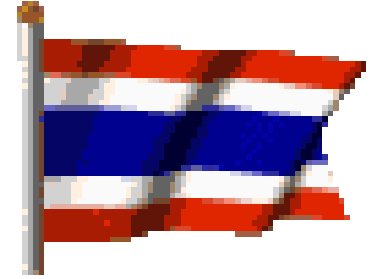




Bula : Jiji Sawasdee Thailand





Impact of Thai Sugar Policy on the World Sugar Economy

**FAO/FIJI Sugar Conference
August 22, 2012**

**Rangsit Hiangrat
Director**

**Cane and Sugar Industry Policy Bureau
Office of the Cane and Sugar Board**



Impact of Thai sugar Policy on the World Sugar Economy

- **Country's facts and figures**
- **Overview on sugar and ethanol**
- **Government policy**
- **Conclusion**

Thailand's Economy

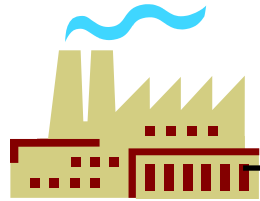
- **65.93 Millions Population**
- **Per capita \$5,587 USD**
- **GDP 347 Billions USD**
- **Agriculture:**
 - **12 % of GDP**
 - **40 % of Employment**
- **Manufacturing:**
 - **44.5 % of GDP**
 - **20 % of Employment**
- **1st Import item : Crude Oil (19% of import bill)**
- **Major Agricultural Products**
 - **Rice**
 - **Sugar**
 - **Cassava**
 - **Rubber**



Thailand sugar industry

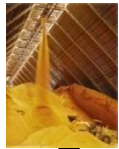
Cane and Sugar Act B.E. 2527 (1984) Tripartite participation

Cane for sugar only



Sugar mills

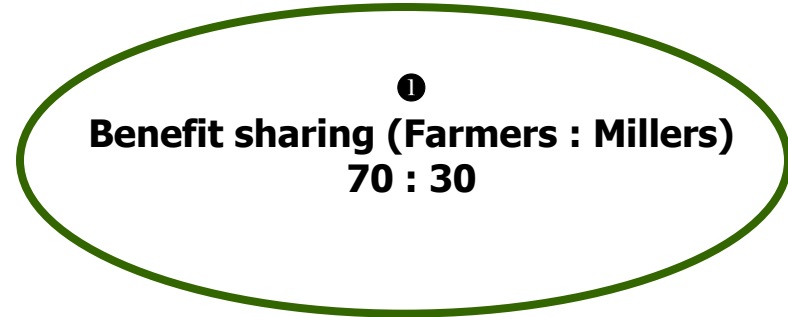
Molasses



Export

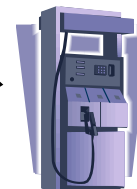


Local consumption



①
Benefit sharing (Farmers : Millers)
70 : 30

②
Cane and Sugar Fund



Gasohol (E10, E20, E85)

Ethanol
not under the Cane and sugar Act

2011/12

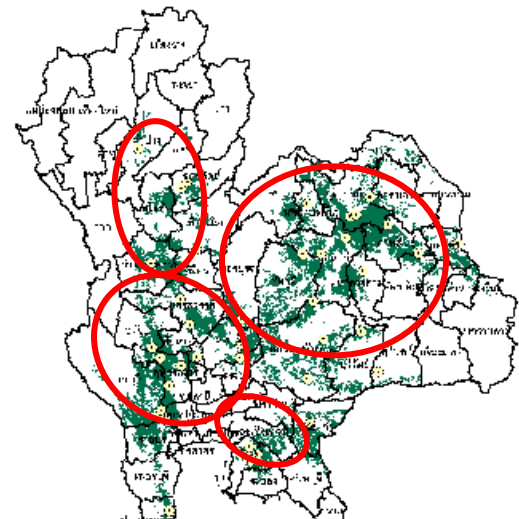
- **Mills :** 47
- **Capacity:** 800,000 TCD
- **Cane area:** 1.31 m.ha. in 49 provinces
- **2011/12 yield:** 73 tons/ha

- **Growers:** 200,000 families
- **Mills :** 47
- **Capacity:** 800,000 TCD
- **Cane area:** 1.31 m.ha. in 49 provinces

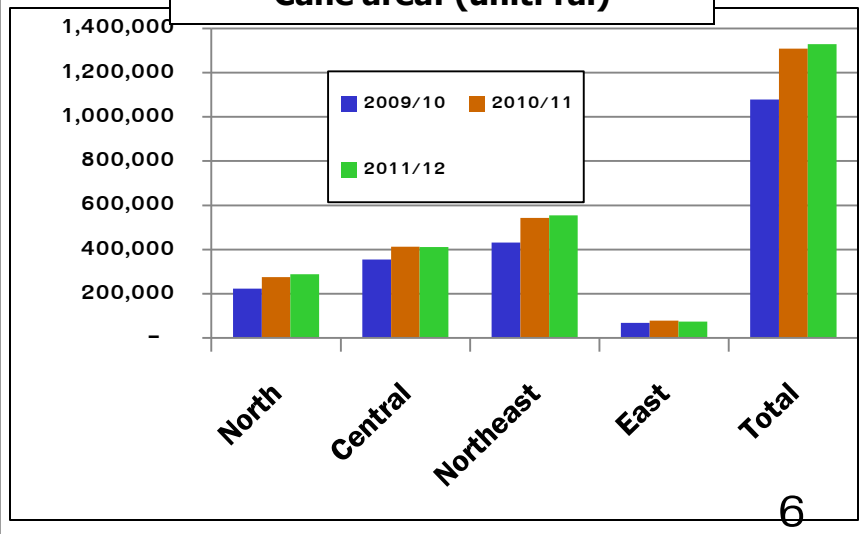
Cane production by regions

Region	09/10	10/11	11/12
North	19.17	23.29	24.97
Central	21.98	29.28	31.86
North East	23.8	38.04	37.05
East	3.54	4.75	4.09
Total(M.t)	68.46	95.36	97.98

แผนที่พื้นที่ปลูกอ้อยและที่ตั้งโรงงานน้ำตาลประเทศไทยปีการผลิด 2549/50



Cane area: (unit: rai)





Cane and competition crops

Agricultural area: 21 M.Ha.(41% of the total land)

Low productivity

• Cane yield: 65 tons/ha.

