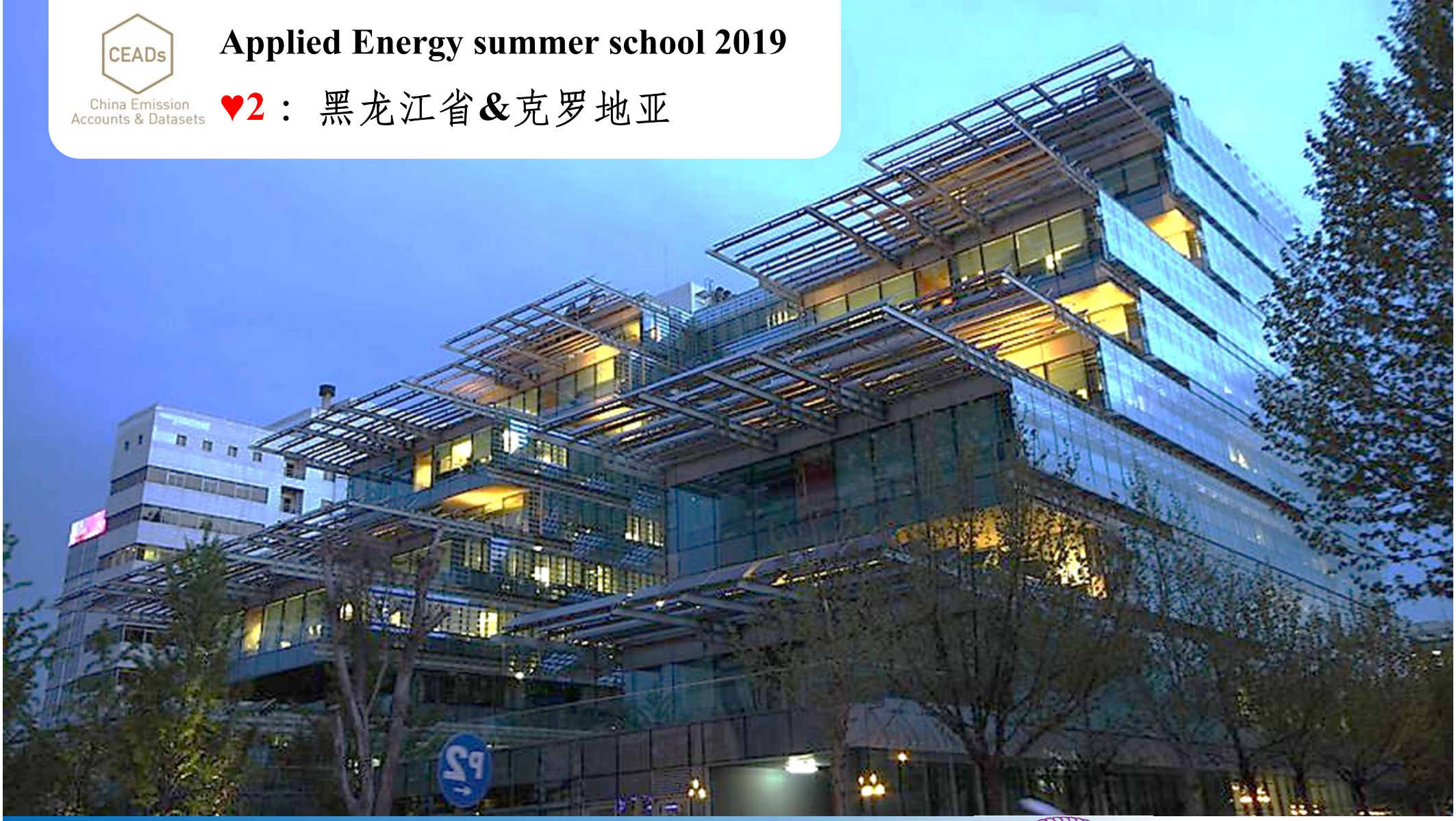
CEADs
China Emission Accounts & Datasets

Applied Energy summer school 2019

♥2： 黑龙江省&克罗地亚



TEAM MEMBERS

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TSINGHUA UNIVERSITY

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PURPOSE

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I. Accounting for carbon emission inventories of municipalities in Heilongjiang Province
II. Calculate the Human Development Index (HDI) for each city in Heilongjiang Province
III. Comparing differences in carbon emission results by industry and energy species in typical regions of Heilongjiang Province
IV. Accounting for Croatia's carbon emission inventory from 2011-2017
V. Analyzing carbon emission results by sector and energy species in Croatia

