

# Background for Imaging Equipment Meeting

# Scope of Products (from Energy Star)

- **Copier** – production of hard copy duplicates from graphic hard copy originals.
- **Digital Duplicator** – a fully-automated duplicator system through the method of stencil duplicating with digital reproduction functionality.
- **Facsimile Machine (Fax Machine)** – A commercially-available imaging product whose primary functions are scanning hard copy originals for electronic transmission to remote units and receiving similar electronic transmissions to produce hard copy output.
- **Multifunction Device (MFD)** – A commercially-available imaging product, which is a physically-integrated device or a combination of functionally-integrated components, that performs two or more of the core functions of copying, printing, scanning, or faxing.
- **Printer** – A commercially-available imaging product that serves as a hard copy output device, and is capable of receiving information from single-user or networked computers, or other input devices (e.g., digital cameras)
- **Mailing Machine** – A commercially-available imaging product that serves to print postage onto mail pieces
- **Scanner** – A commercially-available imaging product that functions as an electro-optical device for converting information into electronic images that can be stored, edited, converted, or transmitted, primarily in a personal computing environment.

# Scope of Products

- **Direct Thermal (DT)** – A marking technology that transfers an image by burning dots onto coated media as it passes over a heated print head.
- **Dye Sublimation (DS)** – A images are formed by depositing (subliming) dye onto the print media based upon the amount of energy delivered by the heating elements.
- **Electrophotography (EP)** – light illuminates hard copy image on a photoconductor, develops image with particles of toner, transfers toner to the final hard copy medium, and fuses toner to cause the desired hard copy to become durable.
  - **Parallel Color EP**
  - **Serial Color EP**
- **Impact** – A formation of the desired hard copy image by transferring colorant from a “ribbon” to the media via an impact process. Two types of impact technology are Dot Formed Impact and Fully-formed Impact.
- **Ink Jet (IJ)** – images are formed by depositing colorant in small drops directly to the print media in a matrix manner. Color IJ is distinguished from monochrome IJ in that more than one colorant is available in a product at any one time.
- **Solid Ink (SI)** –ink is solid at room temperature and liquid when heated to the jetting temperature. Transfer to the media can be direct, but is most often made to an intermediate drum or belt and then offset printed to the media.
- **Stencil** –images transferred onto the print media from a stencil that is fitted around an inked drum.
- **Thermal Transfer (TT)** –desired hard copy image is formed by depositing small drops of solid colorant (usually colored waxes) in a melted/fluid state directly to the print media in a matrix manner.

# Ecolabel Summary

- Looked at 8 label or declaration schemes
- Many common elements, some variability in scope
- Common elements:
  - Materials to avoid
  - Product emissions
  - Design for end of life (disassembly, ease of recycling)
  - Energy criteria
  - Encourage use of recycled/refurbished consumables (paper and toner cartridges)
  - Equipment and consumable take back
- Less common elements
  - Corporate requirements
  - Packaging
  - Biobased materials