ENVIRONMENTAL USER FEE SYSTEM:

MARKET-BASED INSTRUMENT FOR POLLUTION CONTROL AND ABATEMENT

NARBO
Network of Asian River Basin Organizations

Outline of Presentation

I. Environmental User Fee System

II. Policy Initiatives

III. Enhancement through LISCOP

IV. Results of EUFS Implementation

V. Key lessons learned

VI. Future plans

ENVIRONMENTAL USER FEE SYSTEM

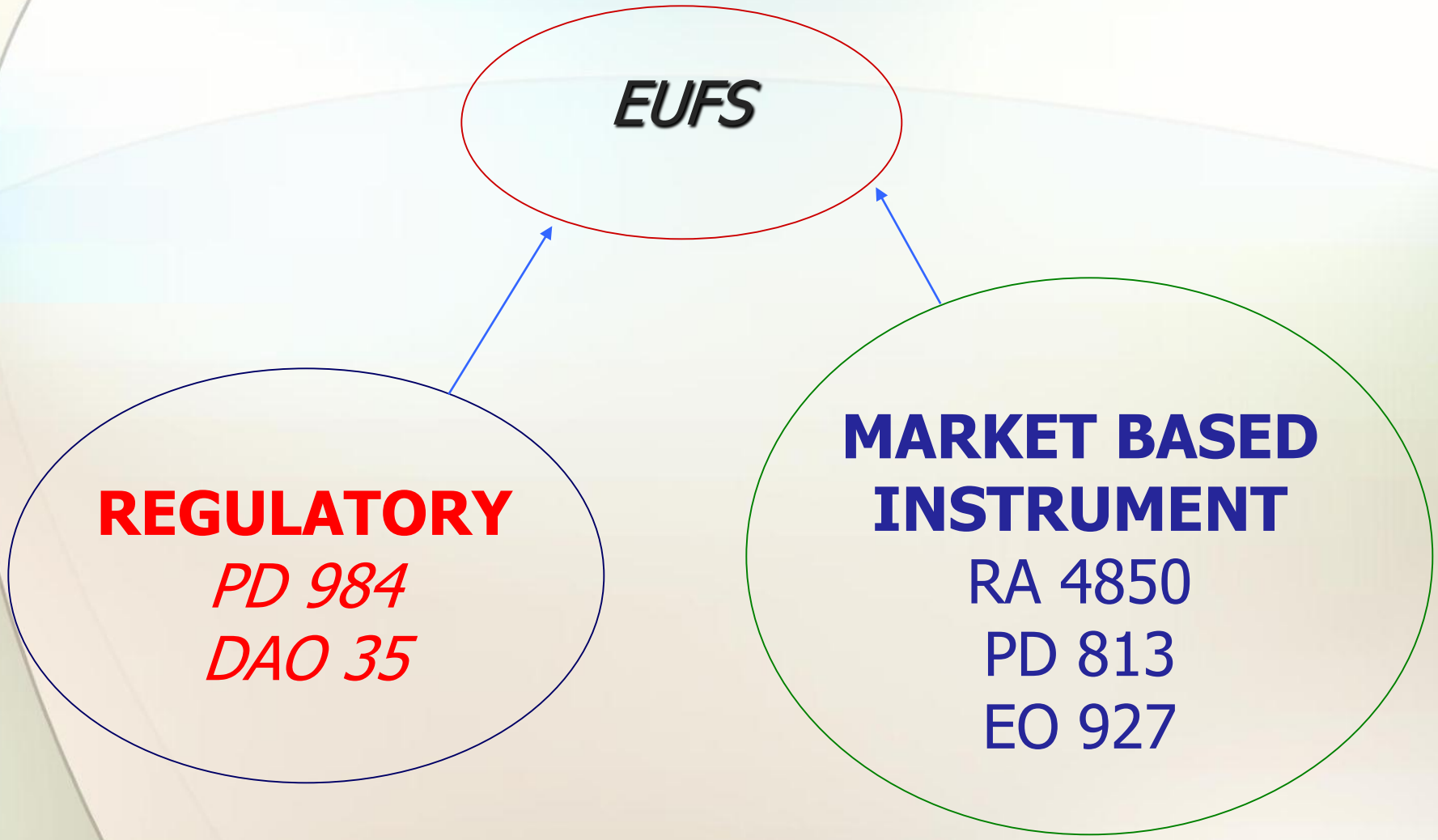
EUFS is a market-based instrument that applies the "polluters pay principle"

