

Mercury in Lamps

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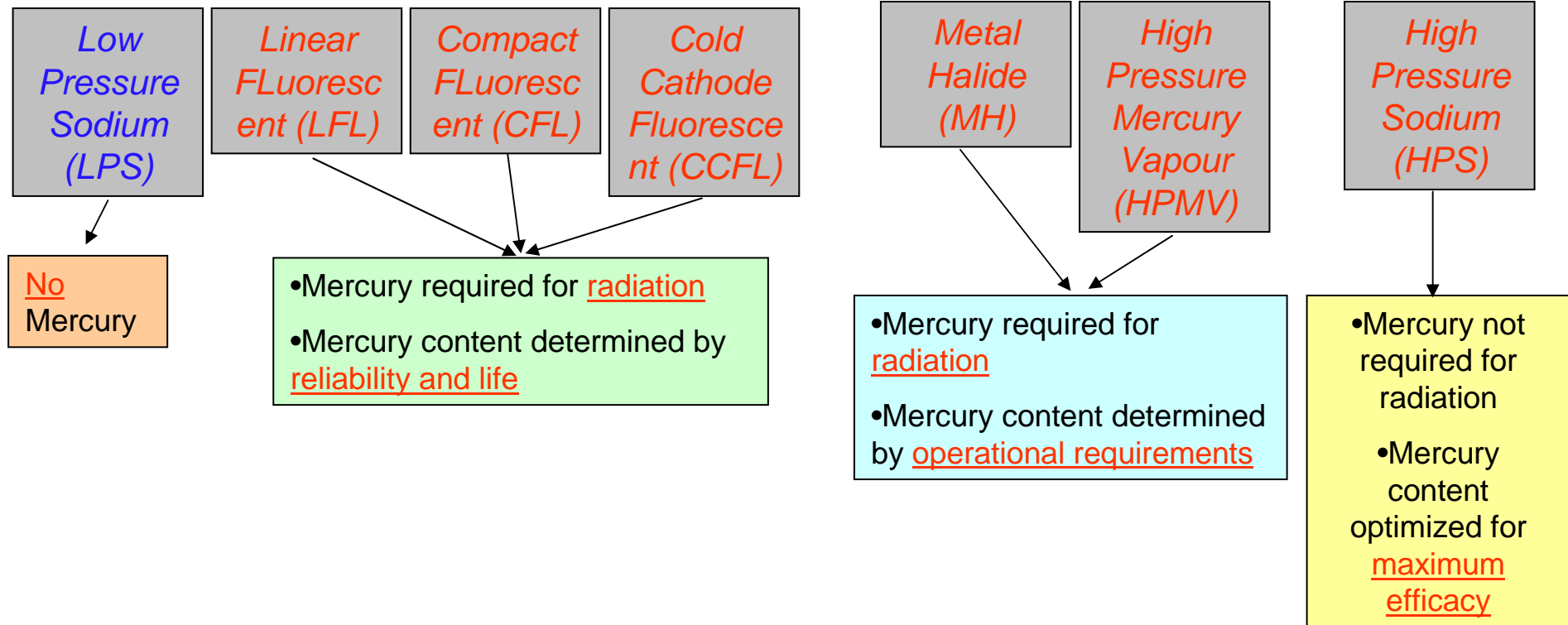
Rudy Geens

