

Option 4. Environmental Harm



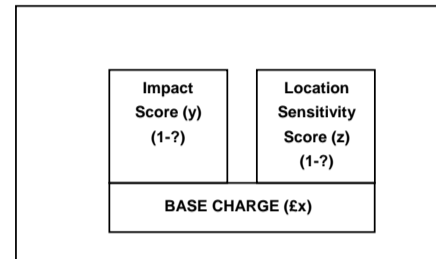
Paul Griffiths

Selection of elements

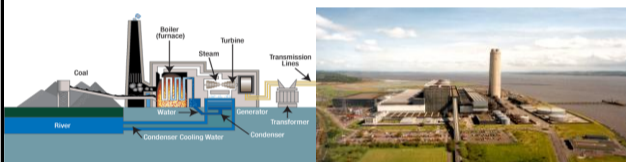
Charges based on harm to environmental services, e.g. reduced capacity to regulate climate or absorb nutrients.

- Impact – e.g. length of river with reduced capacity to support fish or absorb nutrients, area of soil sealed or with reduced capacity to absorb contamination, climate change contribution – represents risk of chronic long term impact.
- Location Sensitivity – impacts on protected areas, sensitive health receptors.
- Can take account of 'off-site' mitigating actions and longer term fate and effect of pollutants.

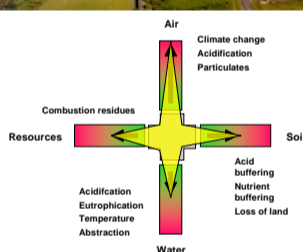
Combination of elements



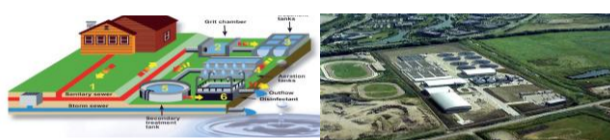
Example 1 – Coal fired power station



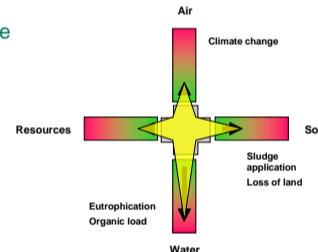
- Wide range of impacts and cycling of pollutants.



Example 2 – Sewage Treatment Works



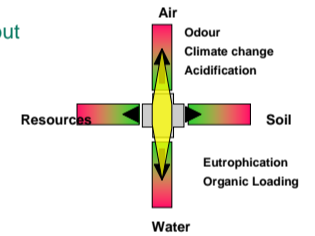
- Impacts skewed towards the water environment.



Example 3 – In vessel composting



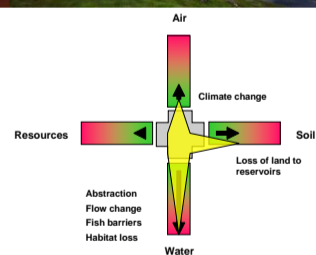
- Impacts primarily on air, but potential for leachate as well.



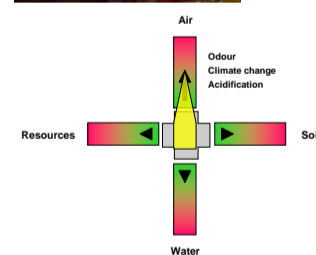
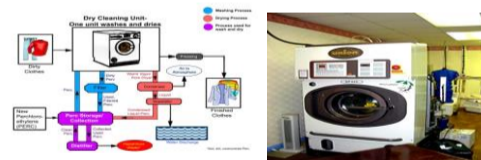
Example 4 – Hydropower



- Impacts skewed to water environment, but impacts on soil and air could be considered.



Example 5 – Dry Cleaners



Advantages

- Risk based and environment focused – most closely related to impacts on environmental services.
- Fair – those causing biggest impacts pay the most.
- Mitigation – recognises mitigation and provides incentives for mitigation.
- Flexible – can take account of varying types and degrees of environmental impact.

Disadvantages

- Complexity, lack of transparency – may be reliant on modelling and complex calculations.
- Resilience – do we have all the data we need to make this work?
- Stability – charge levels could be quite variable.
- Doesn't work so well for lots of small-scale cumulative activities.
- Doesn't include risk assessment for catastrophic on-site failure (e.g. explosion, dam burst).