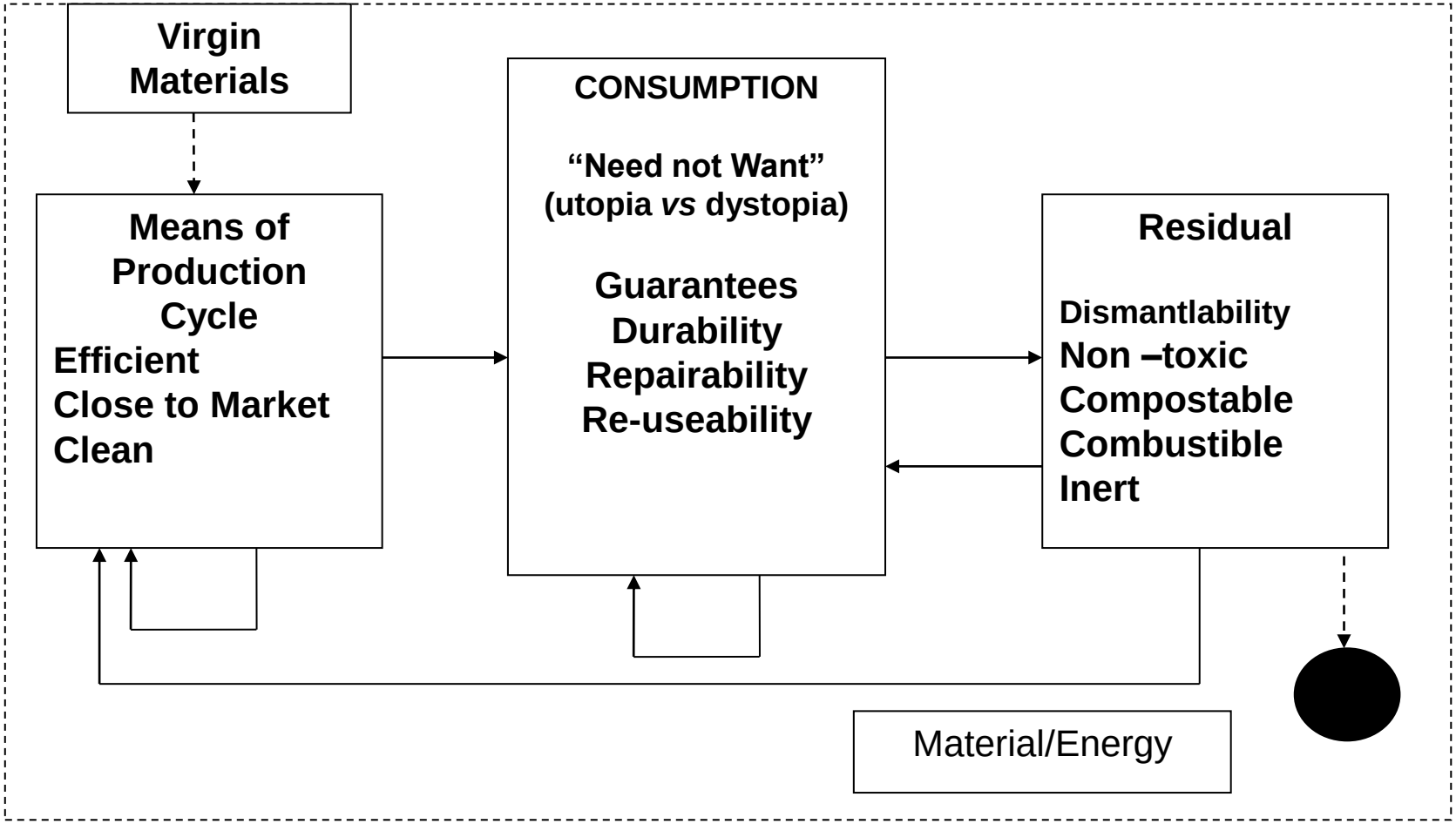
Electricity: 8MW

Scotland – Developments 3

Gasifiers Dumfries

Scottish Gov't Minister
Opens MRF/RDF Plant Falkirk

Scotland: Zero Waste ?



The “Tartan” Carbon Metric

- Introduced in 2010 for Household waste
- Weighted figures for calculating recycling rate
- Top rated was “textiles” for re-use
- 2012 top rated now aluminium but footwear 2nd
- Essentially turns tonnes metric on its head
- No matter – 70% recycling – must recycle everything

Scotland - Treatment

- Anaerobic Digestion – preferred
- Limits on EfW
- Pre-treatment required to get plastics and WEEE out
- Ban on bio-waste to landfill (2020)

Some Conclusions

- No EU legislation – no progress
- Too much time and money spent talking/planning
- Changing targets – with changing politicians
- Obsession with Private Sector Delivery

- In essence Waste (environment) had and has little political priority.

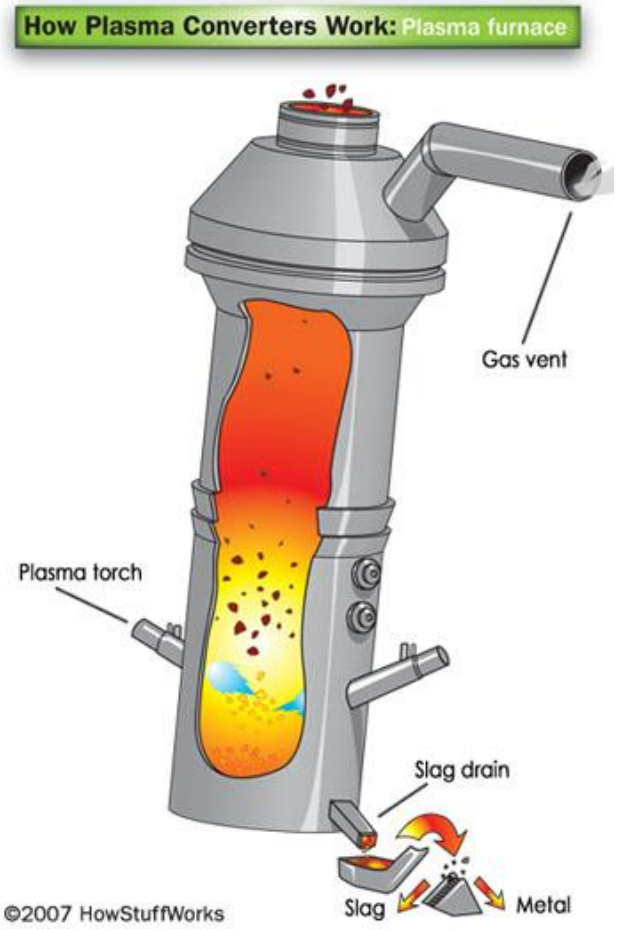
Some more conclusions

- The Devolved Administrations are moving apart (England being out of step);
- Need more Producer Responsibility
- Limited opportunities for recycling & re-manufacturing
- Technologies being used are imported – so only poor jobs for Scotland (& UK)

And almost finally……

It looks like a bin (midden) but it's a Plasma Arc Furnace:

- $3{,}000^{0}C$
- H_2 + CO (energy)
- Inert Vitrified Slag



And finally……..

We really are the same under the skin

Inverness c 1940

Isle of Man c 2008

Acknowledgements

Some of the images used in this presentation were taken from presentations from:

- John Quinn CEO Arc 21 Northern Ireland
- Chris Murphy VCEO CIWM Northampton
- Brian Mayne Director AEA Wales