Small farm size

• Average farm size: 4 ha./family

Low % of irrigation

• Only 22% of the total agricultural area and <10% of area under cane irrigated

Competition crops

• e.g. rice, cassava, corn, rubber, palm oil

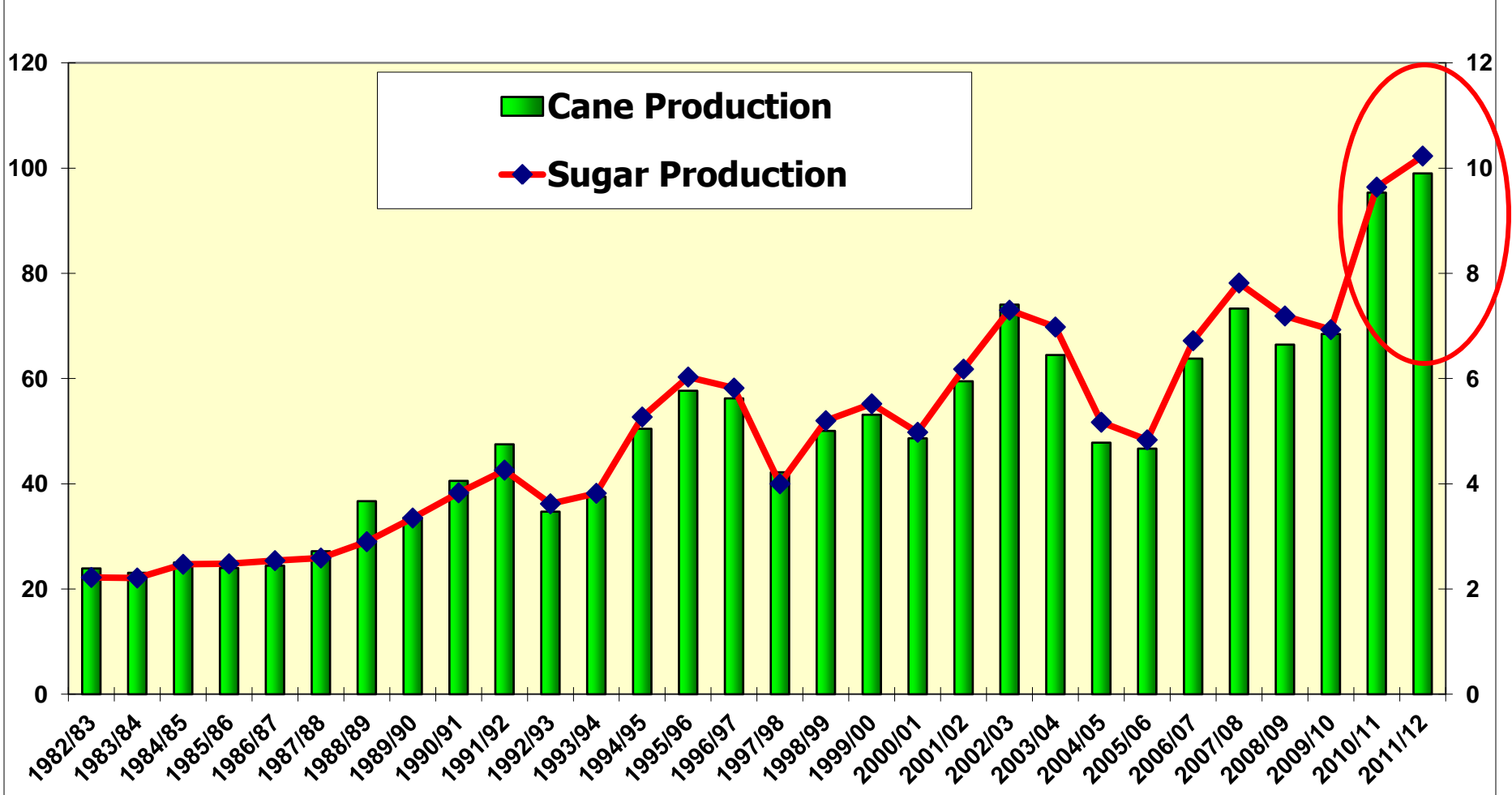
	MT	M.Ha
Rice	34	9.14
Rubber	3.35	2.91
Cassava	27	1.16
Sugarcane	97.98	1.33
Palm oil	10.8	0.6

5% of total agricultural area

2011/12: Record production

Cane(tons)

Sugar(tons)



2011/12: record production

- High cane prices in 2010/11 - 2011/12
- Increased acreage
- Favorable weather conditions
- Competition crops affected by pests/deceases

Changing areas under cassava, cane and rice

Crop yr	Cassava	Cane	Rice
2007/08	7.339	6.229	57.39
2008/09	7.397	6.425	57.42
2009/10	8.292	6.741	57.50
2010/11	7.405	8.179	61.78
2011/12	7,096	8.301	61.10

Unit: mln.ra (6.25 rais/ha.)

Source Office of Agricultural economics, OCSB, and Thai Tapioca Trade Association



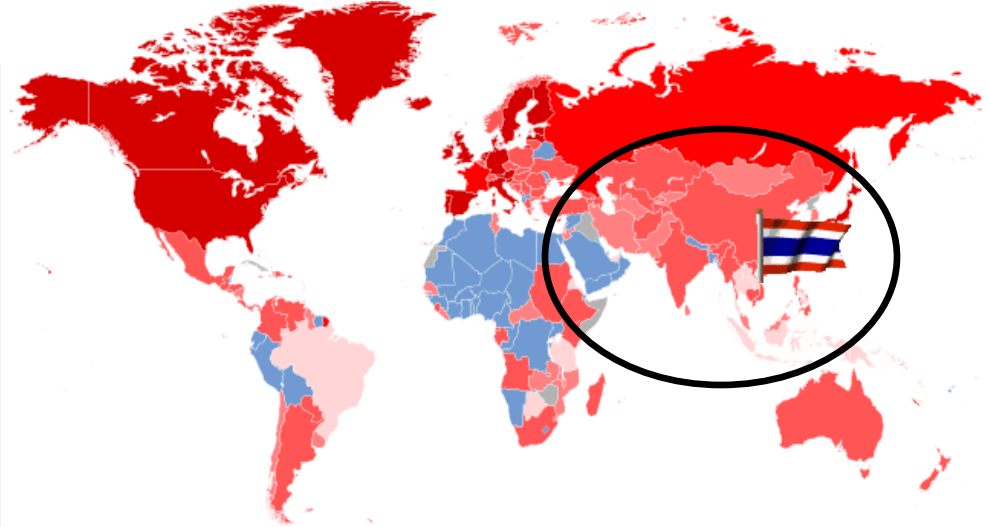
Future potential

- **Sugar Industry: ranked top Thailand's 2012 business sector**
- **Mills expansion /relocation**
- **ASEAN market integration (AEC 2015)**

Year	Crushing Capacity (t/d)
2012	800,000
2013*	920,000
2016*	1,200,000

Thailand's potentials/opportunities

- **Only net exporter in ASEAN**
- **Strategic location**
- **Asia sugar deficit/growing demand**
- **AEC**
 - 590 mln. people
 - 6 mln.tons import
- **Mills development:**
 - Focus on production of VHP sugar
 - Customized products to meet customers' demand



