Seagate's Approach to Product Environmental Compliance

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Seagate

Seagate products must meet both regulatory and customer requirements

RoHS (and RoHS 2)

- Full substance data is required by customers
- Lab reports are required to meet customer and regulatory requirements
- Exemptions are used, but are limited by some customers
- Customer restrictions are much tighter than RoHS

REACH and other new regulations

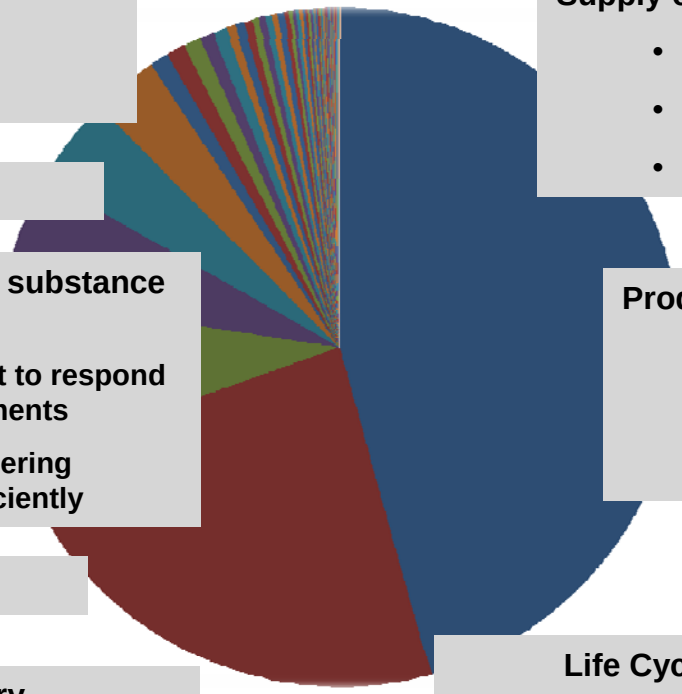
- Managing changing SVHC lists is a key challenge
- “FMD” (Full Materials Disclosure) is one means of managing REACH
- Homogeneous material level reporting enables compliance to article-level restrictions

Nonregulatory restrictions

- Customers must meet market and consumer demands
- “Low Halogen”, BFR/PVC-free, phthalates, etc.

In order to meet regulatory and customer requirements, Seagate collects full substance content data from suppliers

Product Bill of Substances (example)



Currently restricted and reportable substances
- Track exempt applications
- Transparency, credibility

RoHS (and RoHS 2)

Manage compliance to new/future substance restrictions like REACH
- Know what's in your product to respond rapidly to changing requirements
- Anticipate necessary engineering changes and implement efficiently

WEEE/recycling reporting

Green Chemistry

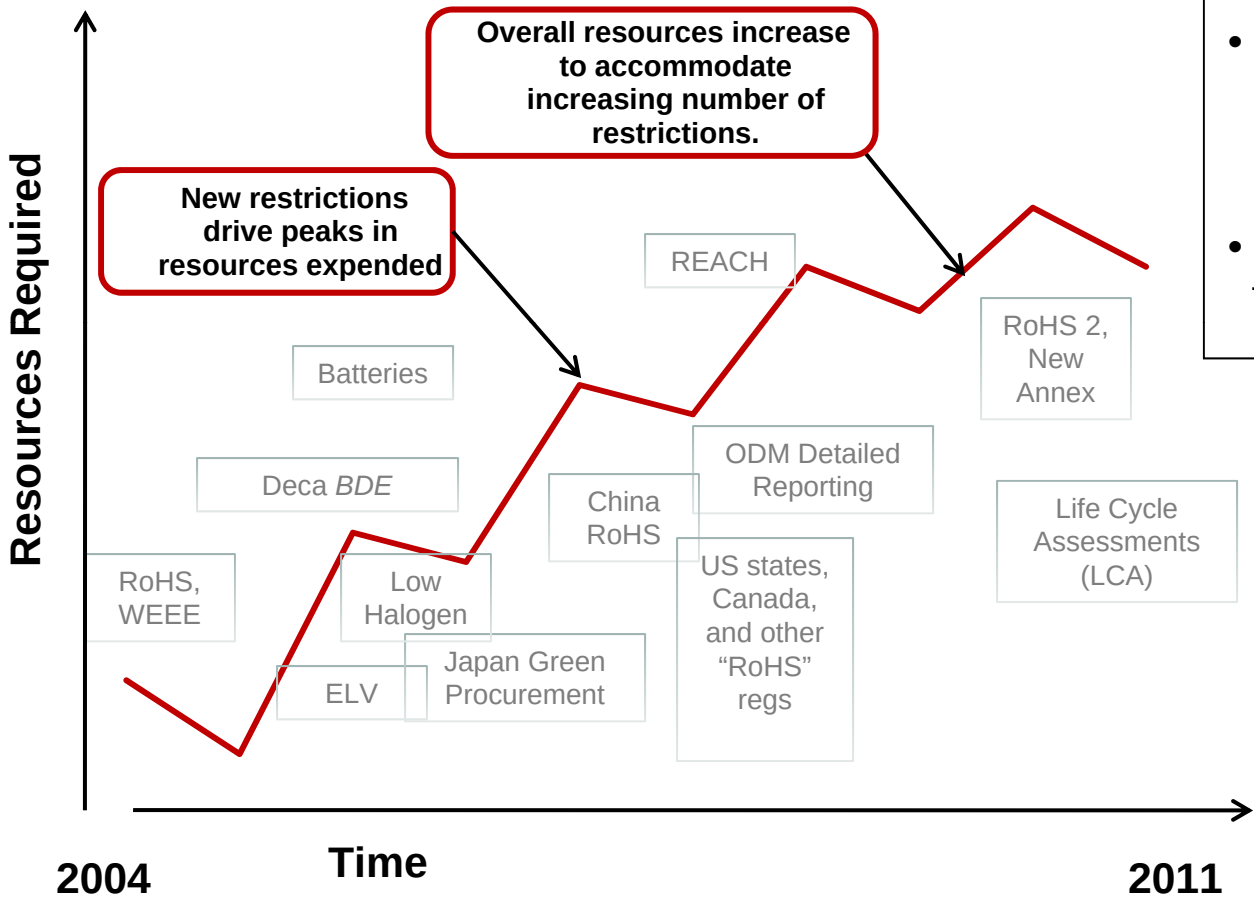
Supply chain analyses:
- Extractives (conflict metals)
- Constrained materials
- Cost improvements

