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## '#3' Insight Hot Topic

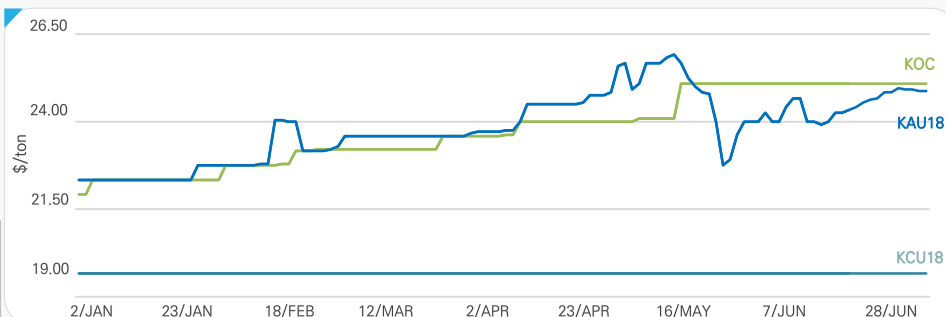
- Parties to UNFCCC adopt 2050 net zero emission targets worldwide in preparation of coming post-2020 era.
- "Net Zero" means that emissions are balanced by schemes to offset them including planting trees or using renewable energy.
- Due to its effectiveness, each nations' emission targets for 2050 still hold potential for revision.



## K-ETS Summary

※ 2019.1.1 - 6.30

		KAU 18	KAU 19	KAU 20	KCU 18	KOC
Highest	(\$/ton)	24.77	24.09	23.67	18.43	23.92
Lowest	(\$/ton)	21.13	19.61	19.61	18.43	20.71
Closing	JUN 28 <sup>th</sup> (\$/ton)	24.91	23.75	23.67	18.43	23.92
Total Volume	(1K ton)	3,065	440	0	0	733,848
Total Transaction	(\$/1K ton)	70,585	9,567	0	0	14,015



## Market Summary

## ETS

KAU18 emission price slightly upward, 0.18 percent higher since last month of June 2019.

- Total transaction volume of KAU18 rises to 307K ton higher.
- Auction responded strongly above the bid quantity.

## Offset

The approval of KOP and Offset project are 379 cases, 22 cases increased compare to the last month.

- Sectors shown for newly registered cases are waste, building, transportation, and agriculture.



## Upcoming Key Issues

## Policy

South Korea government raises its 3<sup>rd</sup> national master plan for energy use promoting renewable energy target up to 35 percent by 2040.

- The new goal to increase electricity generation by renewables sets from current proportion of 7-8 percent higher enough to achieve NDCs.

## Policy

Korea Electric Power Corp. (KEPCO) agreed temporally to revise progressive electricity rate system.

- Amid criticisms due to high electric billing on households, KEPCO expects 16M household to see 10,142 won discounts this summer.