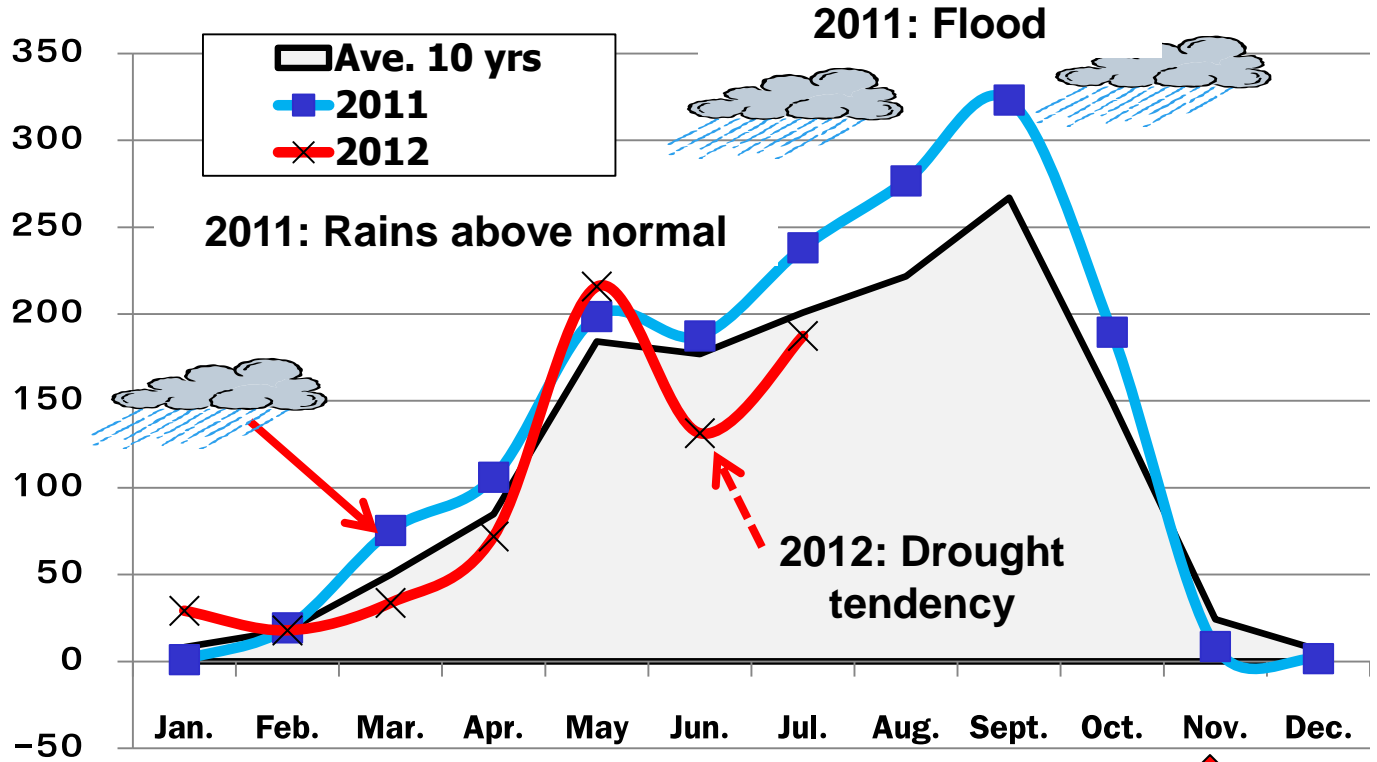
**ASEAN Economic Community : AEC
1 Jan.2015**

Cane: Weather crop

Changing Climatic Conditions



millimétré



Start of new harvest

- Too good rain in 2011/12 crop year
- Drought tendency in 2012

Climate changes

2011 Floods: the worst in Thailand's history



Thailand: 2012/13 Outlook

- **2011/12 record cane prices**
- **Mills: expansion/highrevenue**
- **Increased cane acreage/inputs**
- **Weather : drought**

Crop yr.	Cane Mln.tons	Sugar Mln.tons
2011/12	97.98	10.24
2012/13*	?	?



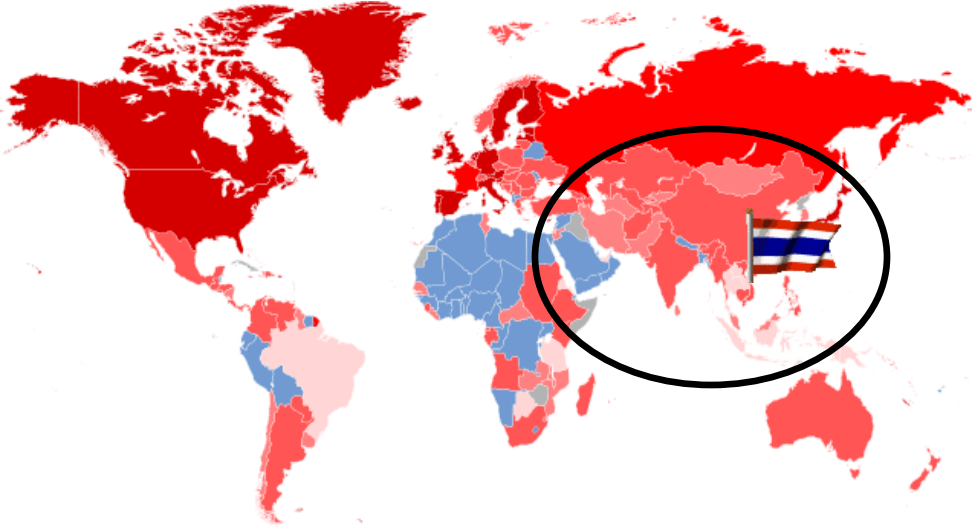
Export opportunity

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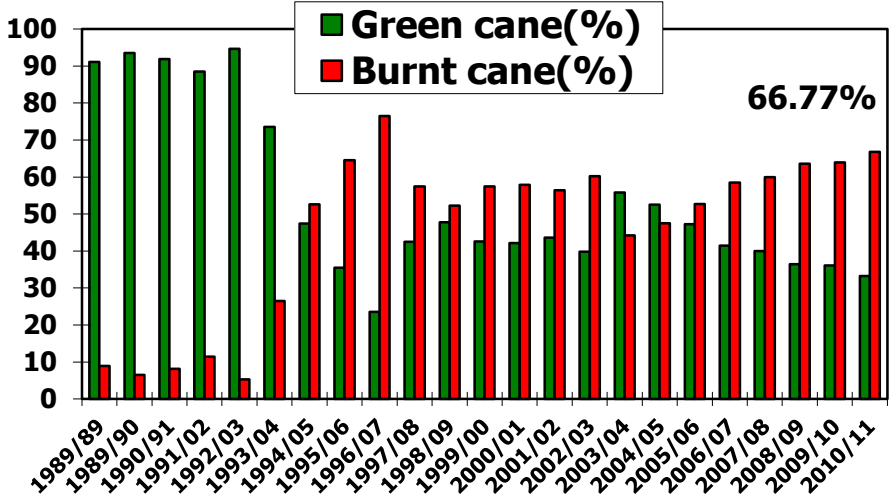


**ASEAN Economic Community : AEC
1 Jan.2015**

Gov support policy

Productivity improvement

- Farm mechanization
- Farmer's access to capital
- Irrigation development
- Diversified products
- Go green



Govt. promoting programs

Soft loan for:

- Small irrigation scheme (2,000 m.baht/yr)
- Harvest mechanization (3,000 m.baht/yr)
- Crop management (10,000 m.baht/yr)
- Cane variety improvement
- R&D



