# Advance Artificial Intelligence (AIS)

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Program Magister Teknik Informatika

Universitas Pamulang

Feb.-March 2023

### **My Short CV**

- Born, March 28, 1956
- •1. Education: Physics, ITB, 1976-1981,
- •2. Univ. New Brunswick, Canada, M.Sc. in Chem. Eng.,
  - 1989-1991,
  - •3. Doctor in Computation, UGM, 1998-2003,
    - Cum Laude.
    - Joined BATAN November 1981;
  - A. Div. Manager of Reactor Technology, 1992
  - •B. Director of Safeguards Tech. Center, 2005
  - C. Director of Nuclear Safety and Rect. Techn.
     Center, 2006
  - D. Director of Dissemination Center, 2006-2008

### My Short CV

- 011
- •E. Deputy Chairman for Dissemination of NST, 2008-201
  - •F. Secretary General, 2011-2014
  - •G. Deputy Chairman of NET, 2014-March 2016
  - •H. Member of National Energy Council (DEN),
    - •Jan.-Dec., 2014
    - •I. President Commissioner of PT INUKI,
      - August 2011-March 2016.
  - •J. Part -Timer Lecturer for S-2, Saturday/Sunday Since 2003-Now.
- •K. CEO of Project Management Office for Indonesia Exp. Power Reactor, April 2016-Dec. 2017.
  - •L. Sen. Researcher at BATAN, Jan 2018-April 2021.
    - M. Full Unpam Lecturer Since April 2021.
  - •At least 82 Papers for National and International Seminars, Conferences and Journals.

## <u>GRADING</u>



### Minimum Kehadiran 75%

1. KEHADIRAN 10%, 2. TUGAS/PRESENTASI: 20%

2. UTS: 30%

3. UAS: 40%

## <u>GRADING</u>



1. KEHADIRAN 10% (100 bila 14x Hadir)

2. TUGAS 20%

(60% Nilai Tugas Mingguan 14X + 40% Nilai Presentasi)

3. UTS: 30%

4. UAS: 40%

### **JADWAL KULIAH**

### **KULIAH•PRE-UTS:**



22/02; 01/03; 08/03

15/03; 22/03; 29/03; 03/05

ME/UTS: 10 May 2023

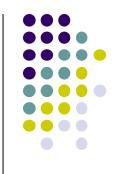
**KULIAH PRE-UAS:** 

17/05; 24/05; 31/05

07/06; 14/06; 21/06; 28/06

FINAL EXAM: 05 July 2023

### **PRESENTATION**



- 1. Duration 15 minutes,
- 2. The topics must relate to MIS,
  - 3. Grading: Content, Time and Presentation's Style,
- 4. Presentation can be in Bahasa or in English,5. If in English, "BONUS 5" will be rewarded for Final Exam

## 4 Steps to Be A Good Life

- 1. To Have A Vision,
- 2. To Be Focused and Sustain,
- 3. Be Honest and Always
- To Be A Giver and
- 4. Be Prayed to Allah and Ask Pray from Your Parents.