Types of Discharge lamps

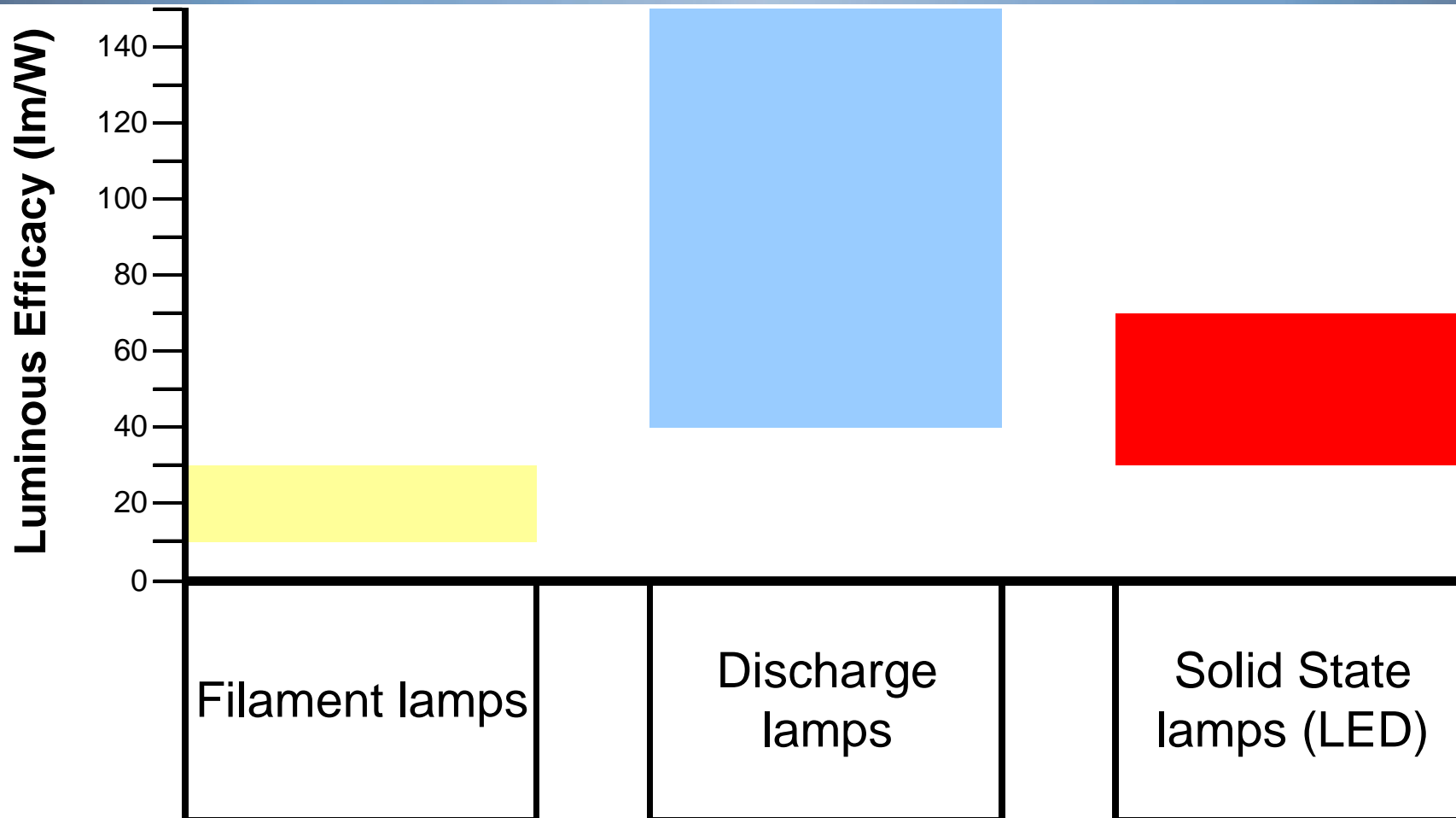
DISCHARGE LAMPS

Low Pressure lamps

High Pressure lamps



Energy efficacy of Discharge Lamps



– All discharge lamps are energy saving products

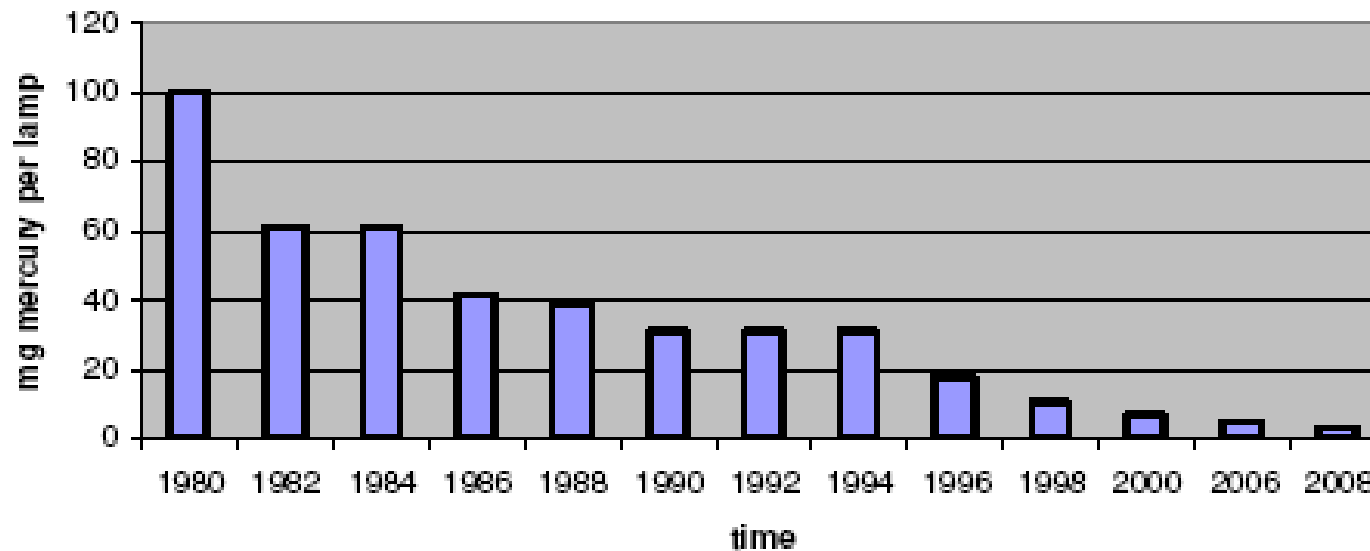
Energy cost of mercury free alternatives

- Hg free fluorescent lamps: 200% energy use increase
 - Hg-free high-pressure sodium lamp: 10% energy use increase
 - Hg-free metal halide lamp: 40% energy use increase
(only possible for low wattage types)
- Zero mercury levels without considerable loss of energy efficacy are to date not yet possible**
- In view of energy efficiency requirements under development by the European Commission, these poor efficacy alternatives are not recommended and will not fulfill the minimum efficacy limits
 - Apart from increased CO₂ emissions, the additional energy usage emits unrecyclable mercury in the environment via coal power plants (Hg paradox)

Reduction of mercury content

- For lamps where the mercury content does not directly determine the operational characteristics
- industry research realizes **a continuous decrease in the amount of mercury** in the lamps
- **With simultaneous increase** in energy efficiency or operational life

Reduction of the mercury content in fluorescent lamps over the last 28 years (best available technology)



Reduction of the mercury content in Fluorescent lamps over the last 20 years (best available technology)

Conclusions

- Havells Sylvania is committed to the gradual and continuous decrease of mercury content in discharge lamps without loss of energy efficiency
- Hg-free discharge lamps is currently still lacking in energy efficiency and are therefor not a viable alternative for most applications of mercury containing discharge lamps
- A complete environmental approach, taking all aspects into account, is preferred.