Gov support policy

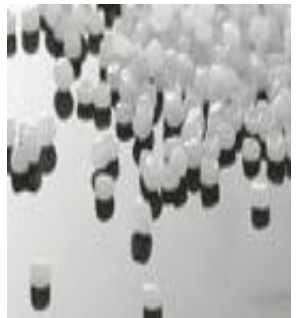


Diversification

**Ethanol : 19 existing plants
Total capacity: 12 mln.l/d**

Cogeneration

**Biochemical :
PURAC/PTT MCC/BioAmber/SCG/Mitrphol
(Lactic; lactyle; PBS; bioplastic)**



Diversification : Changing mills to sugar Complex

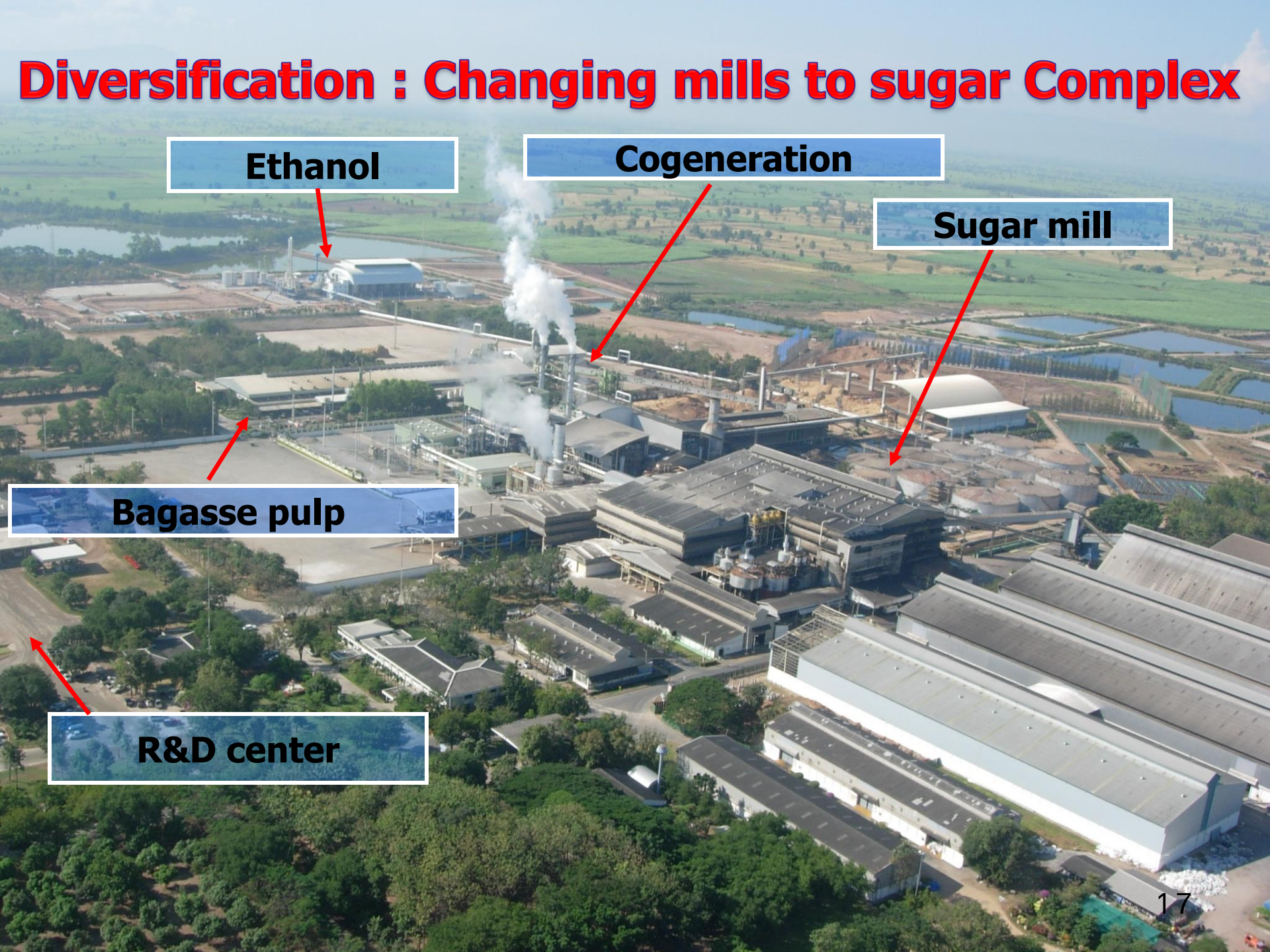
Ethanol

Cogeneration

Sugar mill

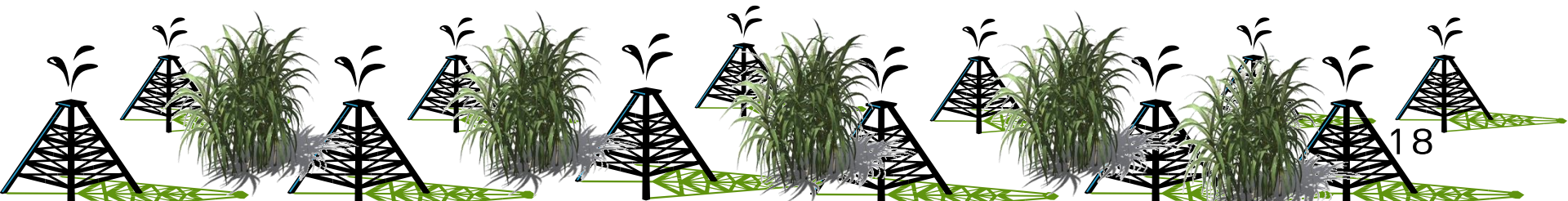
Bagasse pulp

R&D center



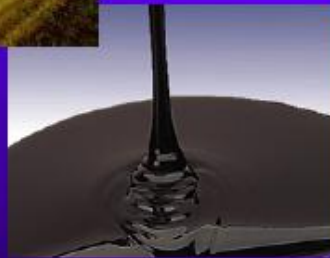


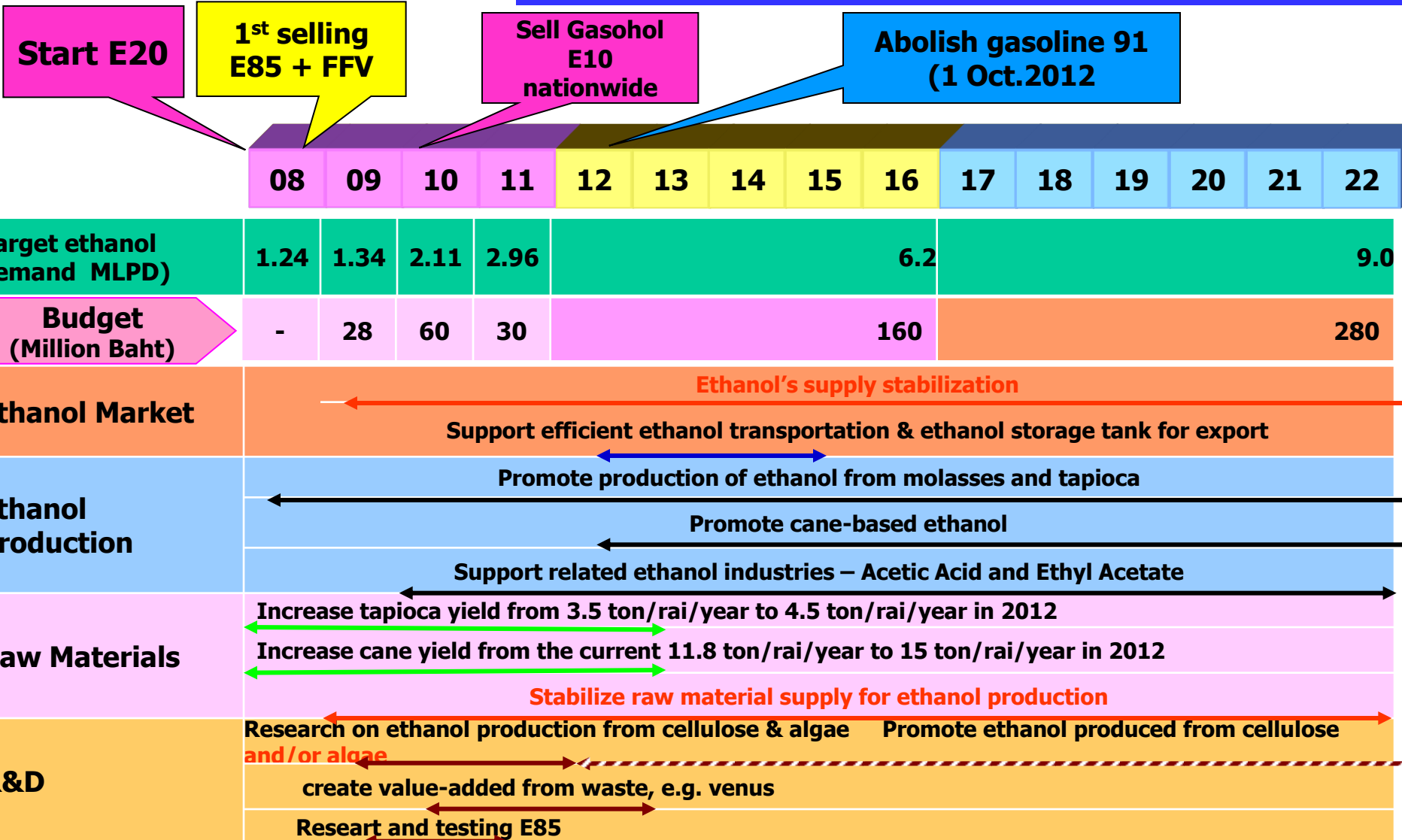
Thailand 's Ethanol Development



Thailand: high potential for ethanol production

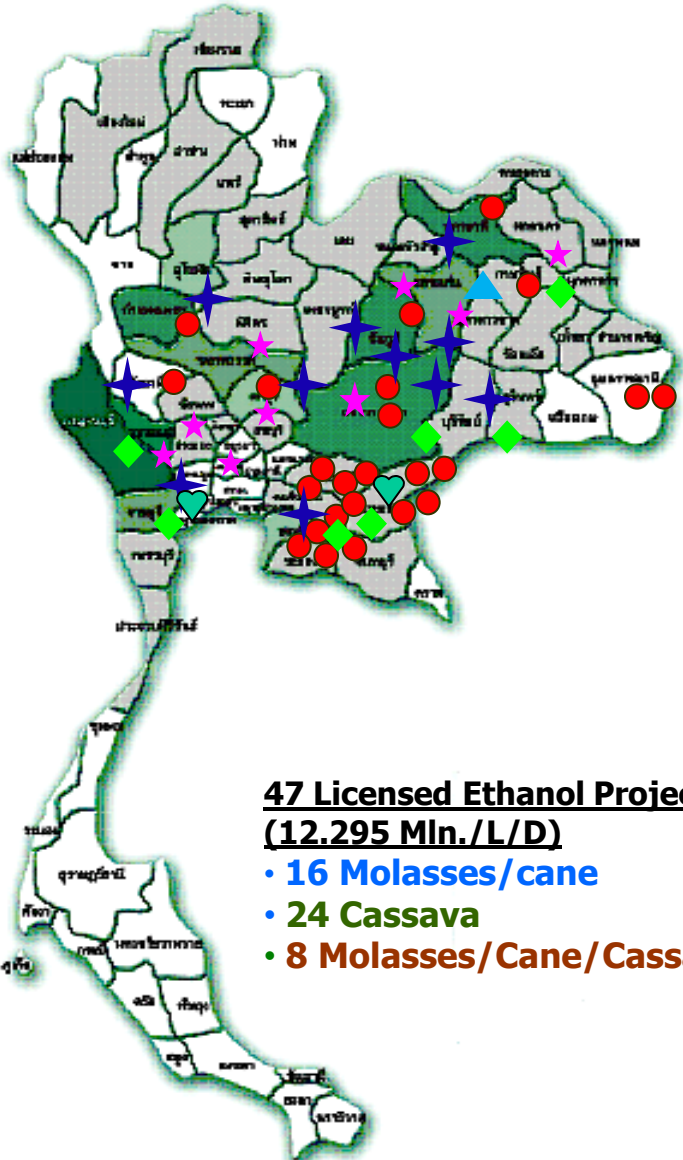
Abundant supply
of feedstock for ethanol





Gov support policy

2012: Thailand Ethanol



47 Licensed Ethanol Projects
(12.295 Mln./L/D)

- 16 Molasses/cane
- 24 Cassava
- 8 Molasses/Cane/Cassava

Existing Companies	Installed cap. (Liters/day)	Raw mat.