# Nuclear for Country Prosperity

**UNPAM Tangsel, February 2023** 









### **Status of NPPs** in the Globe

449

**Operation** 

398.887 MWe

**On-power capacity** 

**In-progress construction** 

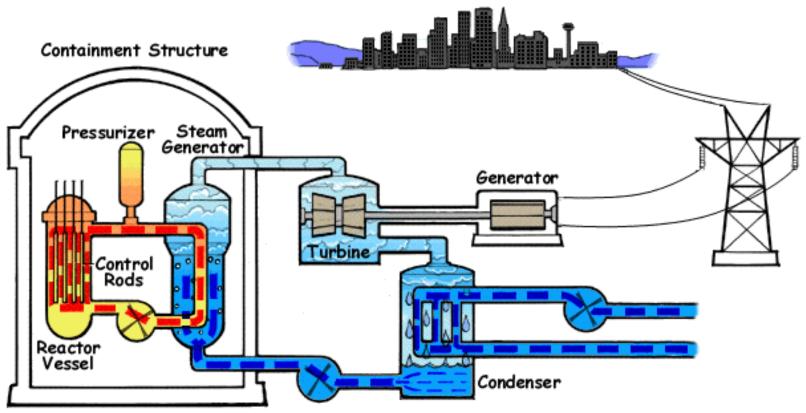
2 reactor

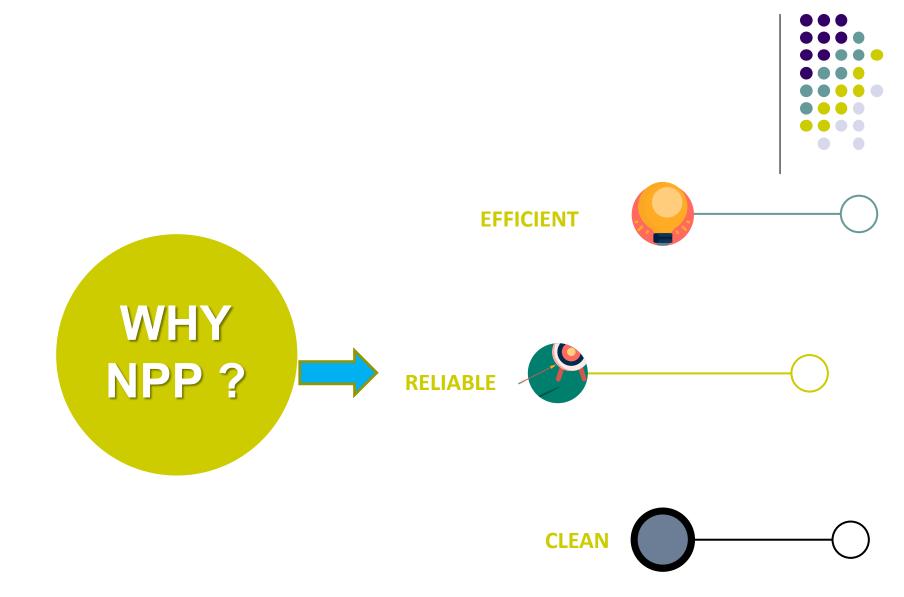
1 reactor

2 reactor

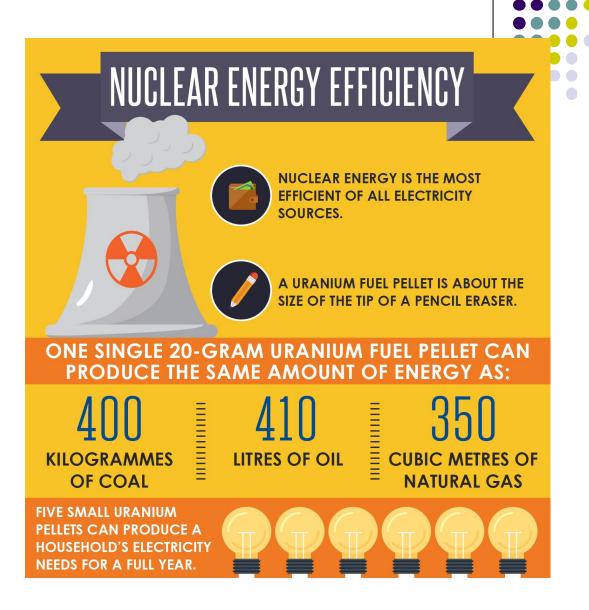
6 reactor





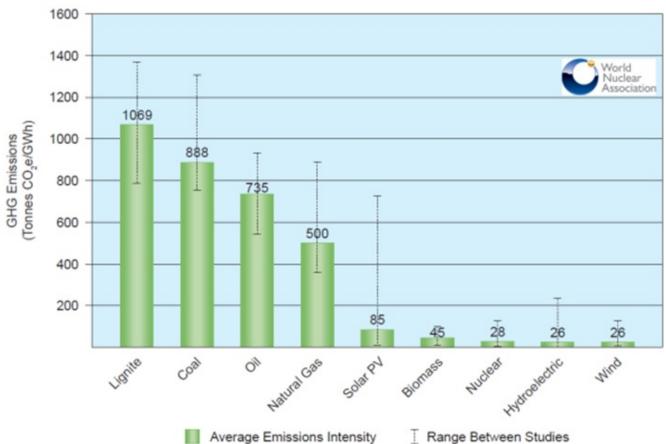


# Fuel Comparative



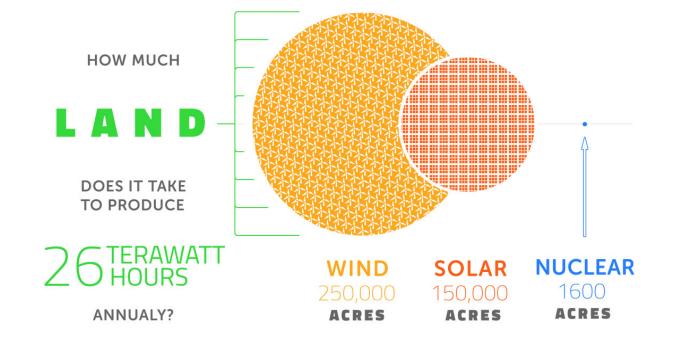


### Carbon Emission Comparative





# Land Need for Site



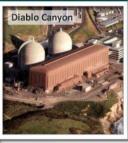
### **NPP Technology Development**



#### **Generation I**



#### **Generation II**



### Generation III / III +



#### **Generation IV**



1950

1960

1980

1990

2000

2010

2020

0

### First prototypes

Calder Hall (GCR/MAGNOX)

Douglas Point (PHWR/CANDU)

Dresden-1 (BWR)

Fermi-1 (FBR/SFR)

Peach Bottom 1 (HTGR)

Shippingport (PWR)

Obninsk (LWGR)

### Commercial production of electricity

Bruce (PHWR/CANDU)

Calvert Cliffs (PWR)

Flamanville 1-2 (PWR)