Emission Transaction  
Korea Exchange



GIR  
GHG Inventory & Research Center of Korea



NGMS  
National GHG Management System



01

## K-ETS Status

Transaction status

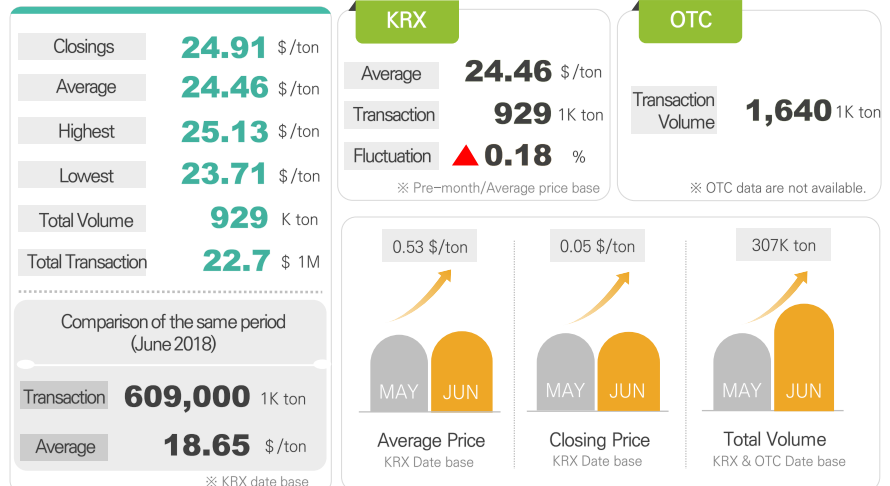


## Korea ETS Status & Market Trends

June 2019

### KAU18

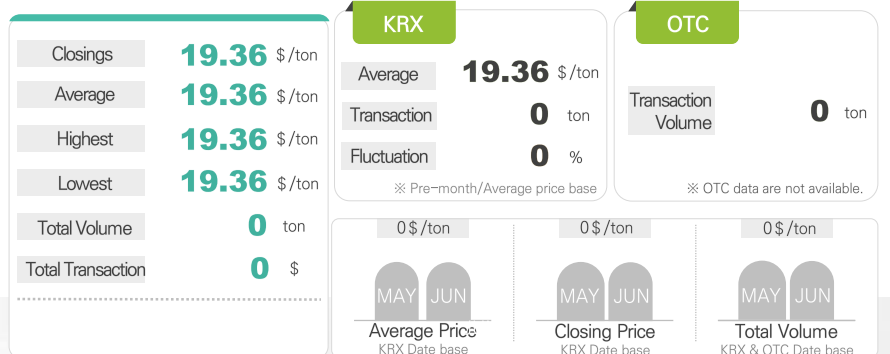
Q1-2019 average exchange rate from BoK(\$1= ₩1,126)



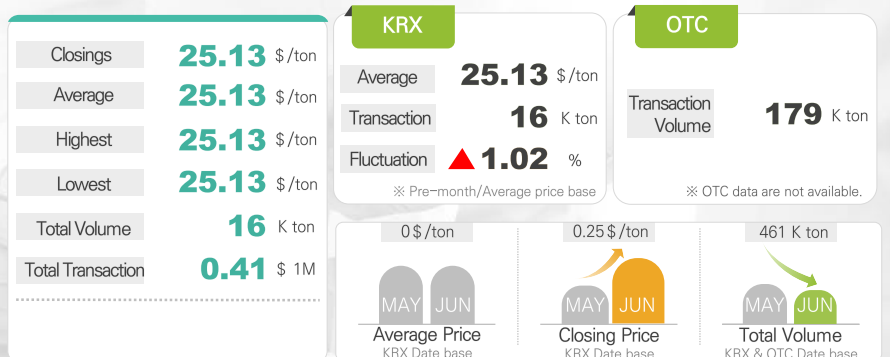
### KAU18 Auction



### KCU18



### KOC





## 01

### K-ETS Status

Transaction data

- Information on K-ETS Market data are available at Korea Exchange (KRX) website. (<http://global.krx.co.kr/main/main.jsp>)
- Any transaction data of KAU20, KCU18 are not available.



## Korea ETS Status & Market Trends

June 2019

### KAU18 / KAU19

Q1-2019 average exchange rate from BoK(\$1 = ₩1,126)