1. Pornwilai International	25,000	Molasses
2. Thai Alcohol *	200,000	Molasses
3. Thai Agro Energy *	150,000	Molasses
4. Thai Nguan Ethanol	130,000	Cassava
5. Khon Khan Alcohol*	150,000	Molasses
6. Petrogreen (Chaiyabhum)*	230,000	Molasses

11 Molasse-based ethanol plants operated by Thai sugar mills

12. Ratburi Ethanol Co., Ltd.*	150,000	Cassava
13. ES Power Co., Ltd.*	150,000	Molasses
14. Mae sord Co., Ltd.*	200,000	Cane
15. Saphthip Co., Ltd.	200,000	Cassava
16. Tai ping Ethanol Co., Ltd.	150,000	Cassava
17. P.S.C. Starch Product Plc.	150,000	Cassava
18. Petro Green (Danchang)*	200,000	Molasses
19. Khonkaen Alcohol (Bo Ploy)*	200,000	Molasses
19 plants	3,065,000	

19 Existing Ethanol Prijects (3.065 Mln./L/D)

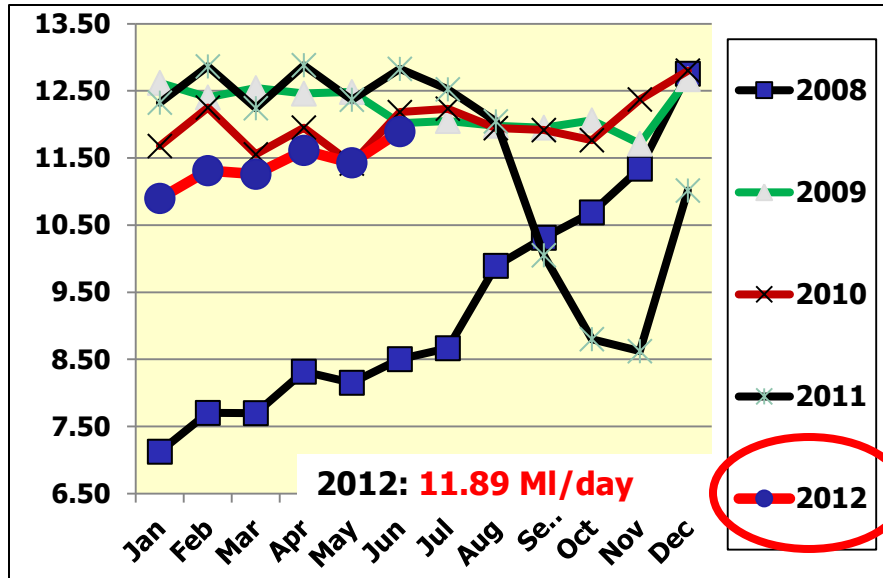
13 molasses-based ethanol plants : 2.085 mln.l/d
 1 cane-based : 0.200 mln.l/d
 5 cassava-based : 0.780 mln.l/d