Grand Gulf (BWR)

Kalinin (PWR/VVER)

Kursk-1 (LWGR/RBMK)

Palo Verde (PWR)

#### Advanced and evolutive reactors

ABWR (GE-Hitachi; Toshiba BWR)

ACR 1000 (AECL CANDU PHWR)

AP1000 (Westinghouse-Toshiba PWR)

APR-1400 (KHNP PWR)

APWR (Mitsubishi PWR)

Atmea-1 (Areva NP-Mitsubishi PWR)

CANDU 6 (AECL PHWR)

EPR (AREVA NP PWR)
ESBWR (GE/Hitachi BWR)

#### Pequeños reactores modulares

- B&W mPower PWR
- CNEA CAREM PWR
- India DAE AHWR
   KAERI SMART PWR
- NuScale PWR
- OKBM KLT-405 PWR

VVER-1200 (Gidopress PWR)

#### Innovative designs

GFR Gas-cooled fast reactor

LFR Lead-cooled fast reactor

MSR Molten salt reactor

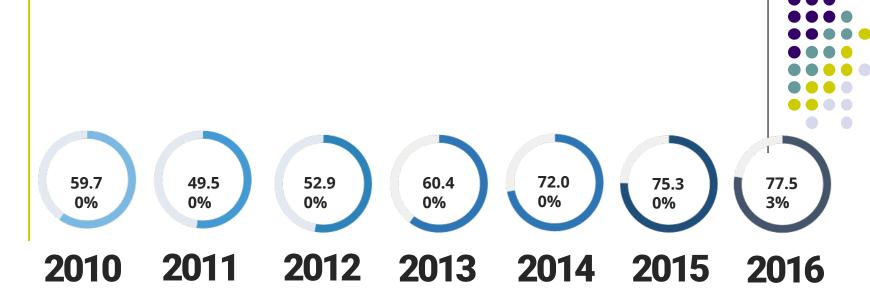
SFR Sodium-cooled fast reactor

SCWR Supercritical water-cooled

VHTR Very high-temperature reactor

Source: Gen IV International Forum and Foro Nuclear





Public Acceptance in Indonesia



Sustainable Energy Renewable Energy Friendly Environment Technology Guarantee Risk and Safety
High Cost Investment
Geopolitics Resistance
Public Acceptance



# THANK YOU ANY QUESTION?