

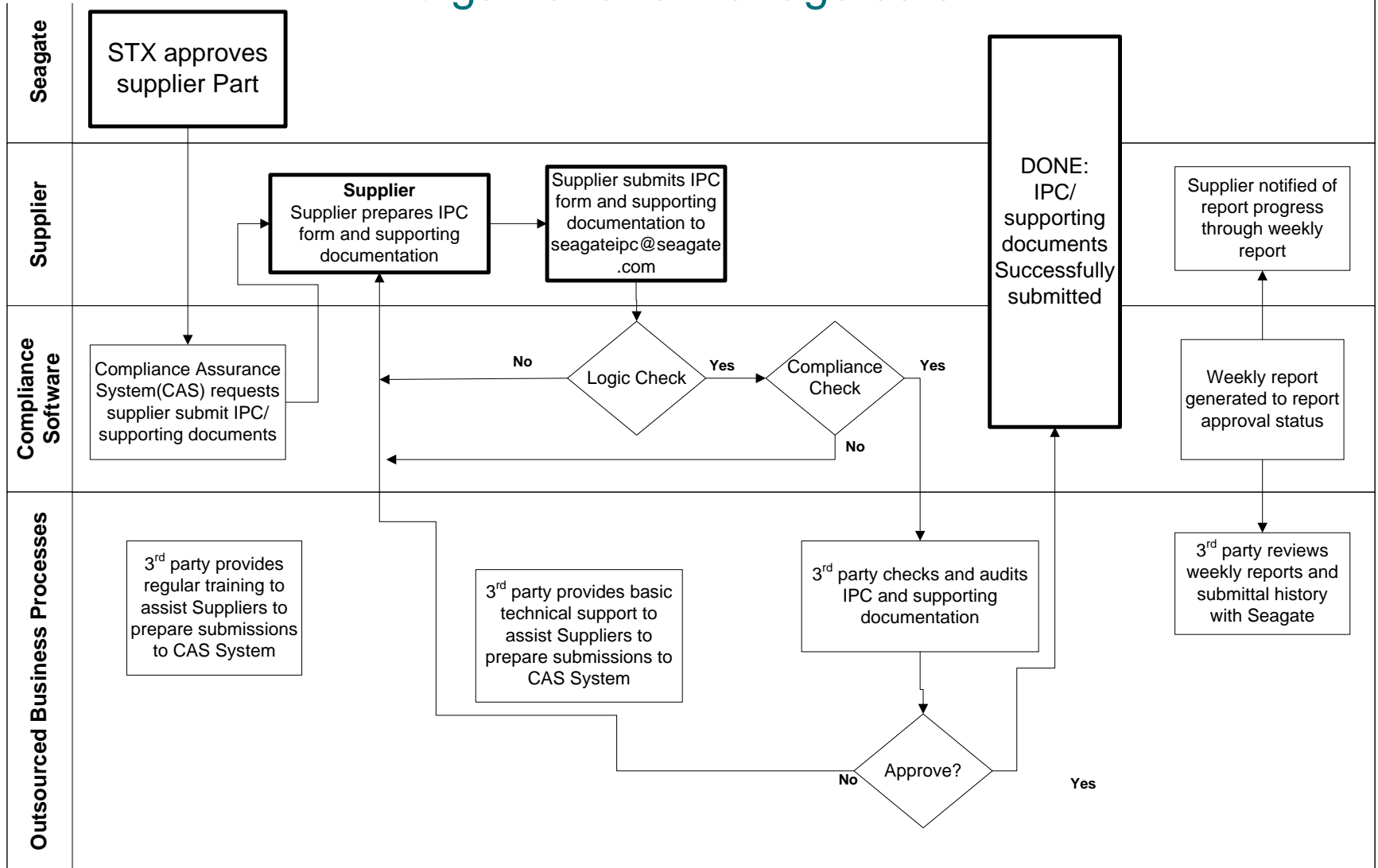


Leveraging Seagate Full Material Disclosure Process into Conflict Minerals and Beyond...

