

# THE GREAT RECOVERY

REDESIGNING THE FUTURE



Technology Strategy Board  
Driving Innovation



“Waste really  
is a design  
flaw”.

– Kate Krebbs (ANRC)

**Approx. 80% of environmental costs are pre-determined during the product conception and design stage.**

Design Council report

**For every tonne of household waste that we throw away, there's a further 5 tonnes of materials that have been used in the manufacturing of the products consumed:**

**5g gold ring = 2 tonnes of raw material**

**2g diamond = 106kg of raw material**

**12 wine glasses = 2kg of raw material**

**1 toothbrush = 1.5kg of raw material**

**1 pair of shoes = 8,000 litres of water**

**1 t-shirt = 2,700 litres of water**

**1 A4 sheet of virgin paper = 10 litres of water**

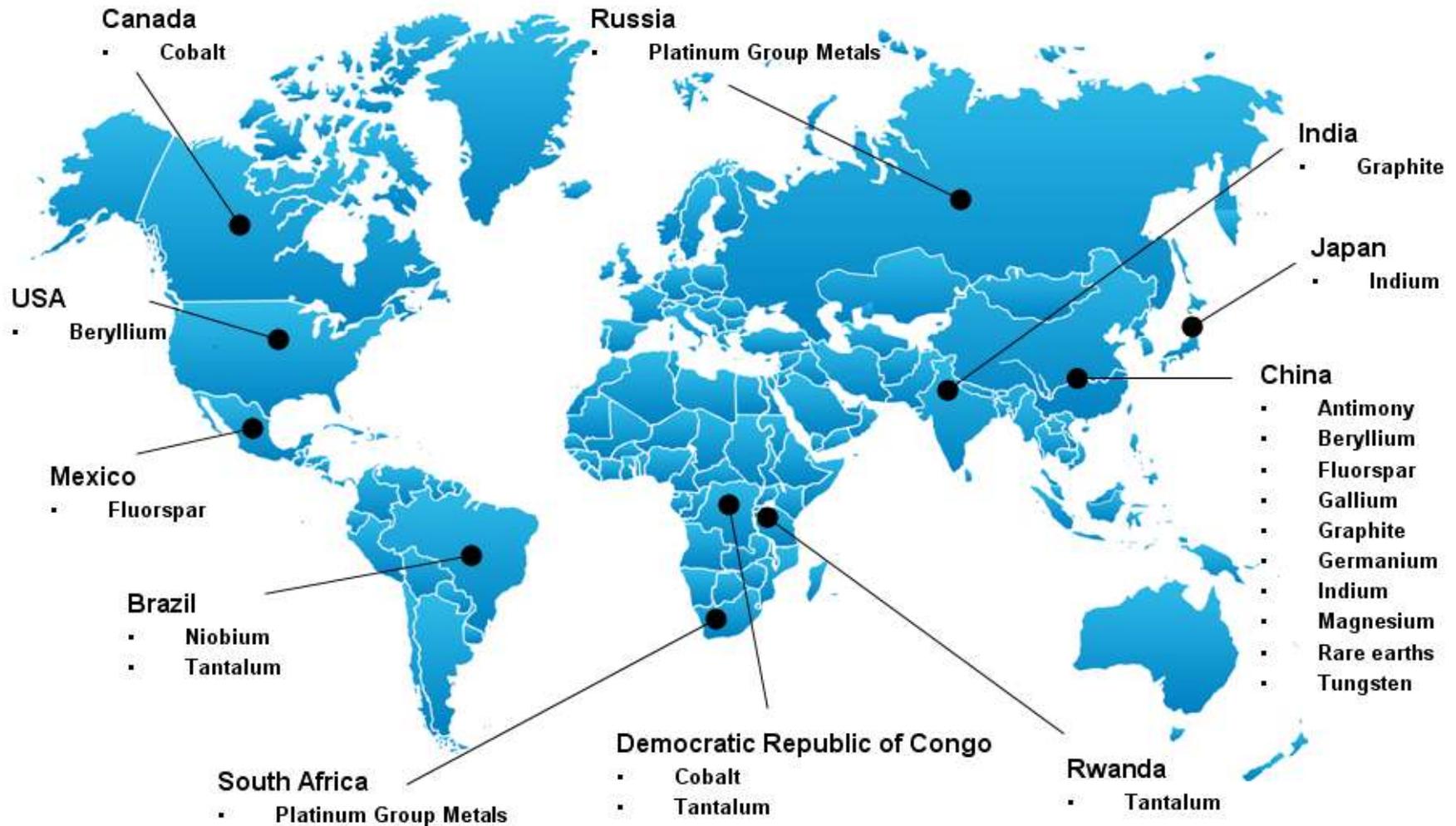
**90% of all products are waste within 6 months of purchase.**

