

HVDC ... Edison wins after all!

It's all about long distance grid-to-grid connections.

⚡ More efficient wiring than AC

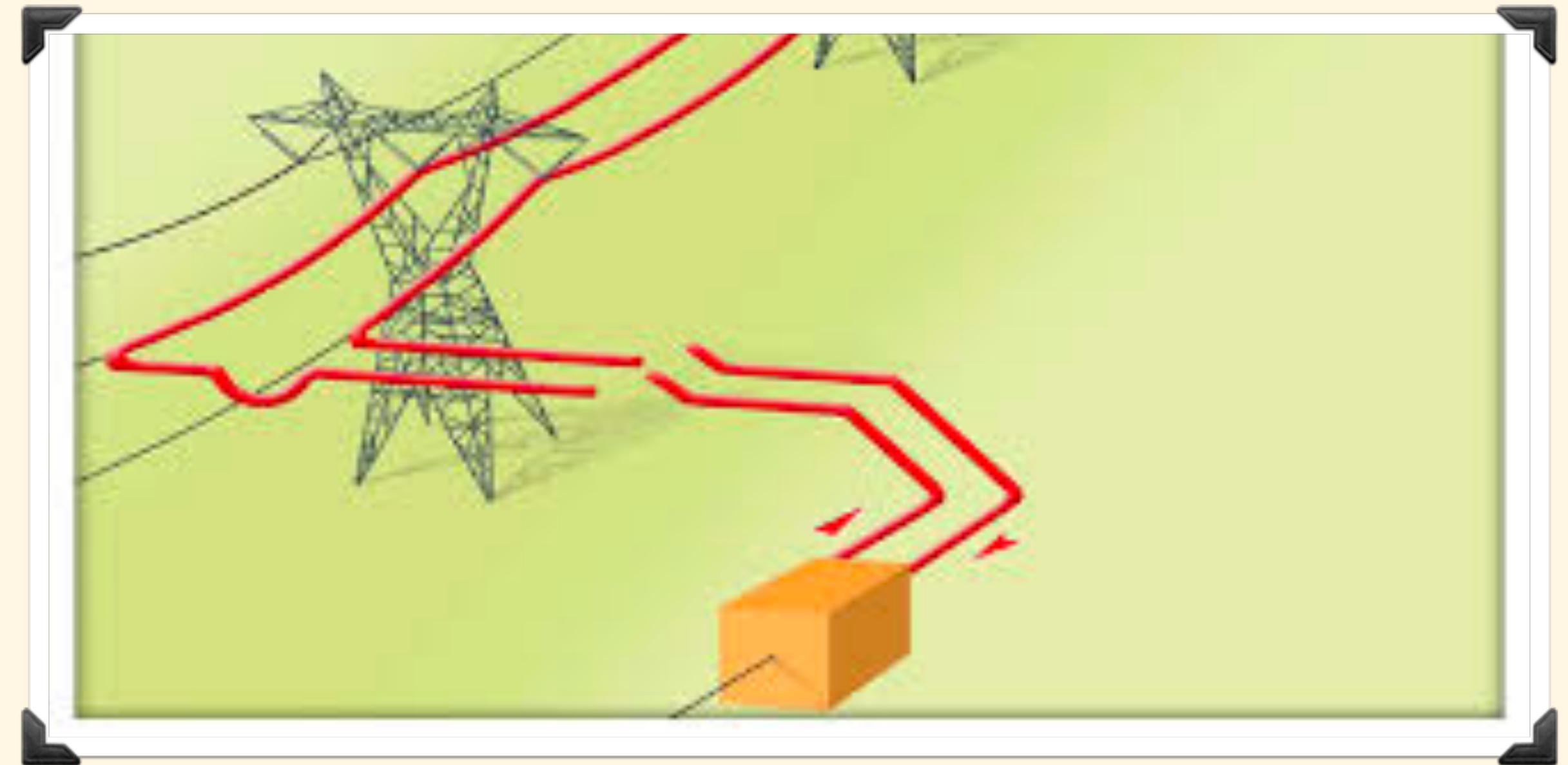
No skin effect
Fewer conductors

⚡ Easier to control digitally

Static VAR compensation
Simpler control circuitry

⚡ It's a rescue lifeline

Restarting downed power plans
Re-syncing drifting frequencies
De-Icing!



So can they run TCP?!

Theres a whole world of network chatter on power lines.

⚡ 9 - 500kHz (DLC)

Ethernets w/ IPv6 at 576 kbit/s for grid control / meter reading

⚡ 100-500kHz (OSGP)

IOT, home automation, meter reading

⚡ ≥ 1 MHz (EoP)

Ethernet-over-Power AC wall wart systems

⚡ ≥ 100 MHz (Transverse-mode)

long-distance >1 Gbit/s connections

(but the grid is a massive antenna)

⚡ 2.4 - 6GHz (BPL)

Long-distance broadband backhaul

(but the grid is a massive antenna)