Product design improvements
- Cost reduction
- Green product attributes
- Reliability

Life Cycle Assessment

Full disclosure positions Seagate to quickly respond to new regulations and customers' product sustainability and environmental data requirements

Resource requirements and impact to suppliers “spike” in response to new requirements, and total resource requirements ratchet up over time

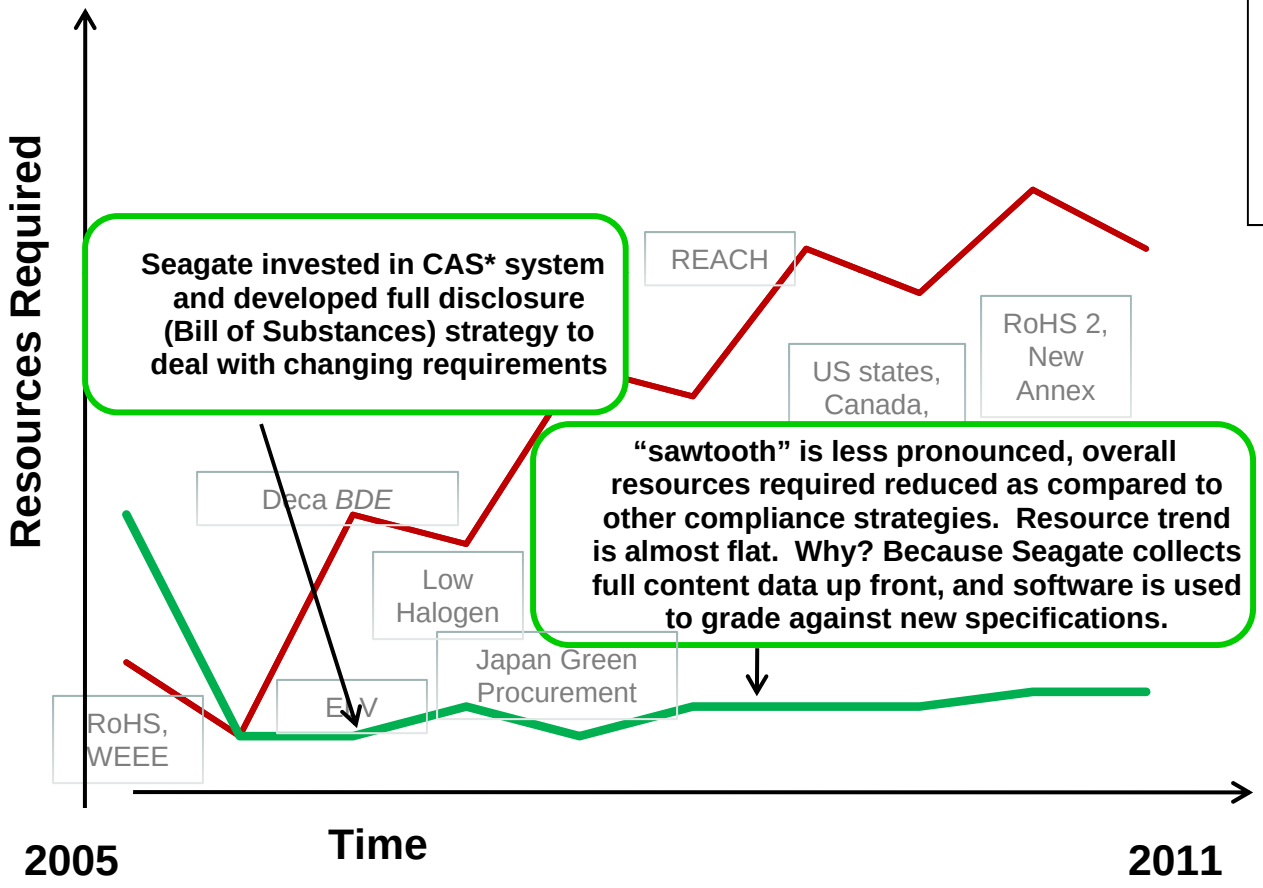


- Emerging new restrictions result in spikes of NRE and business process change
- Resource levels rise over time to sustain compliance

Challenge:

Meet increasing requirements with limited resources

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



Seagate is able to respond quickly to changing substance restrictions

Full disclosure and alignment to standards allows Seagate to manage substance restrictions at low cost and resource levels

**CAS – Compliance Assurance System, Seagate's materials content compliance database*

Overview of Seagate's Supplier Engagement Approach

- Put data requests in the context of business need and mutual benefit
- Build supplier capacity to provide data through standardization, training, and help desk support
- Ask suppliers for data in a stable, standard format
- Ask for sufficient data to avoid having to go back to supplier for more data (avoid "supplier fatigue")
- Use software automation to collect, check , manage and report supply chain data
- Partner with suppliers and commit to making the process more efficient as long as they provide the data

Thank You

Seagate