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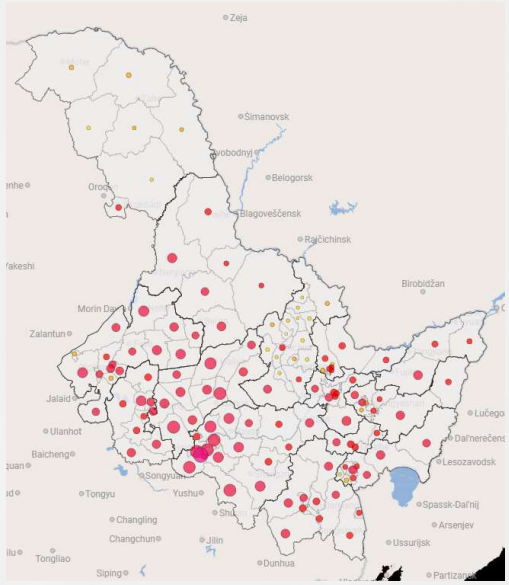
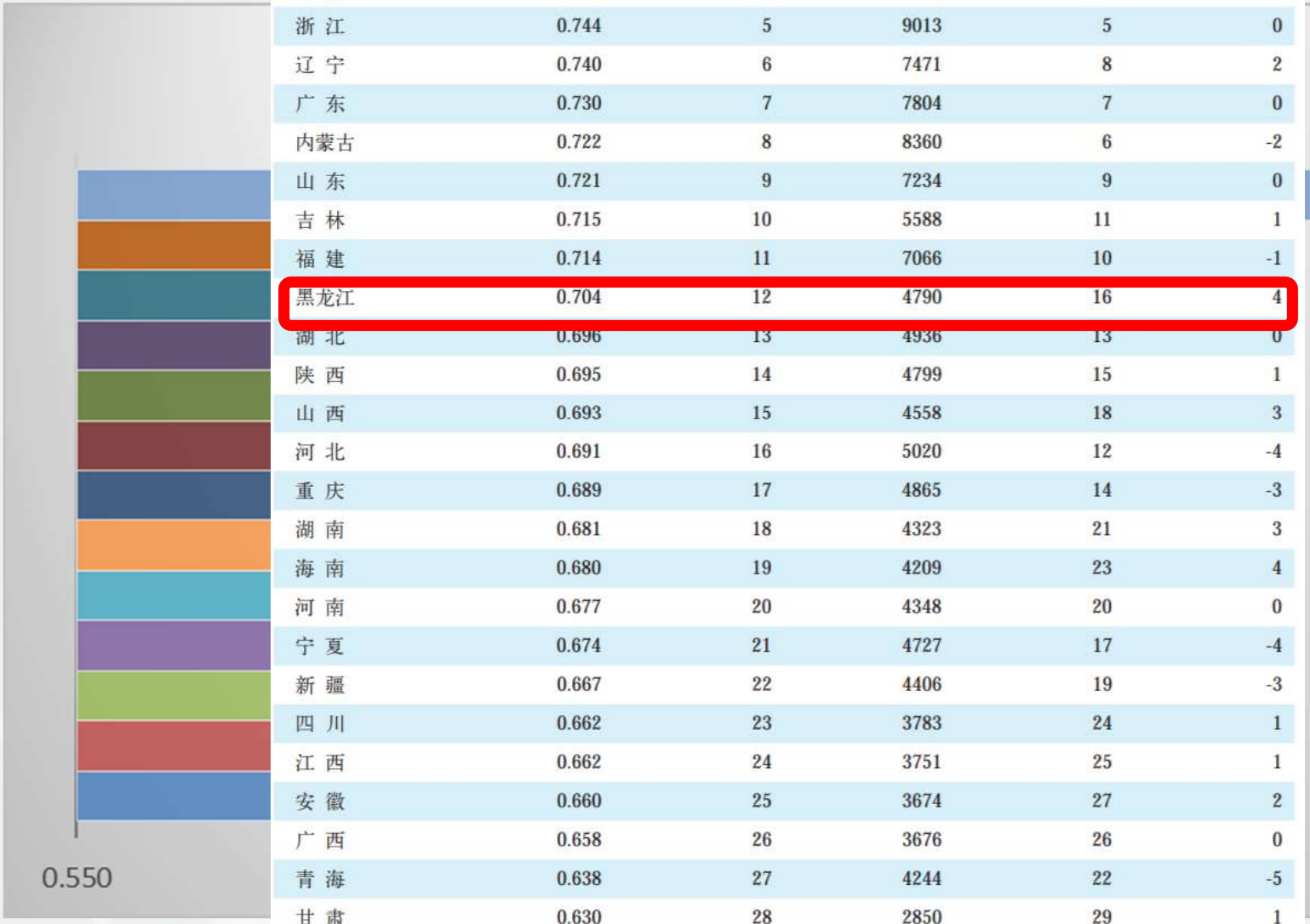
Overview of Heilongjiang Province.

- Total GDP of Heilongjiang Province ranked 23rd in the country in 2018, with a growth rate of 4.7%
- People's living standards slowly improved, with GDP per capita of 49,900 yuan in 2017 (constant 2011 prices)
- Industrial structure continues to be optimized, with the proportion of tertiary industry reaching 55.82% in 2017