EUFS serves as an economic means to force polluters to reduce/abate water pollution while instituting remedial measures within their establishment

EUFS was initially implemented in the Laguna de Bay Region in 1997

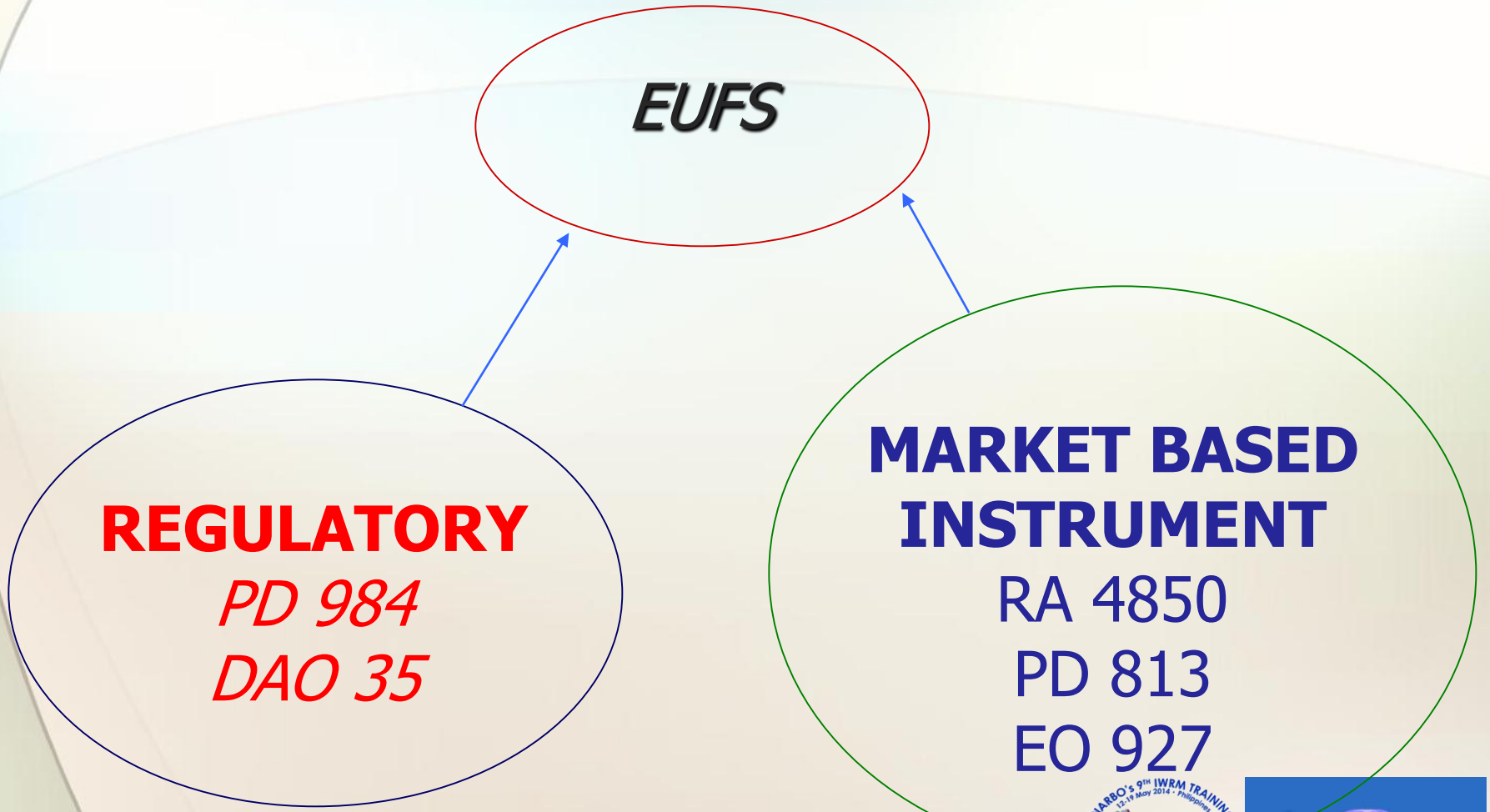
ENVIRONMENTAL USER FEE SYSTEM

LLDA MODEL



ENVIRONMENTAL USER FEE SYSTEM

LLDA MODEL



EUFS COVERAGE

INTRO PHASE (1997) : *Top 5 Polluting Industries*
beverages, food processing, pulp & paper, piggeries/slaughterhouses & textiles

SECOND PHASE (1998-1999) : All industries with wastewater, subdivisions & commercial establishments including food chains & restaurants

ONGOING IMPLEMENTATION : EUFS was adopted as a long term Environmental Management Plan

Who are affected by this EUFS?

- All development projects, installations and activities, including industrial, commercial, domestic and agricultural sources, that discharge liquid waste and pose a threat to the environment of Laguna de Bay

- Covers wet industries and even dry industries with more than 212 employees or whose septic tanks have a capacity of more than 12 cu.m.

USERS FEE STRUCTURE

Fixed Fee - ***cost of compliance monitoring, laboratory analysis, etc.***

Conventional

Q < 30 cu.m/d	**- *P 8,000***
Q ≤ 30 - 150 cu.m/d	**- *P16,000***
Q > 150 cu.m/d	**- *P24,000***

Heavy Metals

Q ≤ 150 cu.m/d	**- *P16,000***
Q >150 cu.m/d	**- *P24,000***