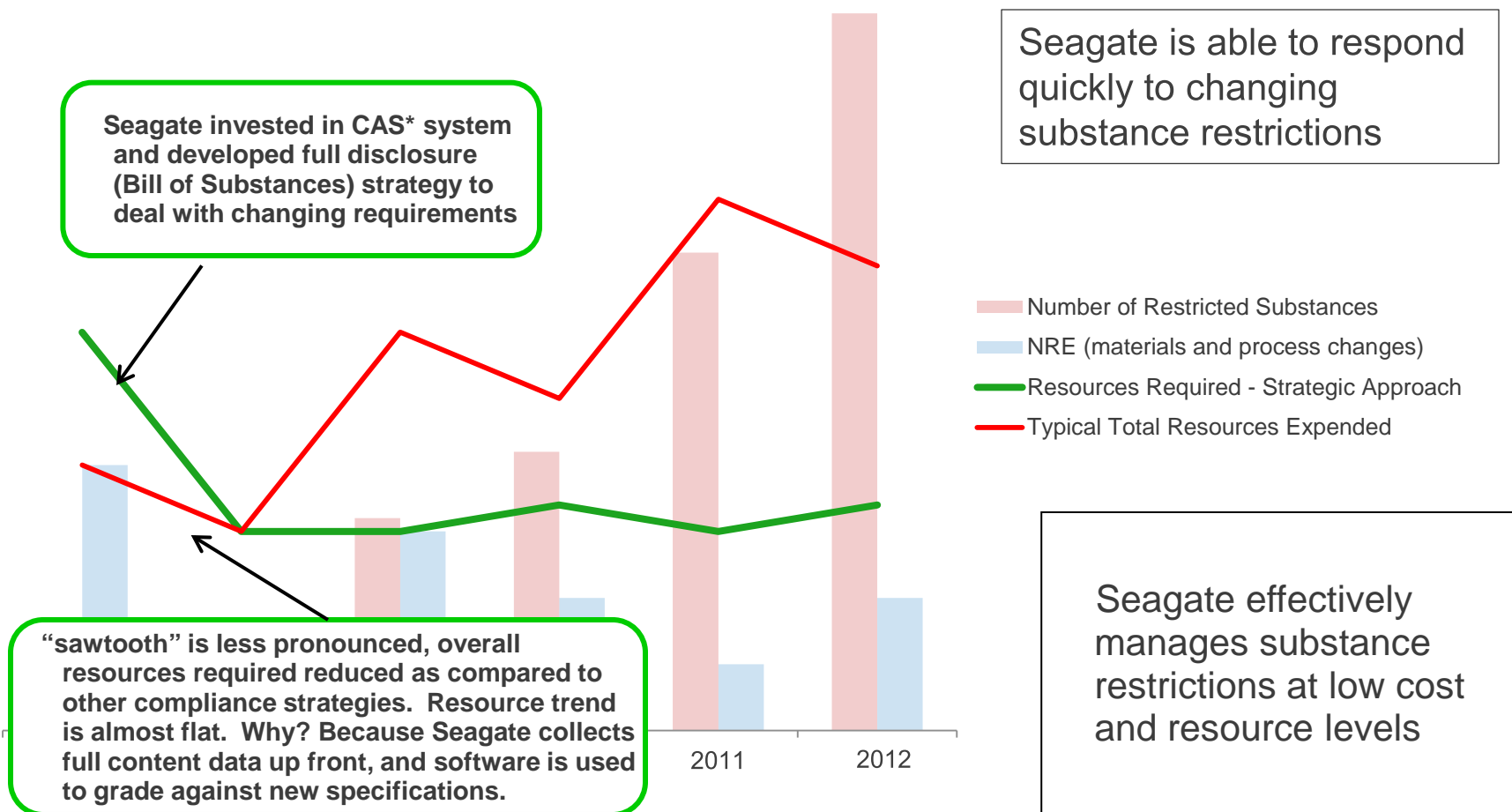
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December 3, 2012

Seagate compliance incorporates supplier full disclosure, with third party data review and audit. Software automation is used to gather and manage data.



By investing early in full disclosure data, Seagate has been able to flatten the 'sawtooth' in resource requirements



Goal: collect more data at lowest possible cost

Communication is Key: Streamlining Supply Chain Communication

- Use standard tools when available
 - IPC 1752 for product material content (IEC, JAMP)
 - EICC-GeSI Conflict Minerals Template
- When no standard available, use Excel
 - Why? Everyone has it and knows how to use it; easy to copy and paste from existing data
- Avoid portals and intermediaries
 - Why? They require training, maintenance, retyping data entry (think 5000 data cells on hundreds of products), 3rd party NDAs, they restrict access to data, nonstandard...



