



**ASOSIASI CHIEF ENGINEER BALI
BALI CHIEF ENGINEERS ASSOCIATION**

Present

**OZONE FRIENDLY
AIR CONDITIONING SYSTEM
APPLICATION FOR HOTELS IN BALI**

BACKGROUND

BACKGROUND

- Environment
- Hotel Commitment
- Law/Regulation

BEST PRACTICES

✘ Need investment

- + Retrofit from R-22 to R-134a or Hydrocarbon
- + Upgrade AC using R-410a



BEST PRACTICES

✘ Need investment

- + Re-captured refrigerant in special storage tank
- + Refurbishment program, change chiller or AC using R-134a or R-410A



BEST PRACTICES

- ✘ Grand Hyatt Bali replaced old chiller York R-500 to Trane centrifugal water cooled chiller R-123 capacity 2x650TR
- ✘ Nusa Dua Beach Resort replaced central chiller to Trane 2x330TR centrifugal water cooled chiller R-123
- ✘ The Royal Beach Resort Seminyak, new chiller York screw water cooled chiller R-134A
- ✘ Bulgari Hotels & Resorts Bali, replaced split duct AC Daikin 2x15HP using R-410

BEST PRACTICES

- ✘ Building Design/Planning
 - + Maximize open air for public space
 - + Minimize using AC for public space



BEST PRACTICES

- ✘ Improve landscape to make the property more cooler and green



BEST PRACTICES

Selecting higher SEER

- + More higher SEER more efficient AC

Save energy label:

- + Energy star logo

AC system:

- + Inverter type
- + VSD for chiller pump (secondary)



CHALLENGES

- ✘ Financial back up from owner
- ✘ Government support
 - + Control/regulation
 - + Incentive
 - + Education/training/certification
- ✘ Limited certified technician, section 608 certification, service technician with EPA's certified

**TERIMA KASIH
THANK YOU
MATUR SUKSMA**