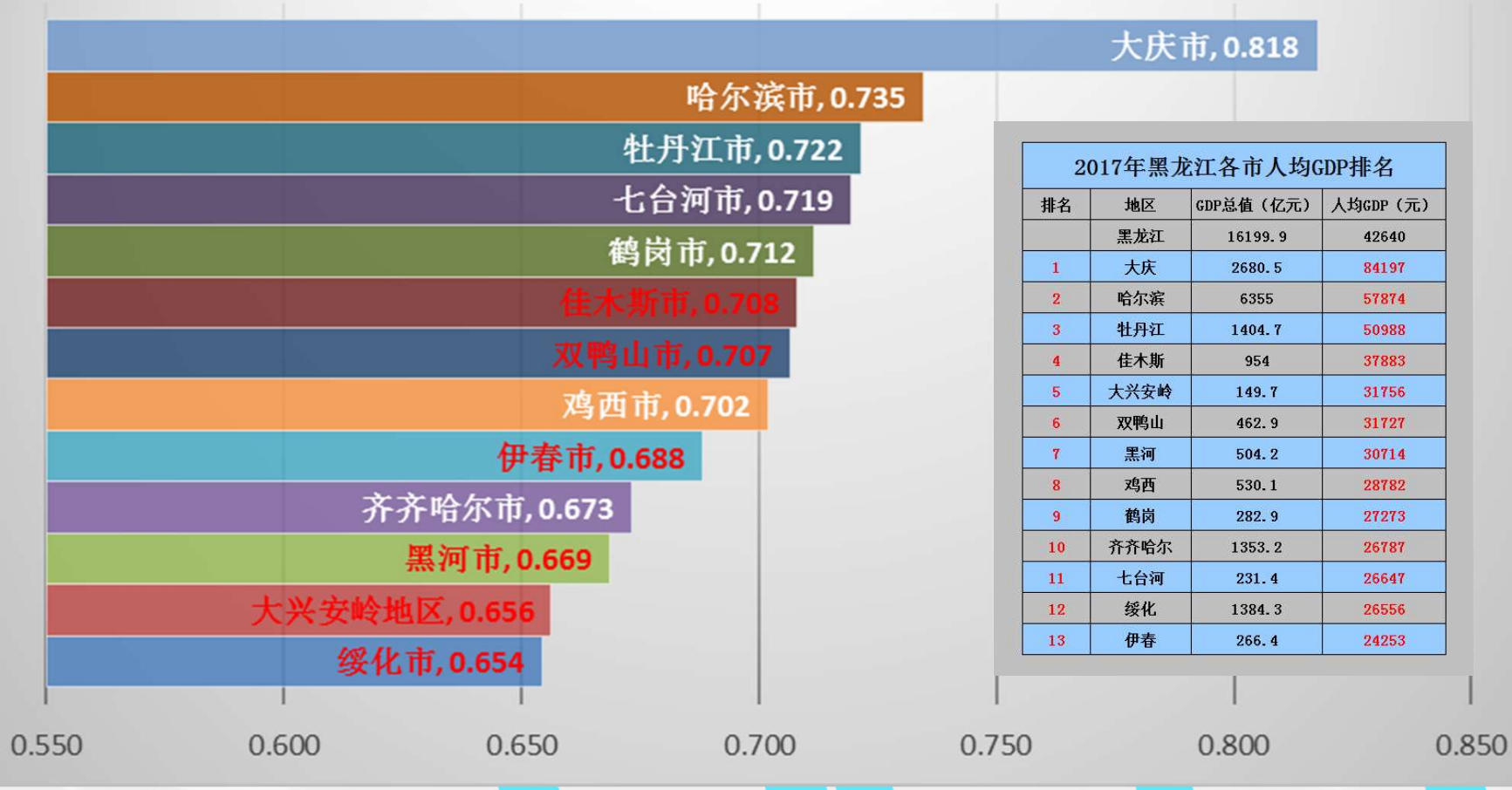


地 区	HDI指数	HDI位次	人均GNI (PPP$)	人均GNI位次	人均GNI位次减去HDI位次
全 国	0.693		5311		
北 京	0.821	1	12739	2	1
上 海	0.814	2	13201	1	-1
天 津	0.795	3	12572	3	0
江 苏	0.748	4	9322	4	0
浙 江	0.744	5	9013	5	0
辽 宁	0.740	6	7471	8	2
广 东	0.730	7	7804	7	0
内蒙古	0.722	8	8360	6	-2
山 东	0.721	9	7234	9	0
吉 林	0.715	10	5588	11	1
福 建	0.714	11	7066	10	-1
黑龙江	0.704	12	4790	16	4
湖 北	0.696	13	4936	13	0
陕 西	0.695	14	4799	15	1
山 西	0.693	15	4558	18	3
河 北	0.691	16	5020	12	-4
重 庆	0.689	17	4865	14	-3
湖 南	0.681	18	4323	21	3
海 南	0.680	19	4209	23	4
河 南	0.677	20	4348	20	0
宁 夏	0.674	21	4727	17	-4
新 疆	0.667	22	4406	19	-3
四 川	0.662	23	3783	24	1
江 西	0.662	24	3751	25	1
安 徽	0.660	25	3674	27	2
广 西	0.658	26	3676	26	0
青 海	0.638	27	4244	22	-5
甘 肃	0.630	28	2850	29	1
云 南	0.609	29	2780	30	1
贵 州	0.598	30	2342	31	1
西 藏	0.569	31	2988	28	-3



数据来源：《中国人类发展报告2013》课题组计算结果。

黑龙江省人类发展指数



2017年黑龙江各市人均GDP排名

排名	地区	GDP总值（亿元）	人均GDP（元）
	黑龙江	16199.9	42640
1	大庆	2680.5	84197
2	哈尔滨	6355	57874
3	牡丹江	1404.7	50988
4	佳木斯	954	37883
5	大兴安岭	149.7	31756
6	双鸭山	462.9	31727
7	黑河	504.2	30714
8	鸡西	530.1	28782
9	鹤岗	282.9	27273
10	齐齐哈尔	1353.2	26787
11	七台河	231.4	26647
12	绥化	1384.3	26556
13	伊春	266.4	24253