GROUP IA																				VIIIA											
1 H																															18 He
3 Li	4 Be											5 B	6 C	7 N	8 O	9 F	10 Ne														
11 Na	12 Mg											13 Al	14 Si	15 P	16 S	17 Cl	18 Ar														
19 K	20 Ca	21 Sc	22 Ti	23 V	24 Cr	25 Mn	26 Fe	27 Co	28 Ni	29 Cu	30 Zn	31 Ga	32 Ge	33 As	34 Se	35 Br	36 Kr														
37 Rb	38 Sr	39 Y	40 Zr	41 Nb	42 Mo	43 Tc	44 Ru	45 Rh	46 Pd	47 Ag	48 Cd	49 In	50 Sn	51 Sb	52 Te	53 I	54 Xe														
55 Cs	56 Ba	57 La	58 Hf	59 Ta	60 W	61 Re	62 Os	63 Ir	64 Pt	65 Au	66 Hg	67 Tl	68 Pb	69 Bi	70 Po	71 At	72 Rn														
87 Fr	88 Ra	89 Ac	90 Rf	91 Db	92 Sg	93 Bh	94 Hs	95 Mt	96 Ds	97 Rg	98 Cn																				

* 58 Ce	59 Pr	60 Nd	61 Pm	62 Sm	63 Eu	64 Gd	65 Tb	66 Dy	67 Ho	68 Er	69 Tm	70 Yb	71 Lu
** 90 Th	91 Pa	92 U	93 Np	94 Pu	95 Am	96 Cm	97 Bk	98 Cf	99 Es	100 Fm	101 Md	102 No	103 No

