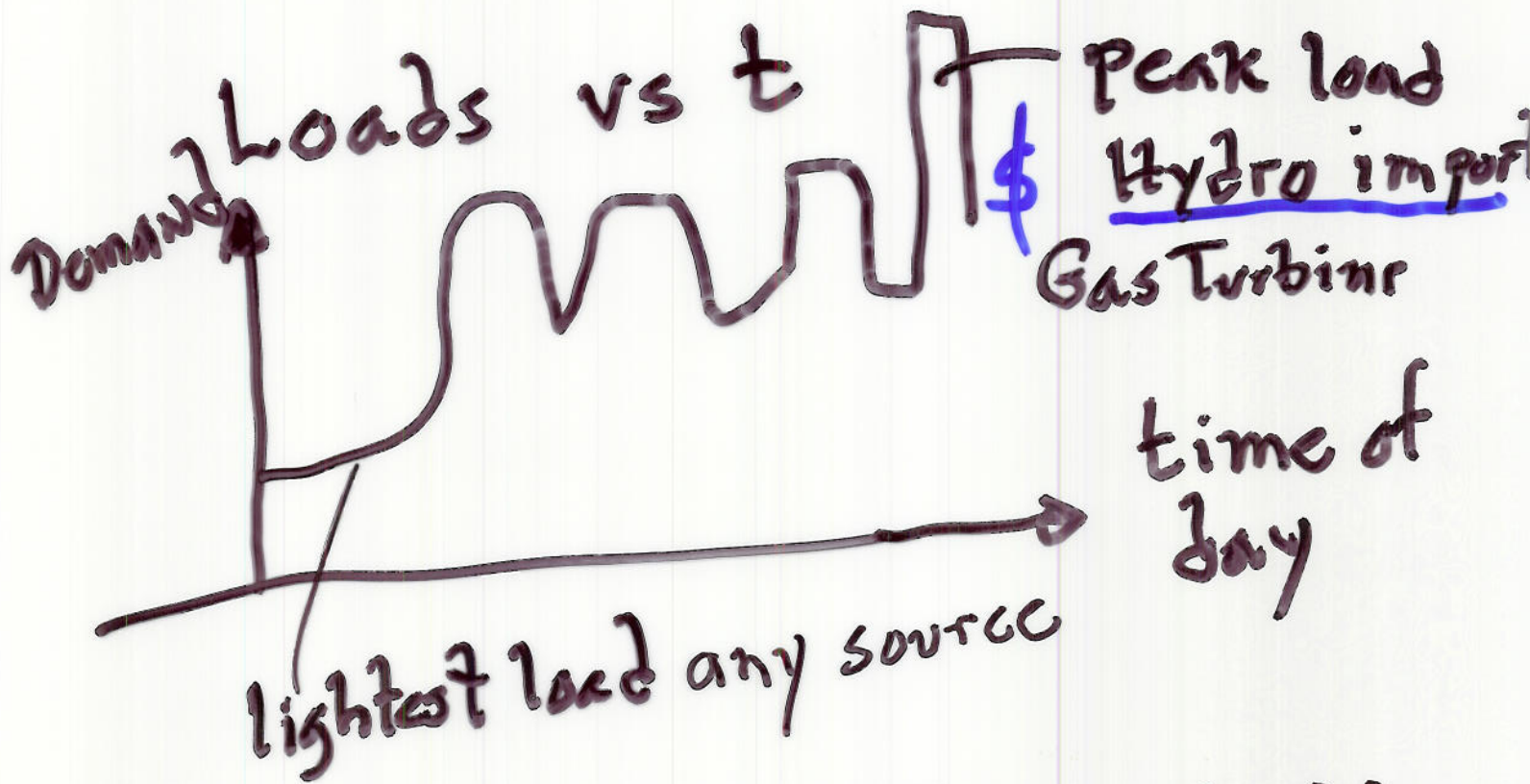


# Loads

## **Classified by service voltage**

- High Voltage – take service at transmission voltage level (greater than 100 kV)**
- Primary – take service at primary distribution voltage level (35 kV and less)**
- Secondary – take service at secondary voltage level (600 volt or less)**