CO_2 EMISSION IN HEILONGJIANG

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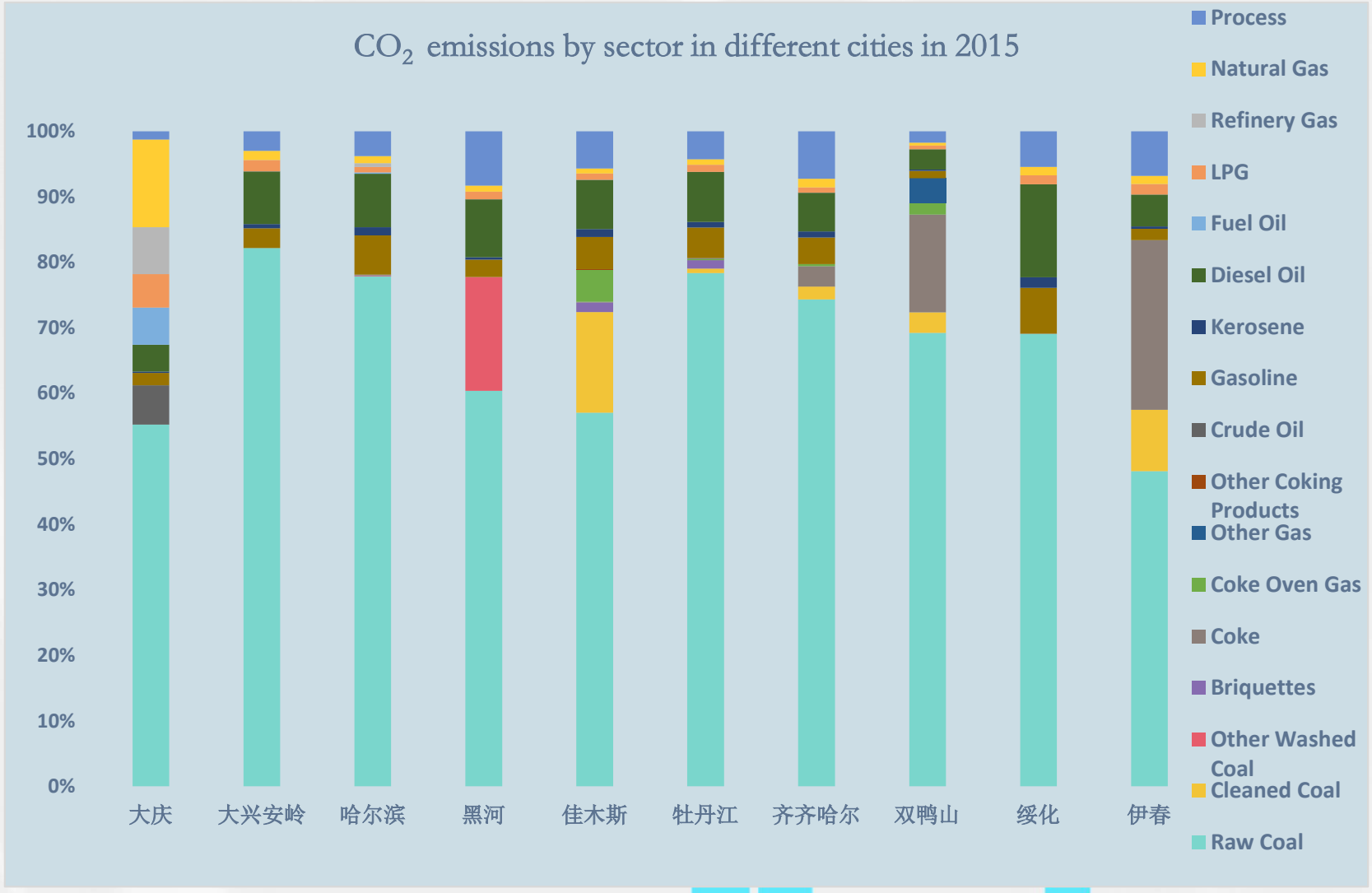

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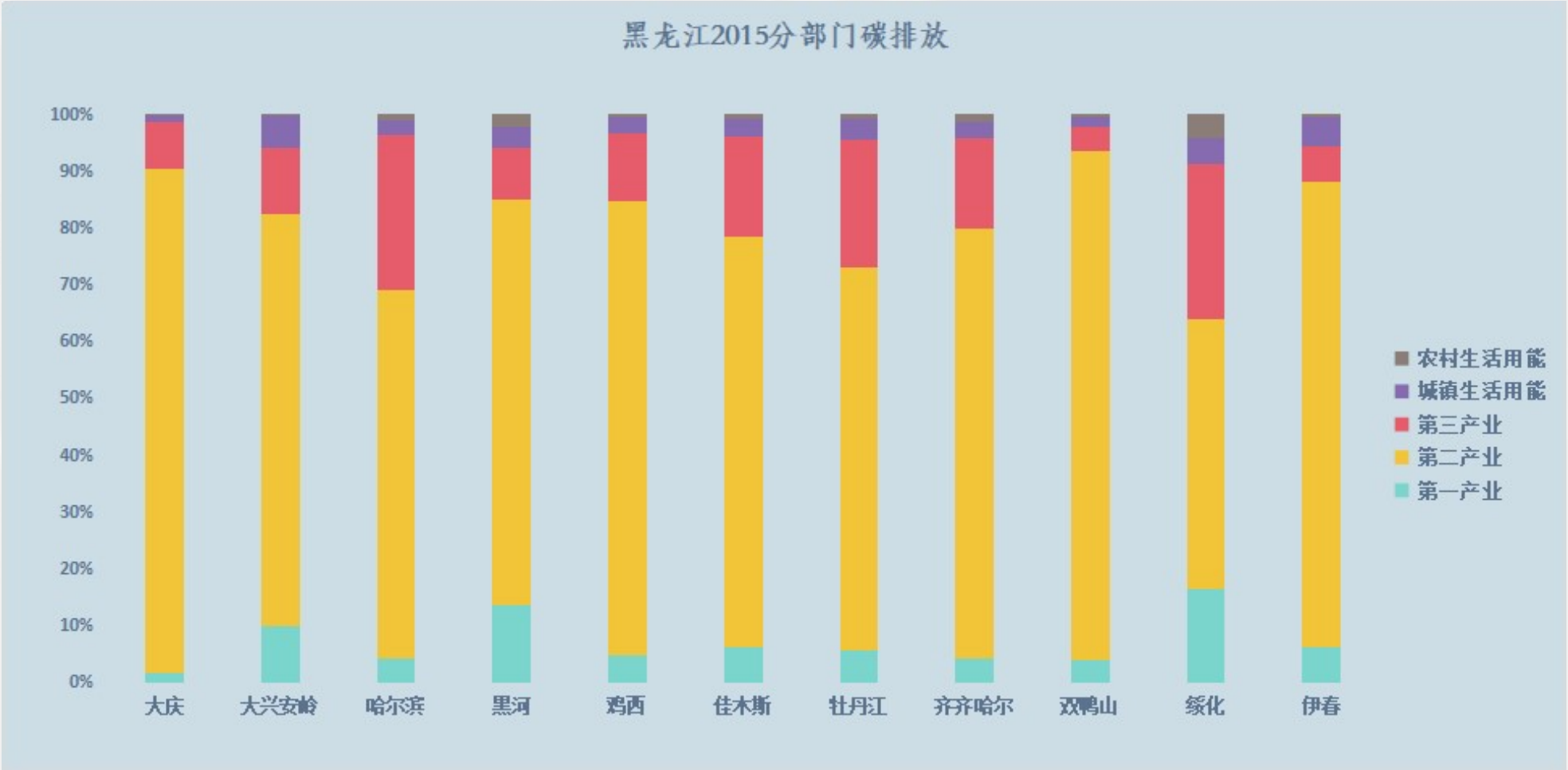