History of Supplier Communication Standards

- IPC1752: A Pioneer in the Industry

- Adobe Acrobat based (Rev 1)
- Request/response mode vs. Distribute mode
- XML Schema only (Rev 2)
 - » No user interface specified or provided (except SourceForge Scriba)
 - » Resulted in nonstandard 3rd party portals, for-profit solutions



- EICC-GeSI Conflict Minerals Reporting Template: a Tool Done Right!

- No request mode (good thinking)
- Excel user interface, built-in data checker
- No cost
- Free roll-up tool



Future of Supply Chain Communications

- Standards are not keeping up with needs
- Need information on allocated GHG emissions, water consumption, process chemical consumption, waste effluents, sources of plastics, recycled content of materials, modes of transportation, explosive dust risks....
- What to do?
 - Excel spreadsheet for data gathering
 - XML enabled
 - Comprehensive internal IT structure for data uptake, analysis, and communication

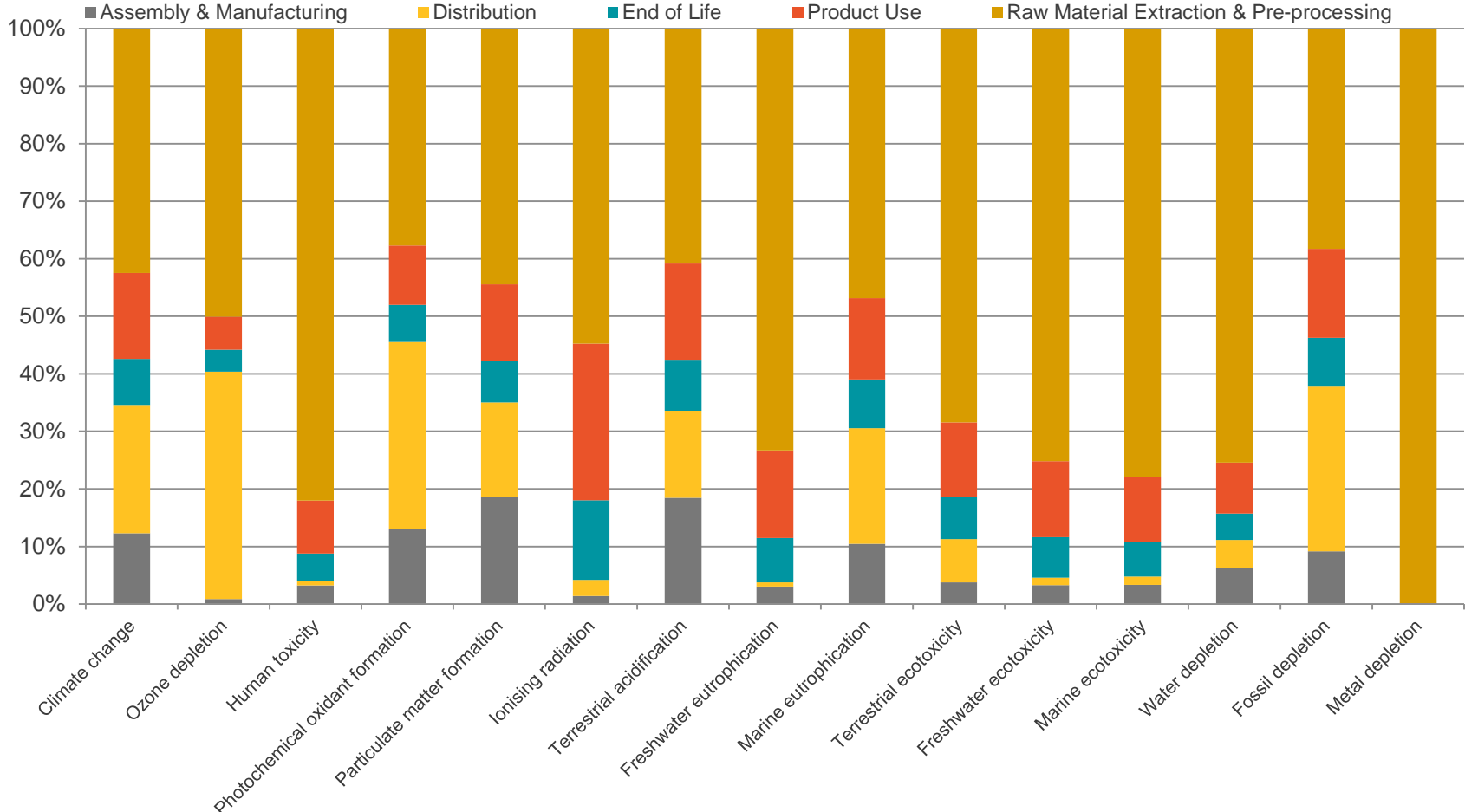


Bonus Slides



Example of Seagate HDD LCA Impacts

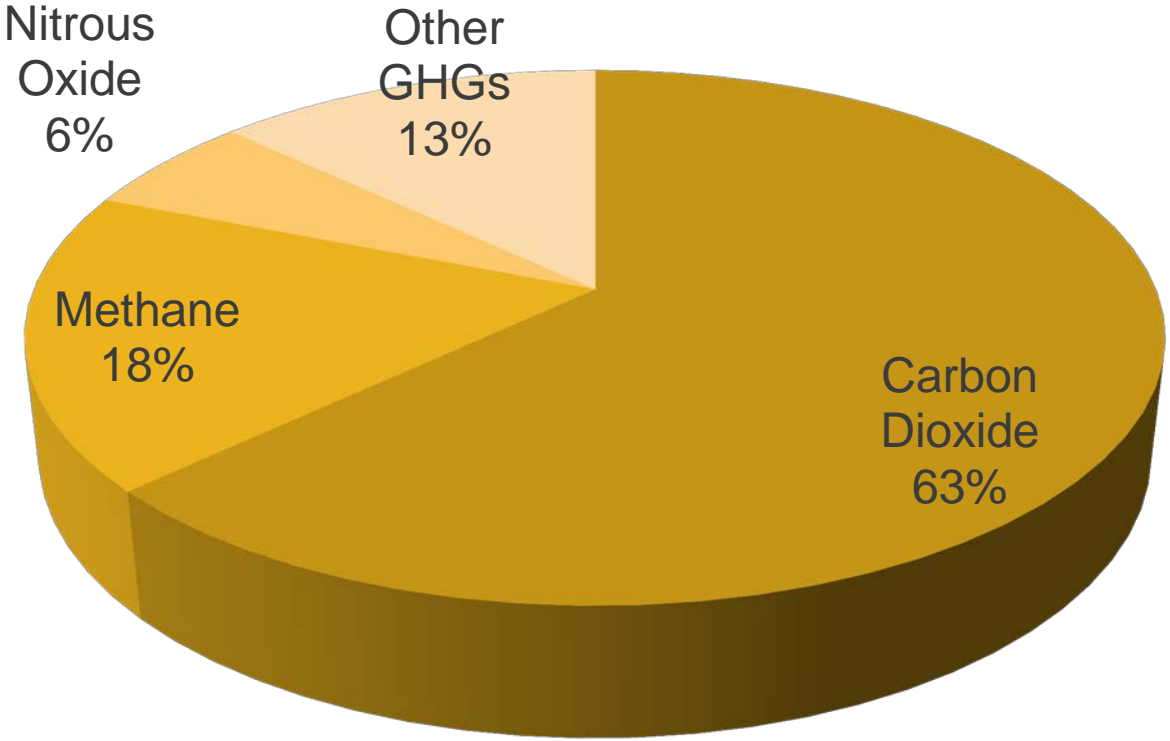
Notebook HDD LCA from 2011*



*LCA performed by WSP Environment and Energy, 3rd party reviewed by Earthshift

Carbon Footprint: Greenhouse Gases

Greenhouse Gases in the Atmosphere



(Source: Lester Brown, Plan B 4.0)

