Eco–Design for Mobile Phones:
Making Everyday–Life Green
Mobile phone structure

The mobile phone can be divided into four parts:

Display system: LCD, FPC, IC Driver, B/L (back light),...

Power system: Battery, Power Management IC,...

RF system: antenna, RF IC,...

Logic system: Core chipset,...

And, there are also other components:

Some models have GPS and Bluetooth receivers.

Many new phones also have built-in digital camera lenses and sensors.

Some phones even have the circuitry and storage space required to store and play MP3s.
Product design does not usually imply the utilization of new technologies to create novel products.

Typically, it entails the refinement or upgrading of existing designs, to be more environmental-friendly, to improve functionality, performance or appeal.

Another goal is to lower the energy cost of manufacturing or to use greener processes and materials.
Discussion 1:

- Q1: what kind of materials might be included in the Display System, and what do you think might be modified to be more environmental friendly?

- Q2: what kind of materials might be included in the Power System, and what do you think might be modified to be more environmental friendly?

  (consider the hazardous substances, recycling and energy-saving)

Group discussion: 20 minutes
Some Novel Designed Environmental–Friendly Cell–Phones: Challenging Your Imagination

- LG Eco Solar Power Cellphone Uses a **Photovoltaic Cell**, Eco–Friendly Technologies

This new device is the LG Eco Solar Power Cellphone, that charges thanks to incandescent and fluorescent lights, plus direct and indirect sunlight, relying on a photovoltaic cell.

It displays with advanced touchscreen technology, **LED backlight technology**, an LED illuminated magnifier.
The case of the **bamboo phone** is made out of two materials. Number one is a bio-plastic which is derived from renewable raw materials such as corn. Number two is bamboo which is a grass and can grow two feet or more a day.

This makes the phone “a green gadget”
Mobile Mechanical – Power the cellphone by yourself

- This is a mobile phone concept that can be charged by turning on your finger.

- Touchscreen technology combined with the style of the Wild West?
Discussion 2:

- Q1: what kind of materials might be included in the RF System and Logic System, and what do you think might be modified to be more environmental friendly?

- Q2: what kind of materials might be included in other accessories (camera, GPS…) , and what do you think might be modified to be more environmental friendly?

(consider the hazardous substances, recycling and energy-saving)

Group discussion: 20 minutes
GDA*: Green Design Advisor

Multiattribute Value Analysis

LCA Tool