Transaction Date	Closing Price (\$)	Trade Volume (tCO <sub>2</sub> -eq)		Transaction (\$)	
		Bilateral Trade	Total Volume	Bilateral Trade	Total Price
	KAU18				
3/JUN	24.69	0	5,000	0	123,445.83
4/JUN	24.69	31,661	31,661	0	781,683.66
5/JUN	23.98	84,085	84,085	0	2,038,955.42
7/JUN	23.98	27,228	78,400	652,891.65	1,879,928.95
10/JUN	23.89	100,000	118,149	2,397,868.56	2,831,730.28
11/JUN	23.98	0	16,293	0	390,285.08
12/JUN	24.25	0	13,381	0	322,190.94
13/JUN	24.25	0	18,000	0	434,990.05
14/JUN	24.33	104,012	147,357	2,521,782.95	3,577,144.21
17/JUN	24.42	0	45,783	0	1,118,146.09
18/JUN	24.56	0	11,000	0	270,115.45
19/JUN	24.64	0	7,796	0	191,619.89
20/JUN	24.69	0	2,200	0	54,182.95
21/JUN	24.87	0	72,884	0	212,704.09
24/JUN	24.87	0	107,896	0	2,673,270.87
25/JUN	25.00	0	44,013	0	1,096,113.59
26/JUN	24.96	28,000	61,623	700,000.00	1,539,081.97
27/JUN	24.96	13,500	30,743	336,900.53	767,617.67
28/JUN	24.91	6,270	33,037	155,914.74	823,410.44
	KAU19				
10/JUN	24.42	100,000	100,000	2,422,273.53	2,442,273.53
11/JUN	24.42	0	2,000	0	48,845.47
14/JUN	24.69	0	1,000	0	24,689.17
18/JUN	25.13	0	2,000	0	50,177.62
21/JUN	25.31	0	500	0	12,655.42
26/JUN	25.31	0	8,500	0	215,142.10
28/JUN	24.96	0	4,000	0	99,822.38

### KOC

Transaction Date	Closing Price (\$)	Trade Volume (tCO <sub>2</sub> -eq)		Transaction (\$)	
		Bilateral Trade	Total Volume	Bilateral Trade	Total Price
27/JUN	25.13	13,941	16,702	350,382.15	419,774.96

### KAU18 Auction

Auction Date	Bid Qnty.	Bid Response	Bidders	Low Bid Price (\$)	High Bid Price (\$)	Winning Price (\$)	Successful Bid Qnty.	Total Price Amount (\$)
23/JAN	550,000	1,070,000	7	20.52	24.42	22.65	550,000	12,455,595
13/FEB	550,000	1,105,600	9	22.78	26.60	24.02	550,000	13,212,256
13/MAR	550,000	740,200	9	22.20	24.87	23.49	409,500	9,619,005
10/APR	1,590,000	2,279,800	10	22.20	29.57	23.45	1,590,000	37,278,863
08/MAY	1,000,000	1,285,300	10	24.11	27.04	24.73	1,000,000	24,733,570
12/JUN	550,000	777,500	5	26,900	28,900	26,950	550,000	13,163,410



## 02

### Korean Offset Status

Korea Offset Program(KOP)

- Information on Approval KOP project are available at Offset Registry System (ORS, <http://ors.gir.go.kr>) 'Public Information'.

#### Reference

Available public information on KOP  
– PP, Project name,  
Crediting period,  
Applied methodology,  
PPD etc.



### KOP, Offset Project (External Project) Status

June 2019

Total Approval Project **379** Cases

• KOP 285 cases, CDM 94 cases  
(▲ shows changes from last article)

Waste	Industrial Power	Building	Transportation	Agriculture	Forestry
<b>49</b> cases	<b>265</b> cases	<b>33</b> cases	<b>2</b> cases	<b>26</b> cases	<b>4</b> cases
KOP / CDM <b>2/47</b> ▲ 1 ▲ 1	KOP / CDM <b>218/47</b>	KOP / CDM <b>33/0</b> ▲ 17	KOP / CDM <b>2/0</b> ▲ 1	KOP / CDM <b>26/0</b> ▲ 2	KOP / CDM <b>4/0</b>