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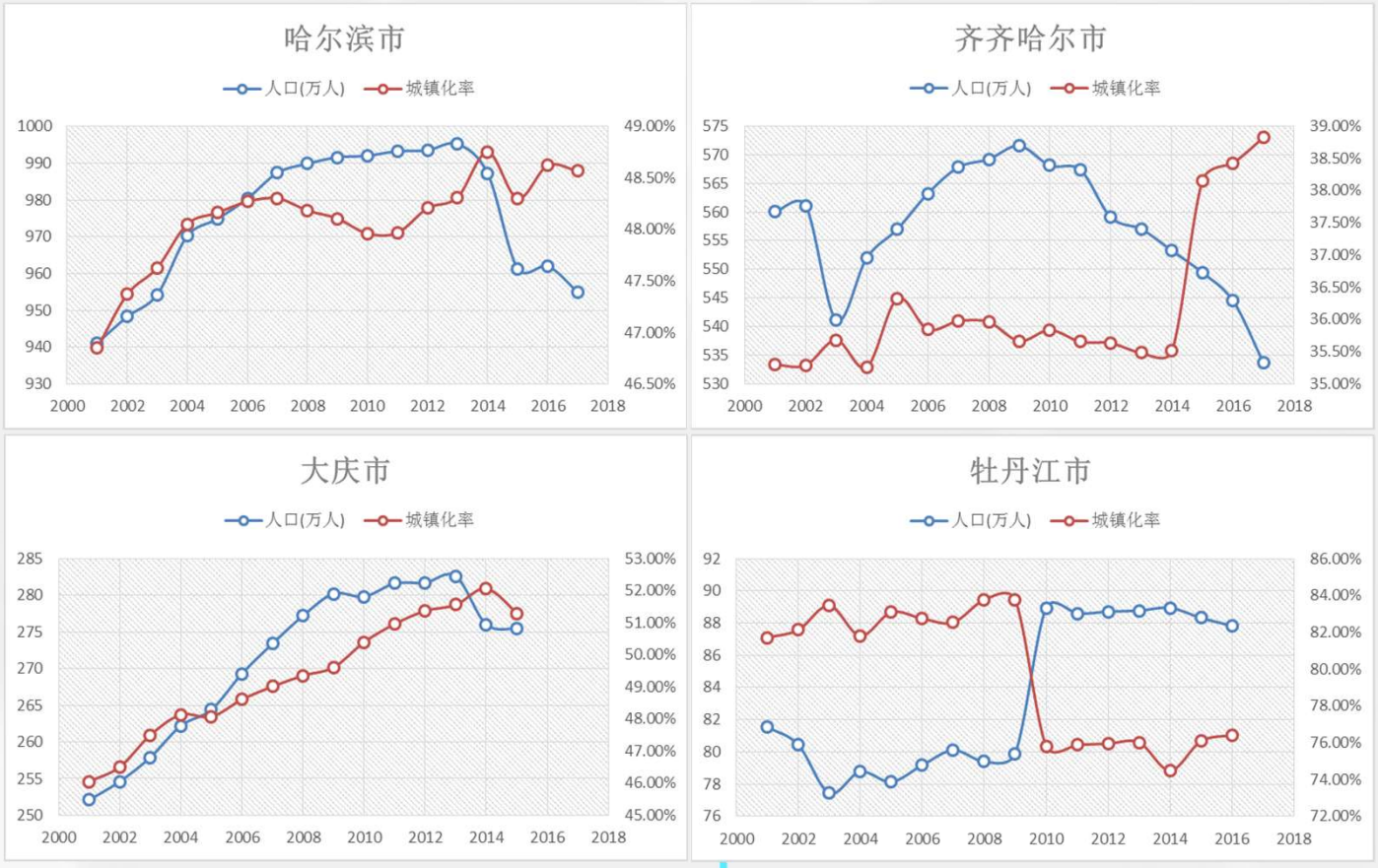

