

## Option 3. Emissions



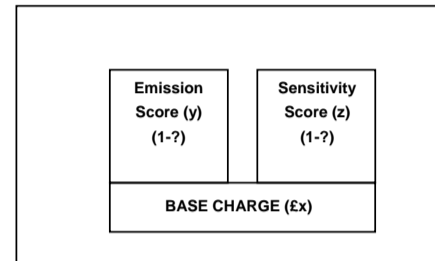
John Shaw

### Introduction

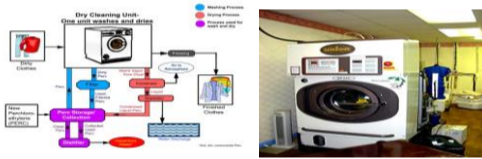
Charges based on the flow of materials to and from a site and the site location (sensitivity) including

- Volume of water discharged or abstracted per year, tonnes of CO<sub>2</sub> emitted, tonnes of biodegradable waste sent to landfill – represents risk of chronic long term impact.
- Sensitivity – proximity to protected areas, parts of environment already impacted.

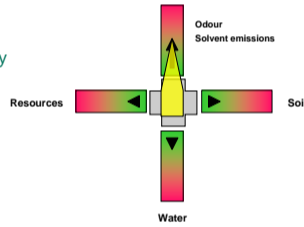
### Combination of elements



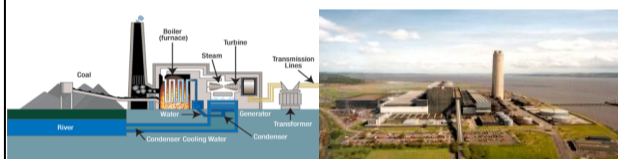
### Example 5 – Dry Cleaners



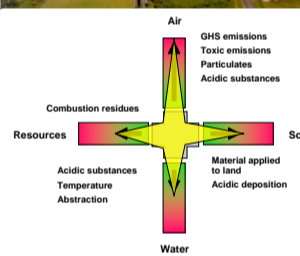
- Solvent data is reported annually



### Example 1 – Coal fired power station



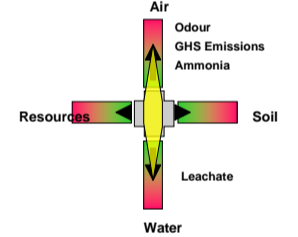
- Significant emissions to air, land and water



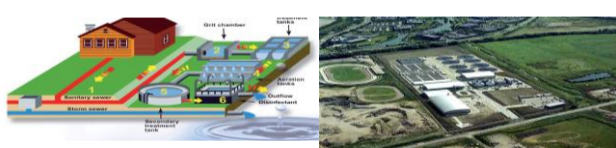
### Example 3 – In vessel composting



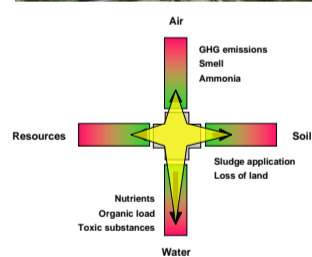
- Emissions to air but also to land and water
- High energy use



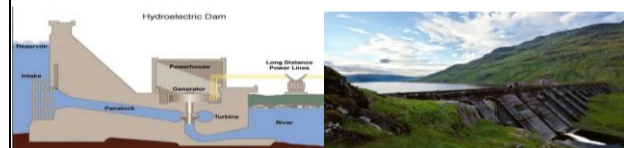
### Example 2 – Sewage Treatment Works



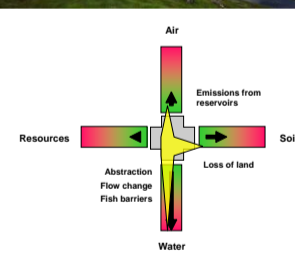
- Emissions to air, land and water.
- Skewed to water emissions but often have significant air and waste emissions



### Example 4 – Hydropower



- Abstraction of water
- Returned → net or gross
- No account of barriers
- Land use



### Advantages

- Reflects links to potential impact – the bigger the volumes and emissions, the greater the potential impact on the environment.
- Supporting data available – e.g. SPRI, Licence and permit conditions
- Flexible – can use same principles for different types of volume and load scales.
- Stable – licensed volumes of emissions don't tend to be highly variable from year to year
- Incentive to reduce emissions

### Disadvantages

- Not a strong link to risk of environmental impact as it doesn't take account of off-site mitigation and eventual cycling / fate of pollutants.
- Doesn't work so well for lots of small-scale cumulative activities.
- Actual data may be volatile and unpredictable.