### Approval of KOP project by applied methodology (excluding CDM)

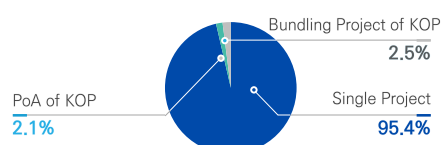
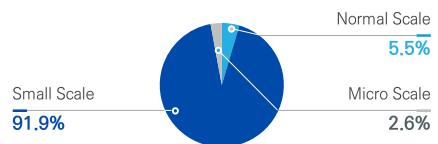
Sector	Methodology	Approval Cases
Waste	· Methodology of injecting bio-methane into city gas supply chain	1
	· Methodology of utilizing biogas plant for energy production in rural area	1 ▲ 1
Industrial Power	· Fuel switch methodology	118
	· Fuel switch by wood pellet methodology	40
	· High efficiency equipment replacement methodology	42
	· Waste energy recovery & utilize methodology	17
	· Installation of Electric saving facility methodology	1
Building	· Converting building heating from central heating to district heating	32
	· High efficiency lighting equipment replacement in building	1
Transportation	· Methodology for producing bio-CNG for automobile fuel use.	1
	· (AM0101) High speed passenger rail systems	1 ▲ 1
Agriculture	· Reducing fossil fuel consumption using waste energy in rural	2
	· Reducing fossil fuel consumption using geothermal energy in rural	19 ▲ 1
	· Fuel conversion using wood pellets in rural	1
	· Energy use methodology of 'gardening facility' using 'high efficiency heat-conservation material'	2
	· Heat production using solar heat energy in rural area	1 ▲ 1
Forestry	· Afforestation & Reforestation methodology	2
	· Forestry recovery methodology	2

### Approval of KOP project by scale type (excluding CDM)

Project Type	Cases
Normal Scale	15 ▲ 2
Small Scale	250 ▲ 18
Micro Scale	7

※ Single Project (Total 272 cases)

Project Type	Cases
Single Project	272 ▲ 20
Bundling Project of KOP	7
PoA of KOP	6 ▲ 1





02

## Korean Offset Status

Korea Offset Program(KOP)

- Information on issued KOCs of KOP are available at Offset Registry System (ORS, <http://ors.gir.go.kr>) 'Public Information'.



## KOP, KOCs Issued Status

June 2019

Total Issued KOC **26,062** <sup>1,000 ton</sup>

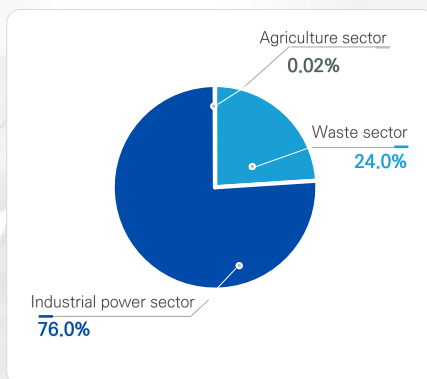
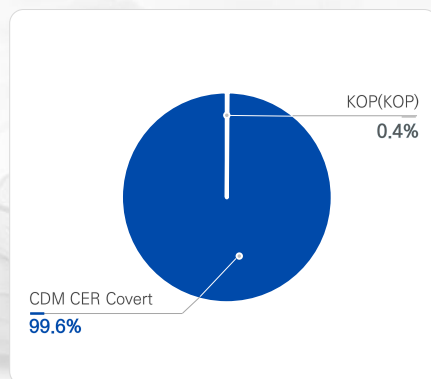
• KOP 102K ton, CDM 25,960K ton  
(▲ shows changes from last article)

Sector	Waste	Industrial Power	Building	Transportation	Agriculture	Forestry
Issued KOC	6,246 K ton	17,873 K ton	0 ton	0 ton	3 K ton	0 ton
KOP	26 K ton	70 K ton	-	-	6 K ton	- K ton
Change		▲ 70,000			▲ 3,000	
CDM	6,220 K ton	19,739 K ton	-	-	-	-
Change		▲ 1,865,000				

## Status of Issued KOC by KOP and CDM CER Convert

No.	Sector	Detail Sector	Issued KOC	Sub-total
KOP (KOP)	Waste	Waste treatment	25,708 ton	25,708 ton
	Agriculture	Energy demand Energy production by new&renewables	2,651 ton 3,256 ton	5,907 ton ▲ 3,256
KOP (CDM)	Industrial Power	Thermal energy through fossil fuel and biomass Renewable Energy Energy demand Chemical industry GHG capture & destruction	216,999 ton 2,428,823 ton 84,762 ton 12,647,566 ton 4,361,273 ton	19,739,423 ton ▲ 1,865,511
	Waste	Waste treatment	6,220,556 ton	6,220,556 ton
	Building	-	-	-
	Transportation	-	-	-
	Agriculture	-	-	-
	Forestry	-	-	-
Total		26,061,715 (Unit: tCO <sub>2</sub> -eq) <span>Since Last Month ▲ 1,938,388 ton</span>		

## Status of Issued KOC



### Reference

Available open source data for KOP (KOP, CDM CERs converts)

- PP, Project name, Crediting period, KOC serial number, ER, MR, Monitoring period, VR etc.