Sources of GHGs

- Carbon Dioxide

- Electricity generation*
- Heating
- Transportation

} Burning of fossil fuels

- Methane

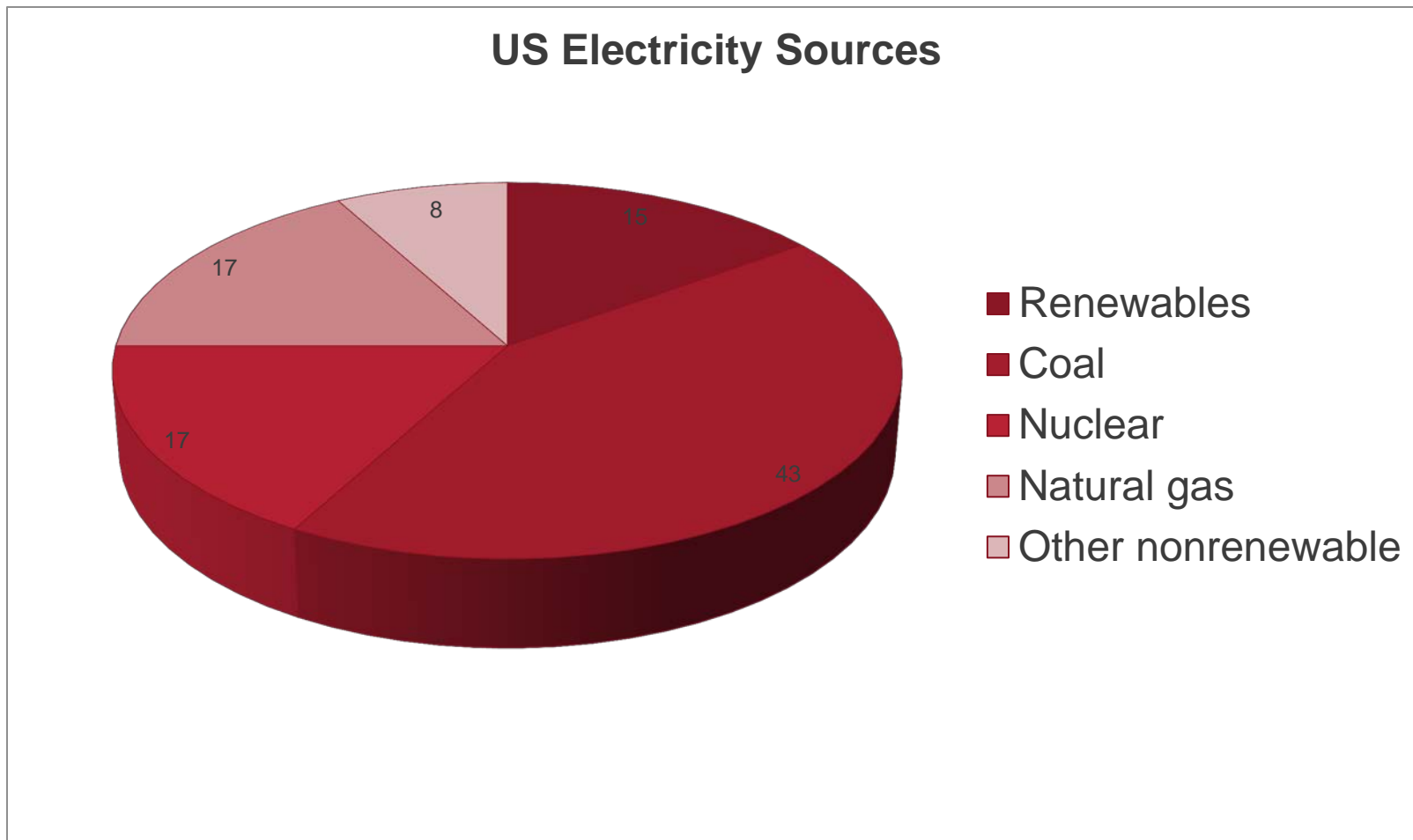
- Agriculture
- Rice cultivation
- Permafrost melting

- Nitrous Oxide

- Nitrogenous fertilizer

*Accounts for 40% of total US carbon emissions

Electrical Energy in the US



Source: Energy Manager Today

Electric Motorcycle

Gyro stabilization, 120 mph max, 200 miles on a charge



Lit Motors C-1