Gasohol Service Stations & Volume of Sale

Current Gasahol Usage

- Total GSH95, GSH91, E20 and E85 Usage **11.89 MLPD (Jun 2012)**



Unit: ML2Day

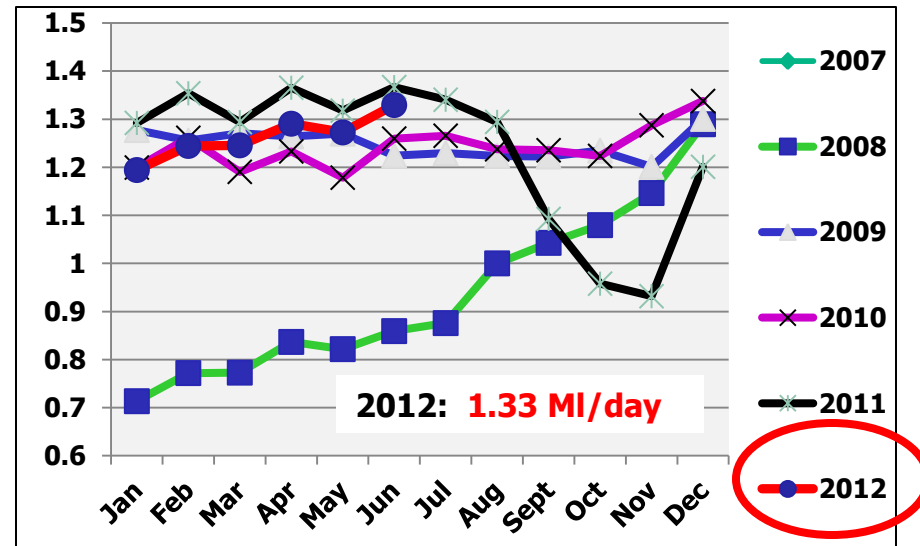
Total GSH + Gasoline Consumption (ML/day)	20.66	100%
GSH	11.89	58%
Gasoline	8.77	42%

No. of GSH Service Stations Aug 2012

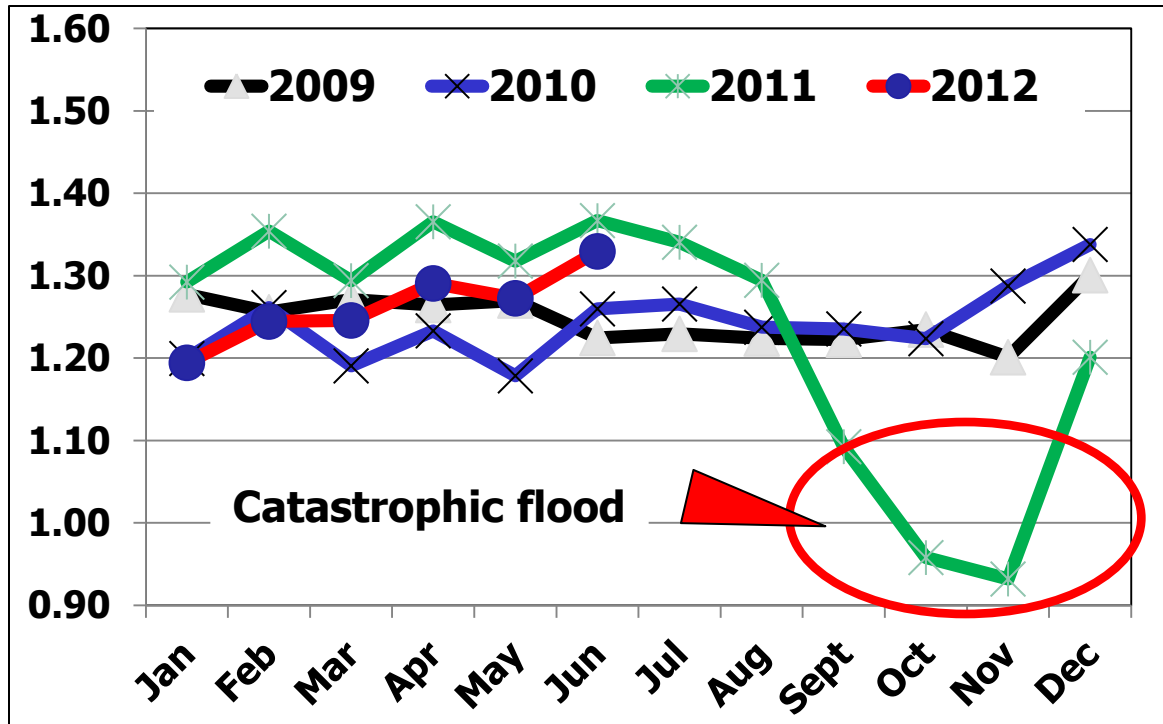
GSH E10	4,776
GSH E20	930
GSH E85	41

Current Ethanol Consumption

- Average ethanol usage **1.33 ML/D (Jun 2012)**



Current Fuel Ethanol Consumption



Key Players in Ethanol Industry

Government

- Rules/regulation/standards
- Ethanol pricing
- Promotional incentives
- Consumers education