## 02

### Korean Offset Status

Korea Offset Program(KOP)



## 03

### QUESTION

Q&A



## KOP, Approval Methodology Status

June 2019

Since October 2016

CDM Methodologies that utilizable for KOP **211** Methodologies

Since May 2019

KOP Approval Methodology **43** Methodologies

From June 2019

Utilizable

Methodologies

Total **254** Methodologies

Total Approval **43** Methodologies

Waste

**4** Methodologies

Industrial Power

**13** Methodologies

Building

**4** Methodologies

Transportation

**3** Methodologies

Agriculture

**15** Methodologies

Forestry

**4** Methodologies

If you have any questions or comments regarding our 'KETS INSIGHT' or any questions about 'K-ETS and Korea Carbon Market', please contact us by email.



Q & A



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# ETS



Climate Change & Carbon Market  
INSIGHT

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Ministry of Environment



Korea Environment Corporation



## 04 Hot Topic Climate and ETS

### Hot Topic

#### Parties to UNFCCC Adopt 2050 Net Zero Emission Targets in an Attempt to Submit before Post-2020.

Headlines covered on 14<sup>th</sup> of June

The Paris Agreement (2015) led the conferences of the parties to UNFCCC (COPs) to set a long-term greenhouse gas (GHG) emission reduction targets for 2050. To meet the aims of the proposed Agreement, countries were asked to submit their Nationally Determined Contribution (NDCs) and any types of declaration of GHG reduction targets in the years up to 2020. In light of this, Britain on 27<sup>th</sup> of June has signed a legislation becoming the world's first major economy to adopt a new target of lowering fossil fuel emissions to a level of net zero by 2050. Other nations like Japan, and European Union (EU) are also announcing their net zero targets which entitled to the Paris Agreement as a ground climate law.

**UK** | Climate target for the UK was set for 80% reduction compare to the emission level of 1990. However the newly passed the revision on climate change law sets the nation's reduction goal high up enough to balance the total amount of GHG by schemes offsetting them. This includes planting trees or using energy efficient technologies to capture and store carbon emitted from burning coal and oil.

**USA** | Lawmakers of New York have agreed to pass a climate plan that calls for the state to eliminate its greenhouse gas emission by 2050. Specifically the "Climate Leadership and Community Protection Act" entails the state to reduce its carbon emission 85 percent below 1990 level by 2050, and offset the remaining 15 percent. Meanwhile, the state of California has also set their targets in electricity generation sector by 100 percent renewable energy by 2045.

**JAPAN** | On 12<sup>th</sup> of June, Japan's cabinet approved it would achieve a carbon-neutral society as the final goal seeking to realize it at the earliest possible time in the latter half of this century. This announcement aims to reduce reliance on nuclear energy and thermal power generation and slashes emissions by 80% from 2010 levels until 2050.

**EU** | Eighteen of the EU's 28 members are now in favour of supporting the European Commission's proposed carbon neutrality goal for 2050. By tightening of previous target to reduce emissions 40% from 1990 levels, the argument poses the intention of finalizing a deal in early 2020 which has to be resolved soon as other members of EU stand still against this ambitious climate target.

**South Korea** | As for the national climate target for a low carbon economy and participating the global leadership of GHG reduction, South Korea has a plan to make "2050 Long-term Plan for Low Carbon Society".