## Types of loads & Power Quality

Lighting

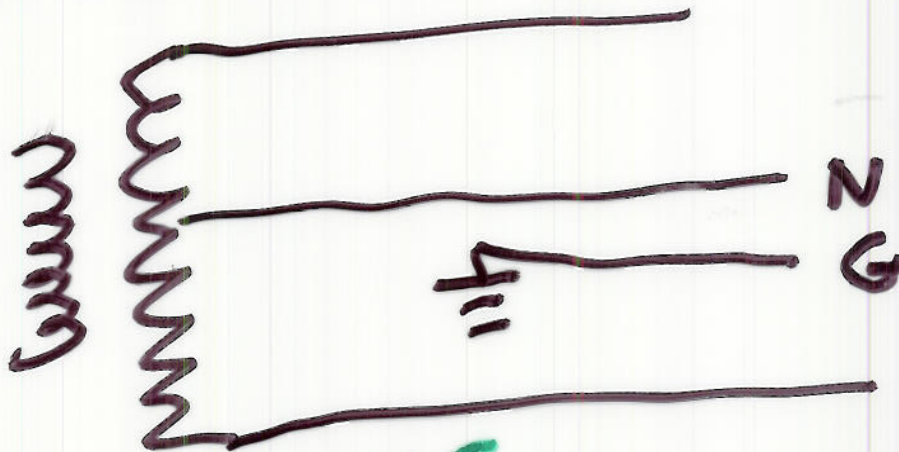
Heating

Motors

15% of electricity  
delivered by  
power electronics

2/3 of electricity

+115





# Loads

---

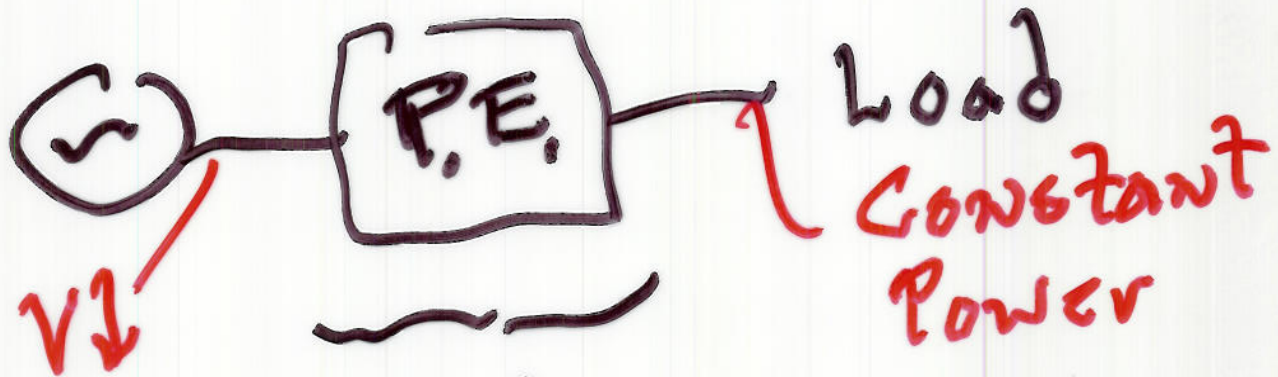
## **Classified by electrical characteristics**

- Constant power (motor)**
- Constant impedance (incandescent lighting and heating)**
- Constant current (power electronics and aggregated loads)**

480  
3 $\phi$ Y



$\phi$ -N is  
? Volts



Modern  
Load Control Ch 21

- Power Factor Correction
- Motor Control
- Lighting

Incrementally PE looks  
like  $-R$  Danger for  
stability

Old way to limit power:  $V1$  set  
no longer works!