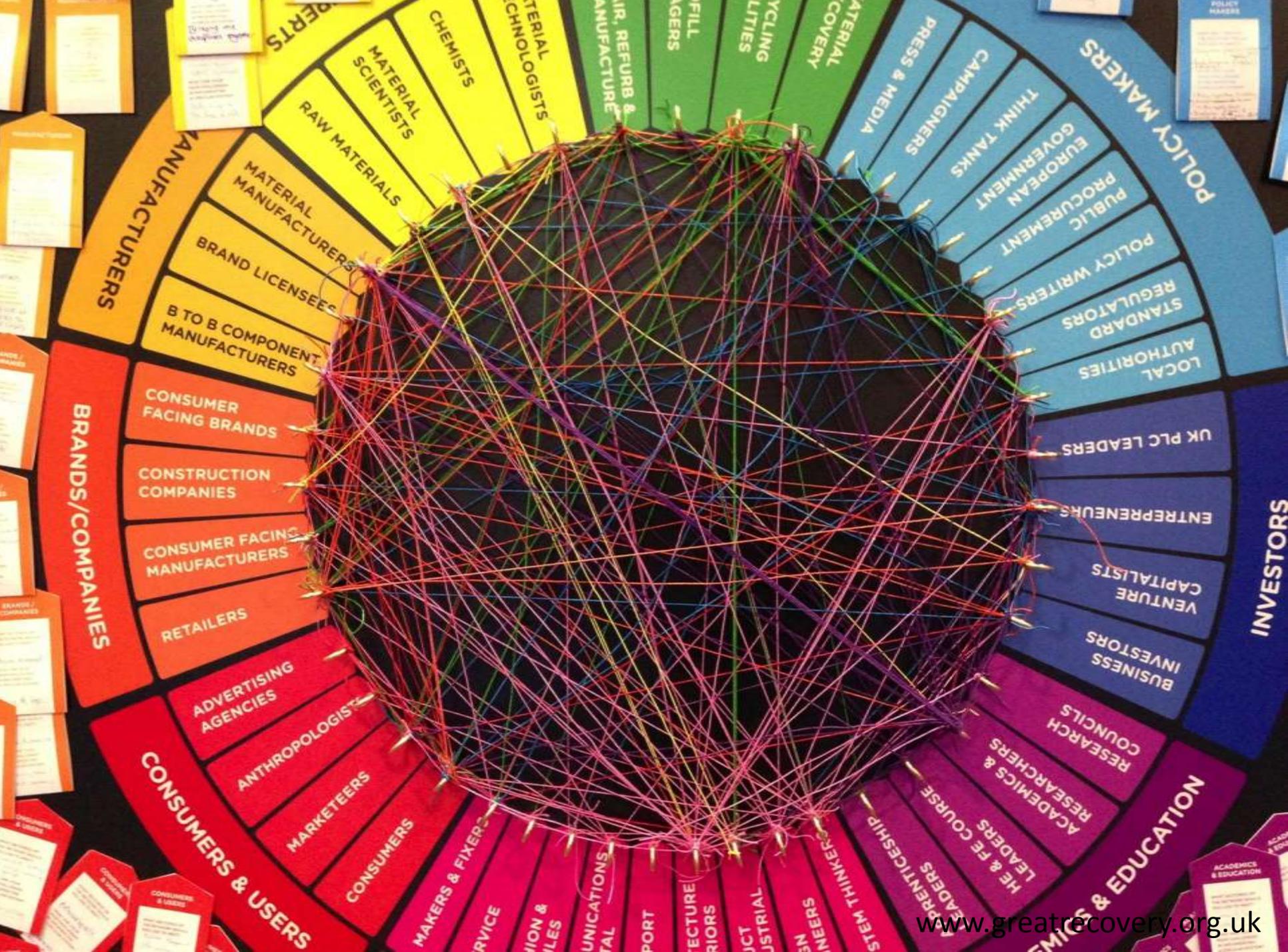


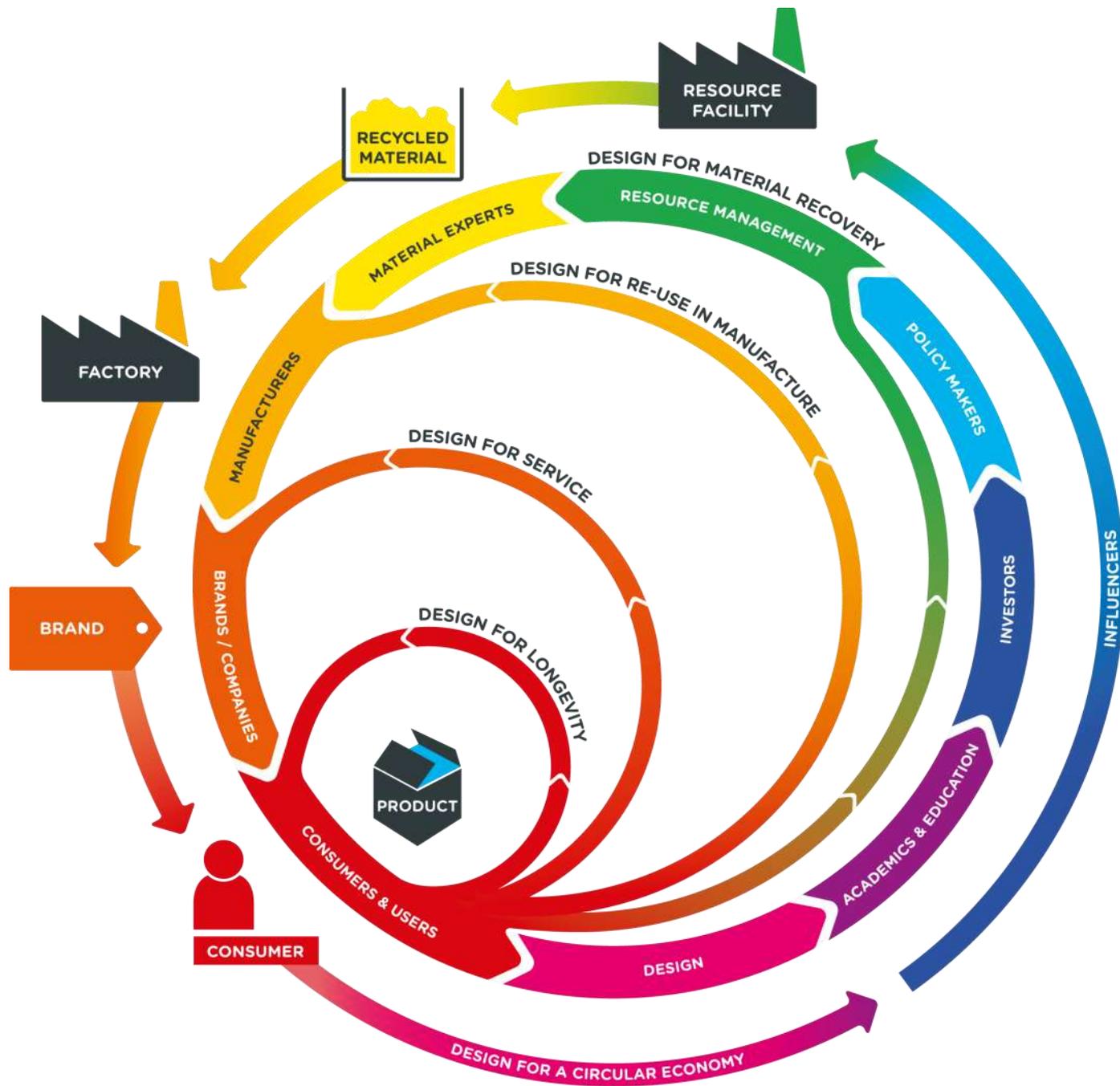
# Concentration of critical minerals













Group 5: Biogeochemistry  
What is a study to support of the end  
of the products life how much  
will be reduced? what cost appear?



PU COATED POLYESTER  
VELCRO  
PLASTIC POPPERS  
MESH (POLY?)  
WADDING  
FOIL BACKED WADDING  
POLYESTER LINING  
FINE MESH (OUTER)  
POLYNYLON LINING SLEEVES  
NYLON POPPER TABS  
PRINTED LABEL  
WOVEN TAG  
ZIP (NYLON?)  
ZIP/PULL - METAL  
ELASTIC  
THREAD  
INTERNAL TABS





# Opportunities for Scotland

- EMF: 'Scotland and the Circular Economy'
  - £2.3 - £3bn material savings across manufacturing sectors
- Green Alliance: 'Circular Economy Scotland report'
  - 3 key sectors
  - Oil & Gas; Food & Drink; Finance
- ZWS: 'Remanufacturing Study'
  - Additional potential by 2020: £620m, 5700 jobs
  - 4 high-growth-potential sectors

# Moving Forward

- Future research focussed around the economic impact within specific systems
- At the RSA we function as a knowledge dissemination funnel, looking for partners to collaborate with
- Success requires new forms of working - 'big business' and government enabling, not necessarily doing
- New tools could include brokerage between producers and entrepreneurs; and badging opportunities for recognising circularity in practice

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[www.greatrecovery.org.uk](http://www.greatrecovery.org.uk)

@great\_recovery



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