Ethanol producers

- Over capacity



Oil companies

- Buyers
- Blenders
- Distributors

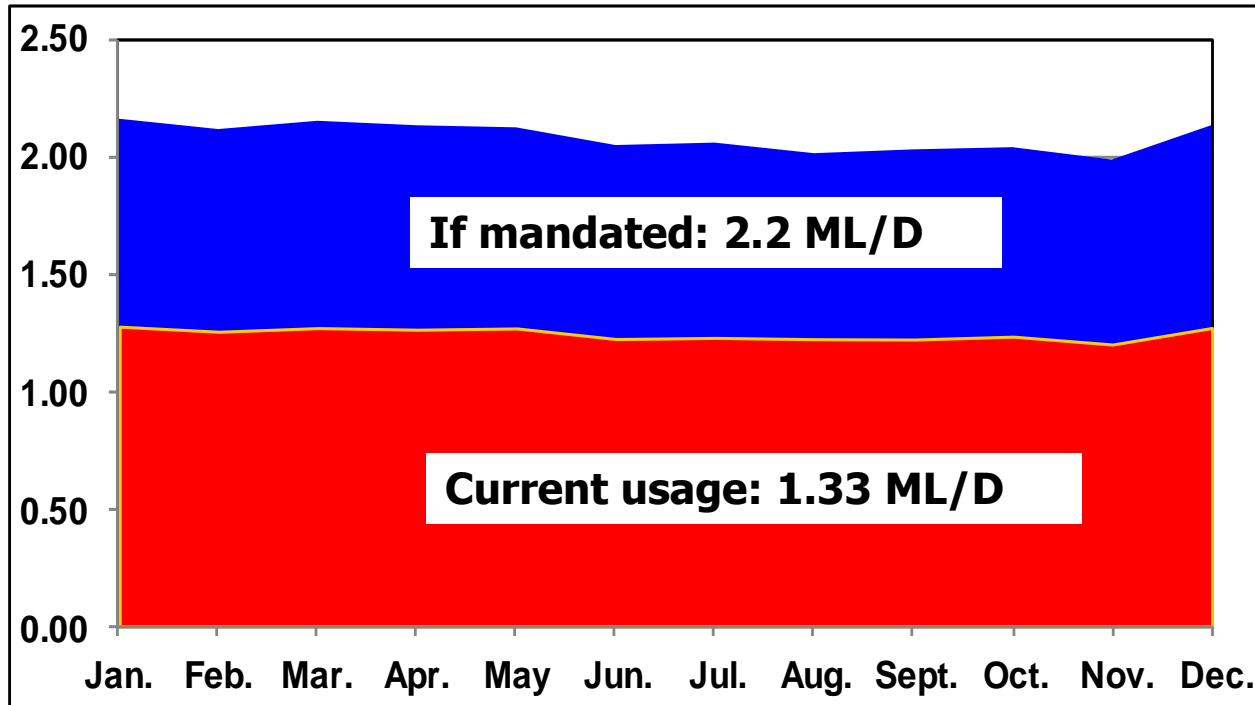


Vehicle owners

- Consumers confidence



- **Producers views: unclear Gov. policy**
- **Usage behind the target but potential to grow**

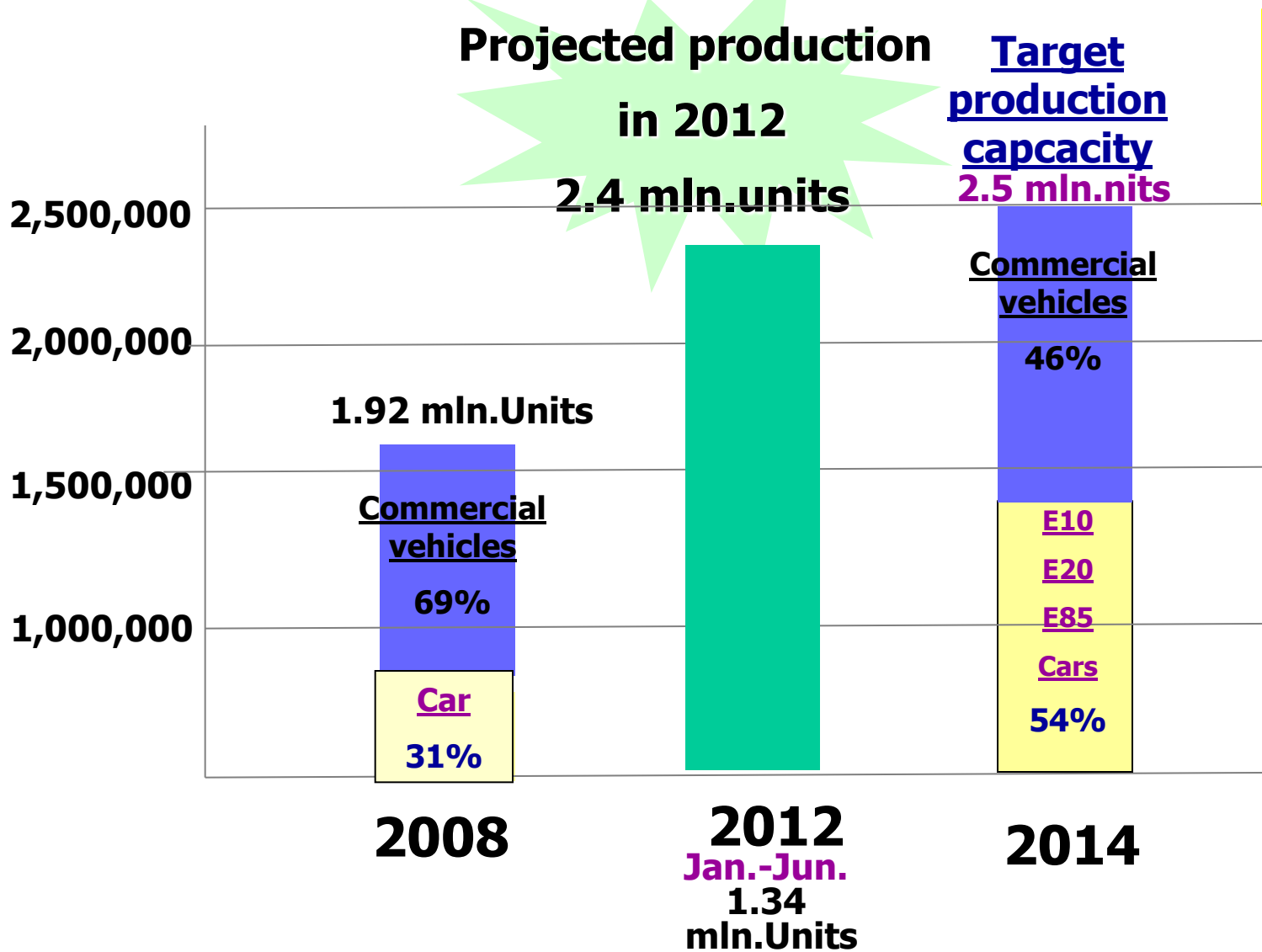


Ethanol consumption target

	2009	2013	2022
Per day	1.24	3.0	9.0
Per year	475	1,095	3.285

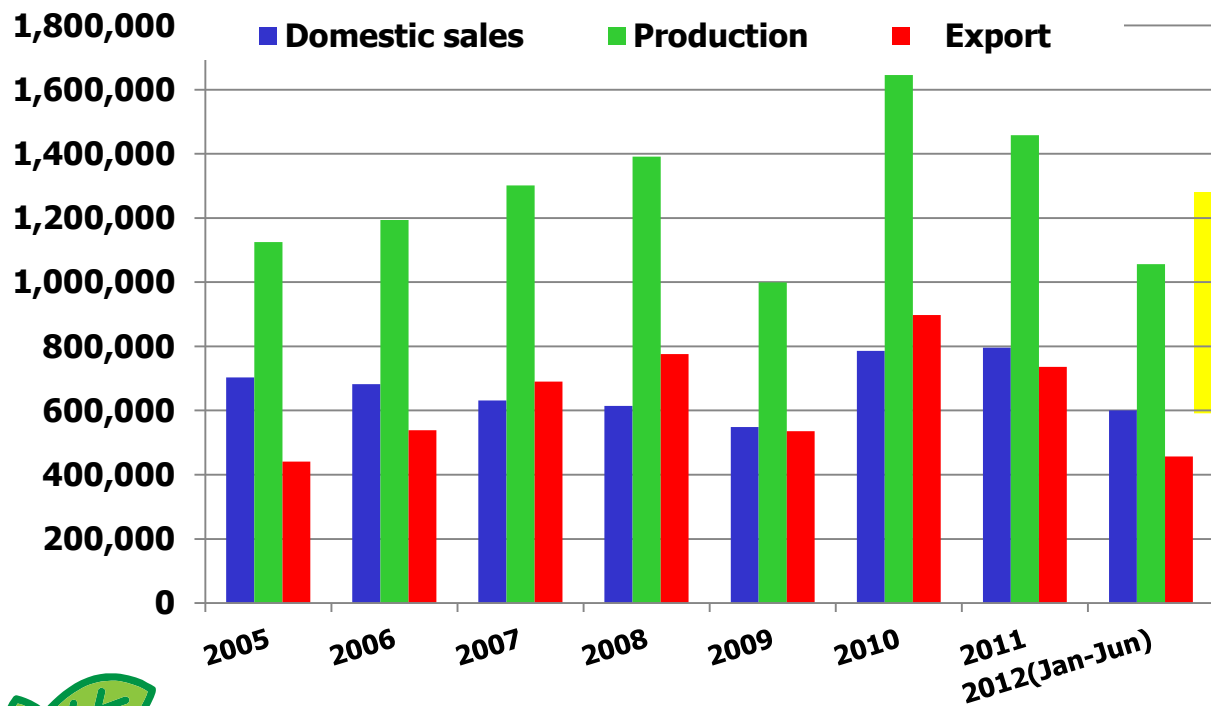
Gov support policy

Thailand: Automotive Development Plan ASEAN Automotive production Base



ECO cars
6 approved projects
0.8 mln.units/yr

Thailand's automotive industry



>2 mln cars on the road can consume E20



- 2012* Jan-Nov.
- Target production: 2.5 mln.units by 2014
- Target 1 Million FFVs by 2017??