VARIABLE FEE – ***fee levied for the amount of pollution which depends on the strength or concentration of the discharge***

VARIABLE FEE **= Ln* x Rate**

Formula for the Net Waste Load, L_n:

$$L_{n\,(PPP)} = [(C_f - C_a)\,(Q_f \times N_f)] \times 0.001$$

Where:

L_n	= Net Waste Load, kg/yr
PPP	= Priority Pollutant Parameter
C_f	= ave. concentration of PPP in the effluent (mg/l)
C_a	= ave. concentration of PPP in the abstracted water (mg/l)
Q_f	= ave. Daily Volumetric Flow Rate of the (final) effluent or wastewater discharged
N_f	= Number of discharge days per year, days/year

NARBO
Network of Asian River Basin Organizations

Variable Fee

- Charging parameter depends on industry category: either Biochemical Oxygen Demand (BOD) or Total Suspended Solids (TSS)

Variable Fee Rate

For complying with the Effluent Standards - **P5 per kg BOD/TSS**

For non-complying with the Effluent Standards - **P30 per kg BOD/TSS**

Pollution case shall be filed against firms discharging wastewater exceeding the effluent standards prescribed at DENR Administrative Order No. 35

SELF-MONITORING REPORT

- a report indicating the flow, nature and concentration of pollutants in the company's effluent

- it allows firms or establishments to demonstrate their compliance with environmental regulations

- it allows LLDA to confirm or validate that firms or establishments comply with environmental regulations or requirements

Wastewater Sample Collected For Analysis at LLDA Lab.