2001-2017年黑龙江省典型城市人口及城市化率

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2001-2017年黑龙江省典型城市GDP及人均GDP

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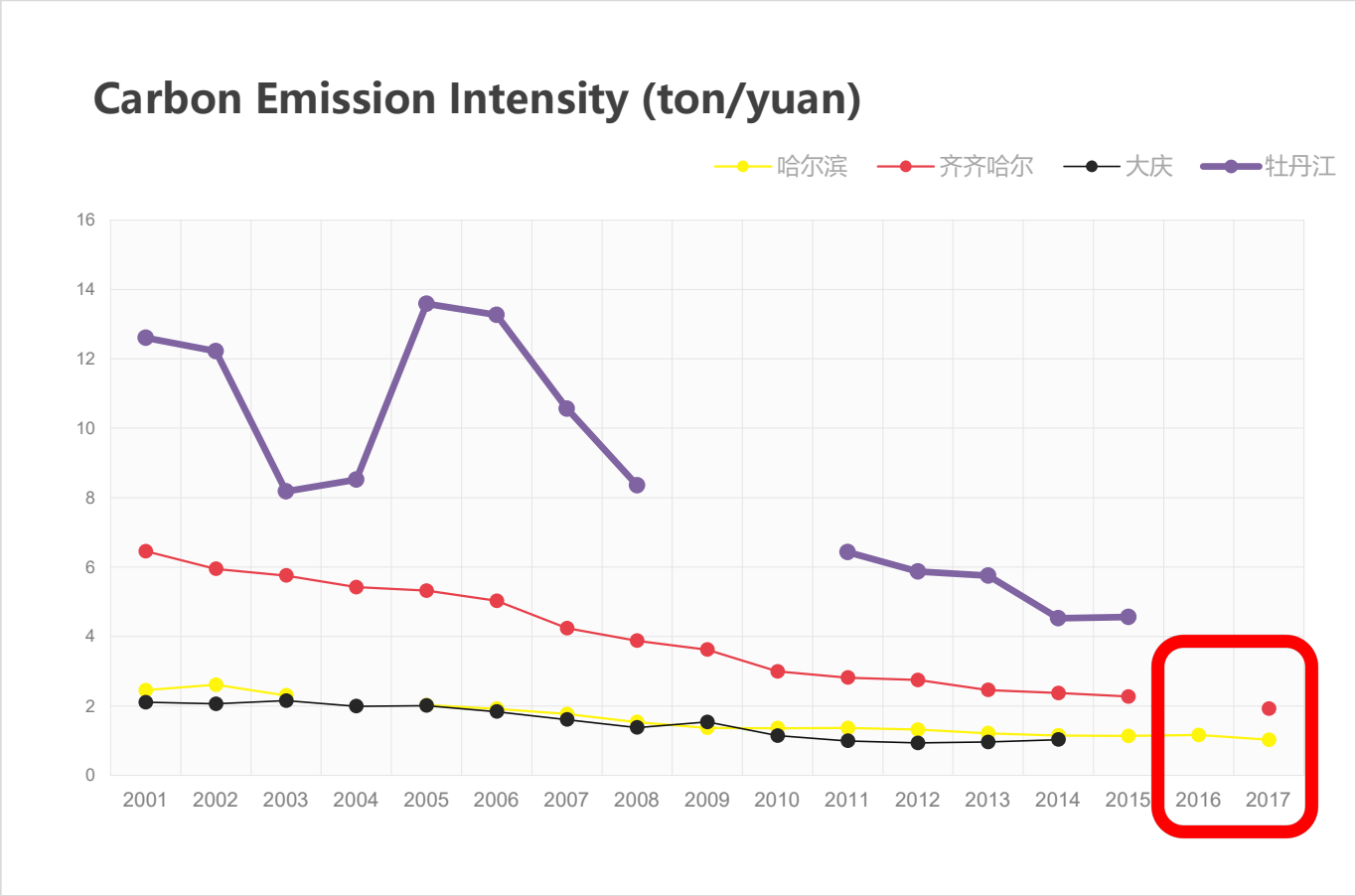

Carbon Emission Intensity of Typical Cities in Heilongjiang Province, 2001-2017

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CO_2 EMISSION IN CROATIA

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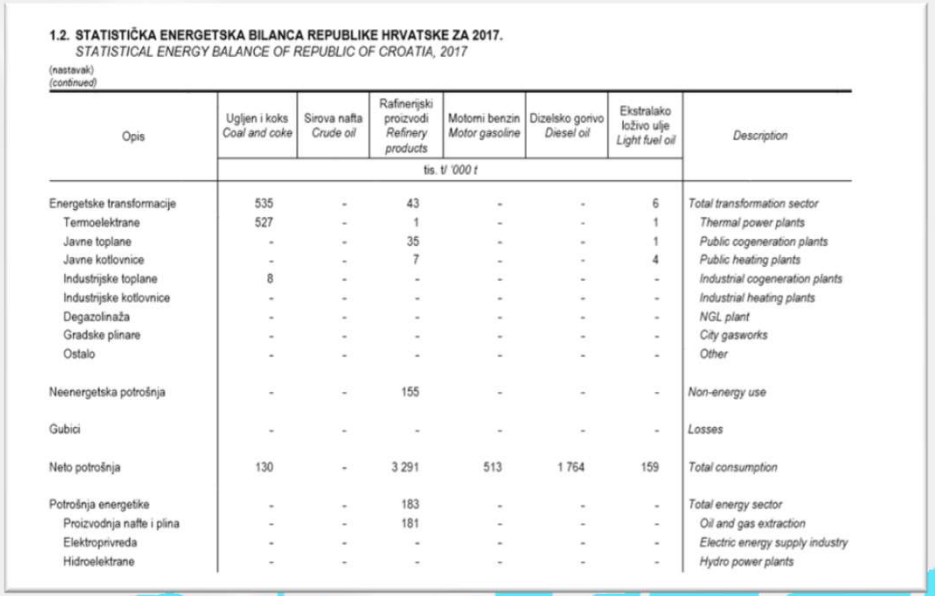
Introduction of Croatia

GDP（2018）：606.9 billion USD or 0.3237% of the EU, with a predominantly tertiary sector and tourism as an important part of the national economy.

Population（2018）：4.09 million, or 0.8% of the EU.

Carbon trading markets: In the third phase of the EU-ETS (2013-2020), the EU goal is to reduce the number of industries included in the EU-ETS by 21% by 2020 compared to 2005.

CO_2 emissions calculation：



1.2. STATISTIČKA ENERGETSKA BILANCA REPUBLIKE HRVATSKE ZA 2017.
STATISTICAL ENERGY BALANCE OF REPUBLIC OF CROATIA, 2017

(nastavak)
(continued)