Conclusions:

- **2011/13 record** - benchmark for future
- **Land limitation** - productivity improvement at farm and factory
- **Diversification** - cogeneration and biochemical industries brings additional revenue streams
- **ASEAN market integration in 2015 (AEC)**
 - potential for export expansion and more Thai investment in neighboring countries (Mitrphol/KSL/Mitr Kaset)



- **Ethanol - slow consumption but potential to grow**
- **Need clear Gov. policies on ethanol**
 - Mandate of gasohol ??
 - Abolish Gasoline 91 ??
 - E85/FFV vs. Fuel efficiency (Eco) vehicles..
 - Too many fuel dispensers and hoses/kits needed at the gas stations (Regular GSL 91/95-E10-E20-E85)

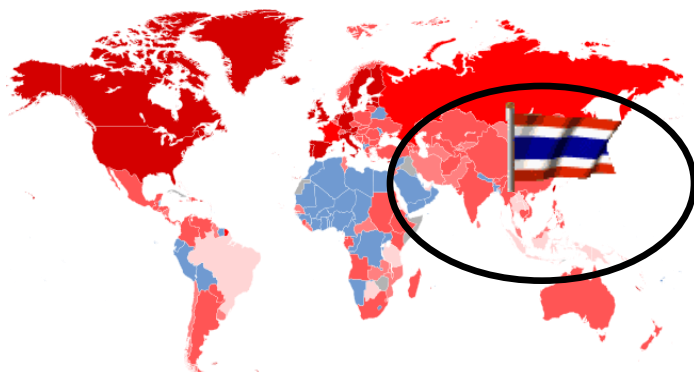


- **Need structural changes for market liberalization -**
 - Restructuring the industry system
 - Domestic sugar prices
 - Benefit sharing system
 - Laws & regulations
 - Cane and Sugar Fund



Thai Sugar Markets

	2007	2008	2009	2010	2011
Total (tons)	4,496,996	4,882,364	5,098,926	4,478,929	6,681,070
Asia (%)	96 %	97 %	91 %	93.27%	89.52%
Asia (tons)	4,318,850	4,768,185	4,636,554	4,177,573	5,981,089
ASEAN (%)	48%	47%	37%	57%	41%
ASEAN (ton)	2,160,110	2,308,155	1,905,575	2,541,485	2,729,286
Indonesia	1,367,790	1,601,915	973,957	1,265,109	1,316,049
Cambodia	207,704	285,484	469,632	444,824	389,208
Malaysia	208,128	64,099	50,522	151,161	343,702
Vietnam	42,669	96,221	126,350	246,994	289,757
Philippines	89,519	96,395	77,553	277,994	121,821
Other ASEAN Members	244,300	164,041	207,561	155,403	268,749



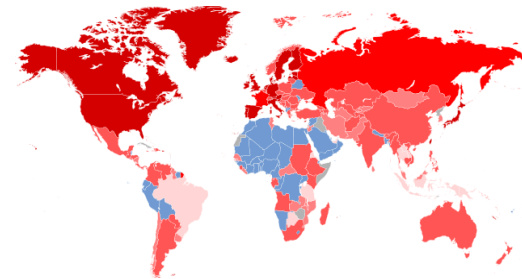
2011 Markets

Asia:	89.52%
Africa:	6.74%
Europe:	0.54%
Oceania	2.80%
America:	0.40%
of the total export	

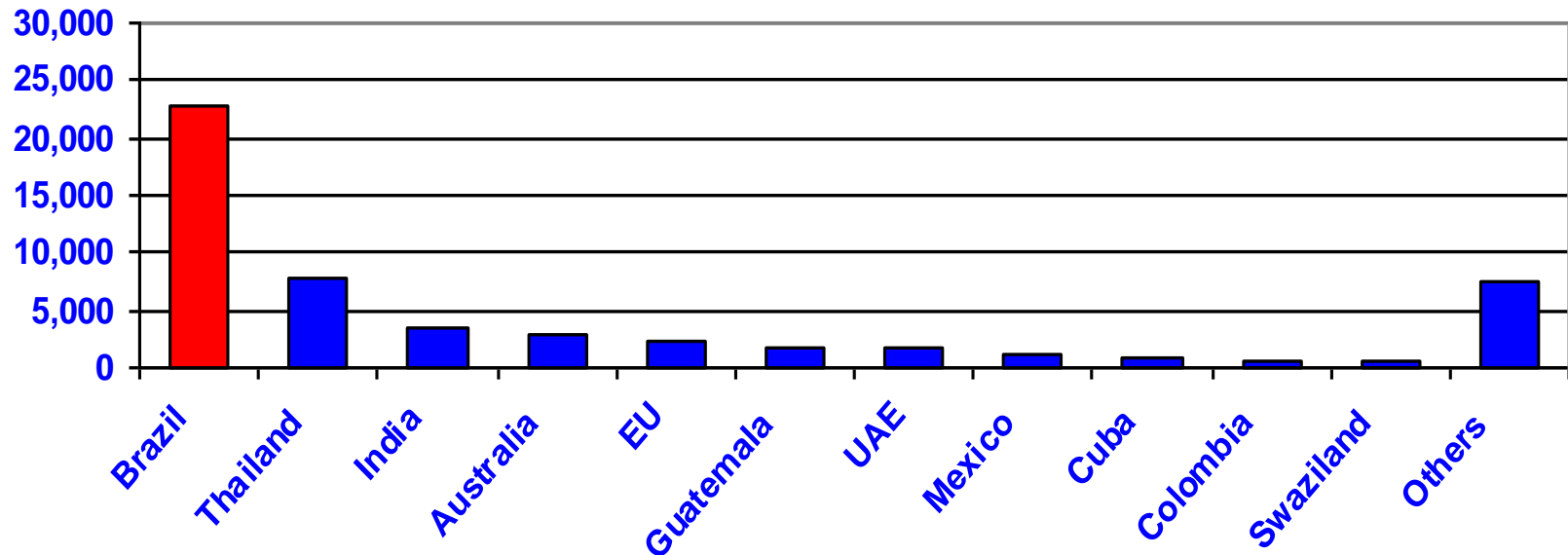


Thailand and the world sugar economy

Thailand production: 10.3 mln.t = 6% of world prod.
Thailand export: 7.9 mln. = 8% of world export



Sugar export availability in 2011/12 (1000 mtrv)



**International Sugar
Organization**



Thank you...

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