Evaluation

Complying

Issuance of DP *(for those w/ Application)*

Require co. to Secure DP & the same Maybe Issued upon compliance of all permit requirements

Not Complying

Withhold issuance Of DP

Endorse to Legal D. For issuance of Appropriate Legal Order

Request for Re-sampling

Can be considered if reasons for re-sampling are valid and acceptable

Payment of re-sampling Fee & cost analysis


Republic of the Philippines
LAGUNA LAKE DEVELOPMENT AUTHORITY
Pasig City
NOTICE TO THE PUBLIC
STA. ROSA CPS
PULISYA
158
LAGUNA PPO
PRO 4A
158


Republic of the Philippines
LAGUNA LAKE DEVELOPMENT AUTHORITY
Pasig City
NOTICE TO THE PUBLIC
The facility/operation of this establishment which generates/discharges pollutive wastewater in violation of Rep. Act 4850, as amended, is hereby order
Date:_____
General


Republic of the Philippines
LAGUNA LAKE DEVELOPMENT AUTHORITY
Pasig City
NOTICE TO THE PUBLIC

ENHANCEMENT THROUGH LISCOP

Introduction of TSS as additional charging parameters

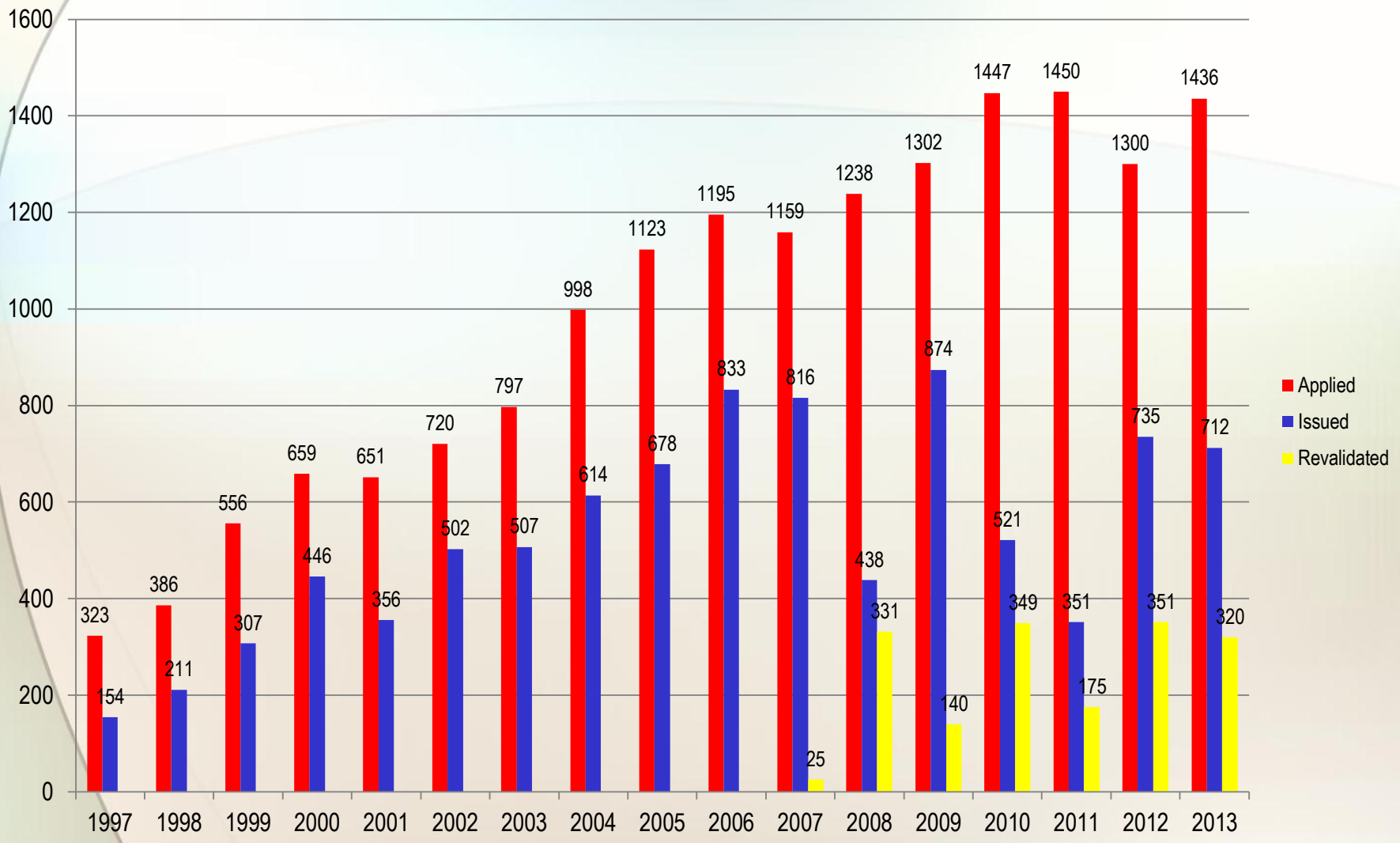
BOD - for industrial or commercial wastewaters with high organic or biodegradable materials