Opis	Ugljen i koks *Coal and coke*	Sirova nafta *Crude oil*	Rafinerijski proizvodi *Refinery products*	Motorni benzin *Motor gasoline*	Dizelsko gorivo *Diesel oil*	Ekstralako loživo ulje *Light fuel oil*	*Description*
	tis. t/ *'000 t*						
Energetske transformacije	535	-	43	-	-	6	*Total transformation sector*
Termoelektrane	527	-	1	-	-	1	*Thermal power plants*
Javne toplane	-	-	35	-	-	1	*Public cogeneration plants*
Javne kotlovnice	-	-	7	-	-	4	*Public heating plants*
Industrijske toplane	8	-	-	-	-	-	*Industrial cogeneration plants*
Industrijske kotlovnice	-	-	-	-	-	-	*Industrial heating plants*
Degazolinaža	-	-	-	-	-	-	*NGL plant*
Gradske plinare	-	-	-	-	-	-	*City gasworks*
Ostalo	-	-	-	-	-	-	*Other*
Neenergetska potrošnja	-	-	155	-	-	-	*Non-energy use*
Gubici	-	-	-	-	-	-	*Losses*
Neto potrošnja	130	-	3 291	513	1 764	159	*Total consumption*
Potrošnja energetike	-	-	183	-	-	-	*Total energy sector*
Proizvodnja nafte i plina	-	-	181	-	-	-	*Oil and gas extraction*
Elektroprivreda	-	-	-	-	-	-	*Electric energy supply industry*
Hidroelektrane	-	-	-	-	-	-	*Hydro power plants*

Source of emission factors	fuels
IPCC	Coal and coke
IPCC	Crude oil
IPCC	Refinery products
EU	Motor gasoline (petrol)
EU	Diesel oil
IPCC	Light fuel oil
IPCC	Fuel oil
IPCC	Other refinery products
EU	LPG (road transport,passenger cars)
EU	LPG (manufacturing industries and construction,agricultural)
IPCC	Natural Gas

Energy balance of Croatia(2011-2017)
Source: Croatian Bureau of Statistics
Emission factors: IPCC and EU

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曦1 曦 晨, 26/07/2019

CO_2 EMISSION IN CROATIA

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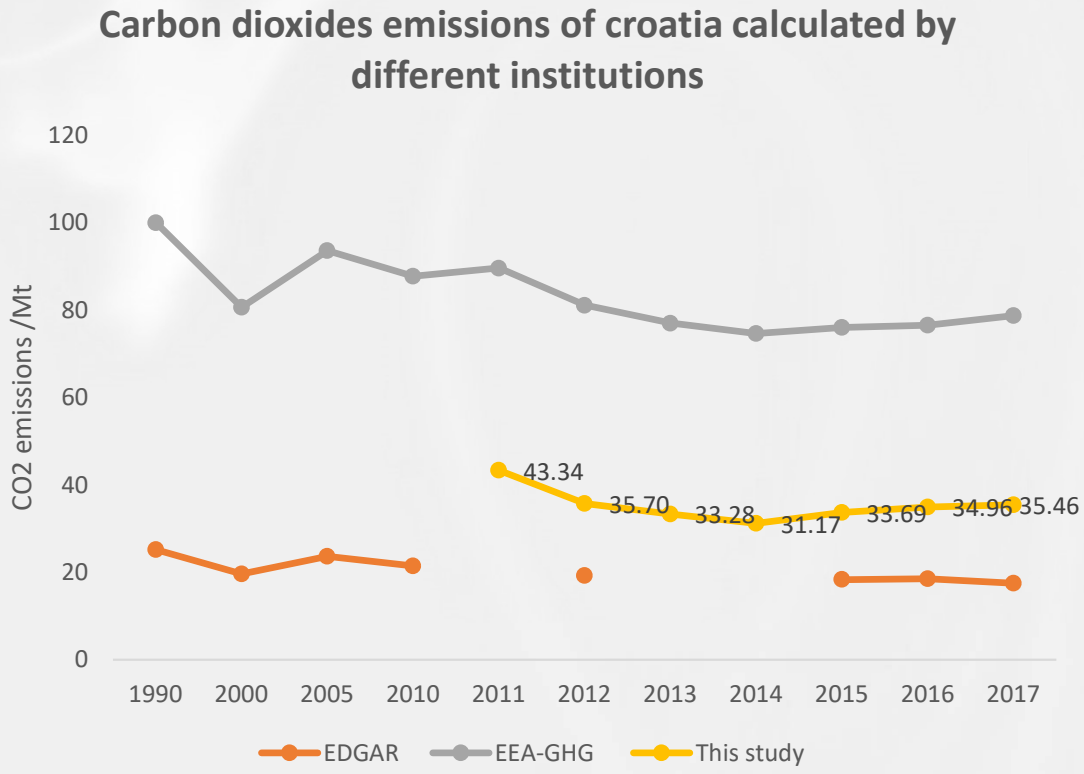
1. Croatia's CO2 emissions show an overall decreasing trend, with a rebound in 2015-2017.
2. The carbon emissions in Croatia calculated in this study are large compared to the data provided by EDGAR.
3. The small size compared to the data provided by EAA (European Environment Agency) may be due to the fact that the data from EAA includes all greenhouse gases, while only CO2 emissions are calculated in this study.