TSS - for wastewaters with high inorganic or non-biodegradable materials

BOD and TSS - for wastewaters with high inorganic or non-biodegradable materials and domestic wastewater above the threshold of 12 cubic meters/day

RESULTS
OF
EUFS IMPLEMENTATION

DISCHARGE PERMIT ISSUANCES



BOD LOADING (MT/YR) OF INDUSTRIES/ESTABLISHMENTS WITHIN LAGUNA DE BAY REGION

Year	197	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Count
1997	5,403	4,102	1,200	1,241	941	202	195	193	240	204	209	164	181	298	189	221
1998		4,432	1,516	1,279	963	223	217	224	278	290	273	238	249	406	273	254
1999			1,790	1,449	1,062	282	264	264	341	339	343	343	304	460	328	427
2000				2,309	1,371	488	381	353	445	493	517	514	515	697	449	623
2001					1,687	653	455	422	522	595	589	581	602	769	498	731
2002						791	561	516	671	712	646	671	736	904	585	907
2003							828	584	727	780	713	698	790	961	634	1065
2004								1,586	1,463	1,700	1,528	1,435	1,562	1,707	1,319	1387
2005									1,829	2,012	1,759	1,682	1,779	1,871	1,474	1709
2006										2,541	2,388	1,990	2,140	2,249	1,875	1943
2007											5,202	4,236	4,472	5,406	4,612	2183
2008												4,320	4,573	5,506	4,724	2401
2009													4,789	5,693	4,906	2616
2010														5,777	4,969	2716
2011															6,001	2835

AVERAGE BOD LOADING/FIRM

Year	No. of Registered Firms	Closed Firms	No. of Operating Firms	Total BOD Loading (MT)/year	Ave. BOD loading/operating firm
1997	221	0	221	5,403	24.45
1998	254	2	252	4,432	17.59
1999	427	5	422	1,790	4.24
2000	623	19	604	2,309	3.82
2001	731	41	690	1,687	2.44
2002	907	72	835	791	0.95
2003	1065	118	947	828	0.87
2004	1387	130	1257	1,586	1.26
2005	1709	138	1571	1,829	1.16
2006	1943	149	1794	2,541	1.42
2007	2183	200	1983	5,202	2.62
2008	2401	219	2182	4,320	1.98
2009	2616	229	2387	4,789	2.01
2010	2716	233	2483	5,777	2.33
2011	2835	237	2598	6,001	2.31

KEY LESSONS LEARNED

- **Modern regulatory tools and market-based instrument help achieve higher level of performance of stakeholder**
- **Effective monitoring and enforcement is necessary in the implementation of environmental rules and regulations**
- **Load based EUF is better than concentration based**

FUTURE PLANS

- Introduce additional parameters such as COD, nutrients, and heavy metals
- Propose incentives to encourage "zero discharge"
- Concentration based to load based EUF, effluent trading among industrial sector
- Differentiation of EUFs by industrial sector
- Set up investment fund for wastewater projects using domestic EUF collections

Thank You & Good Day!!!

Please visit us at:

www.llda.gov.ph

NARBO
Network of Asian River Basin Organizations