CO_2 EMISSION IN CROATIA

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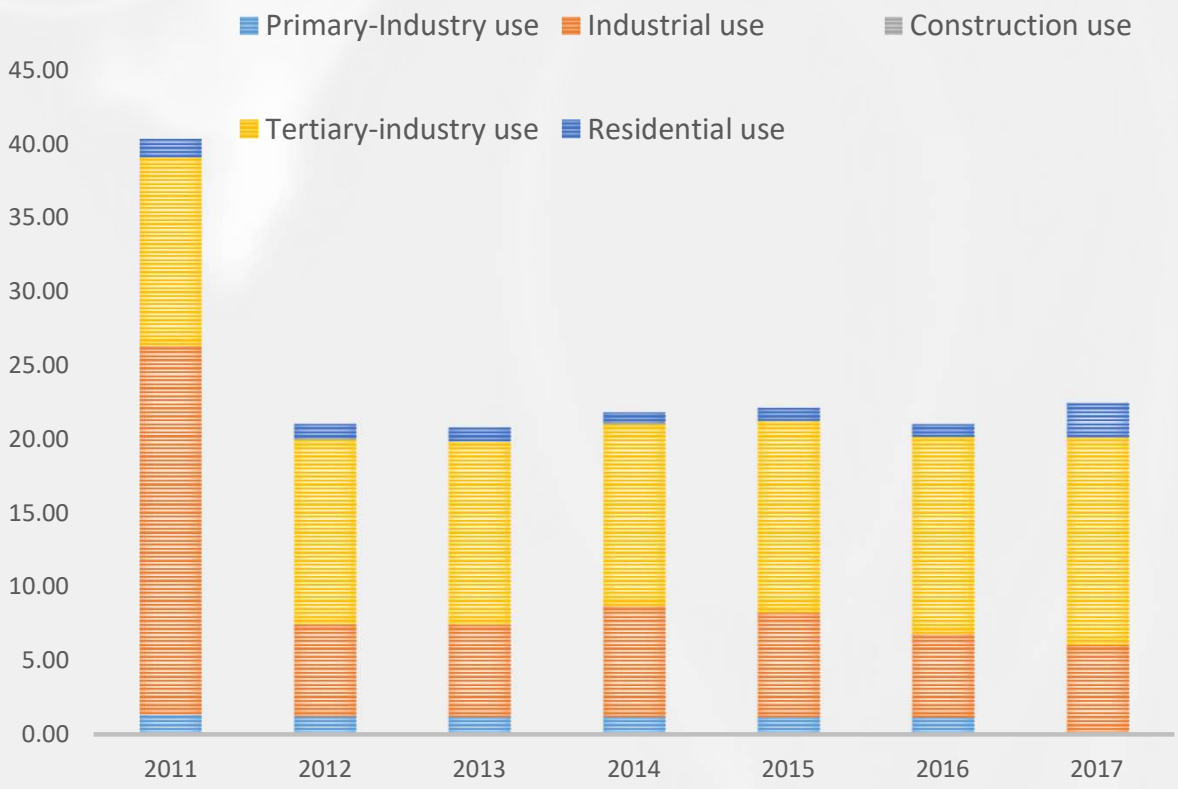
1. The sector with the largest contribution to CO2 emissions in Croatia in 2012-2017 is the tertiary sector and shows a slight upward trend, with the largest contribution from industry in 2011, followed by a sharp decrease and floating.
2. The share of carbon emissions from the primary sector and civil use is not similar.
3. the energy balance shows no energy use in the construction sector and zero carbon emissions, the exact reasons for which are to be investigated in depth.
4. The increase in emissions from the tertiary sector and civil use may be the main reason for the increase in total carbon emissions in Croatia from 2015-2017.



CO_2 EMISSION IN CROATIA

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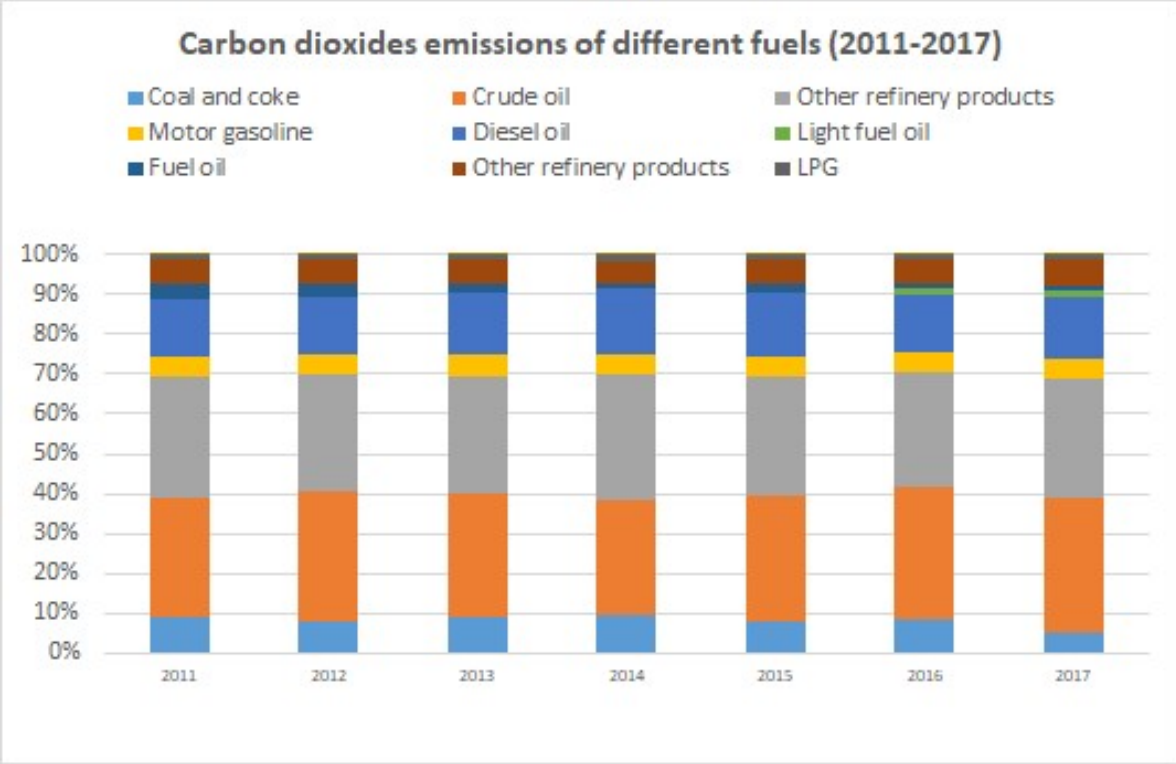
1. The energy species that contributed the most to CO2 emissions in 2011-2017 was crude oil and its other refined products, both accounting for about 60% of the total, followed by diesel fuel with about 15%.
2. The use of coal and coke, gasoline, and fuel oil showed a decreasing trend from year to year during 2011-2017.



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感谢您的观看

THANK YOU FOR WATCHING

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