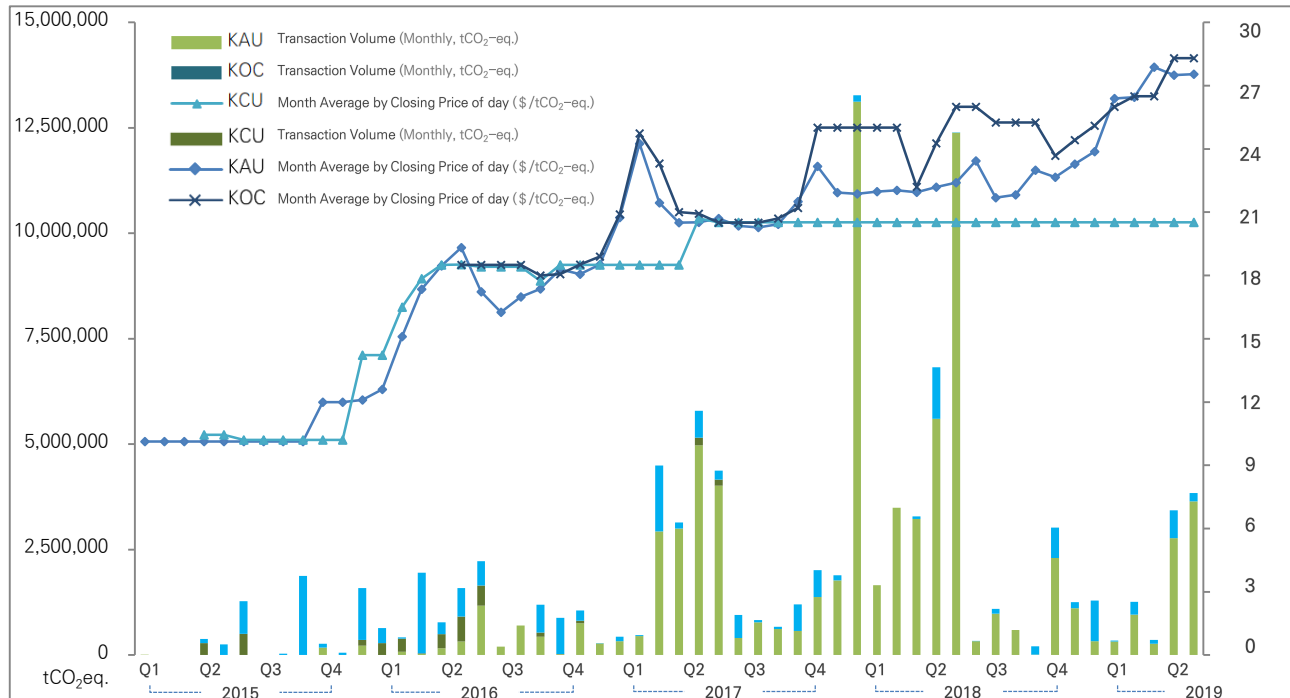
Source: Ministry of Environment, 2019



## [Annex 1] Total Transaction of KAU, KCU, KOC in K-ETS

Since Jan. 2015 to Apr. 2019  
Average Exchange rate from BoK (\$1 = ₩1,131)

(Unit: \$)



## [Annex 2] Total Transaction Volume of K-ETS since 2015

(Unit: tCO<sub>2</sub>-eq)

No.	KAU			KCU			KOC			Total
	KRX	OTC	Sub-total	KRX	OTC	Sub-total	KRX	OTC	Sub-total	
2015 Q1	1,140	-	1,140	-	-	-	-	-	-	1,140
2015 Q2	-	-	-	779,658	-	779,658	-	1,130,000	1,130,000	1,909,658
2015 Q3	-	-	-	-	-	-	-	1,912,774	1,912,774	1,912,774
2015 Q4	320,000	78,315	398,315	141,059	-	141,059	-	1,370,613	1,370,613	1,909,987
2016 Q1	23,600	78,000	101,600	326,829	286,149	612,978	-	2,293,723	2,293,723	3,008,301
2016 Q2	1,275,244	371,787	1,647,031	1,398,306	10,000	1,408,306	2,413	1,523,552	1,525,965	4,581,302
2016 Q3	858,224	468,300	1,326,524	100,000	-	100,000	200,000	462,570	662,570	2,089,094
2016 Q4	405,000	642,867	1,047,867	58,632	-	58,632	459,409	654,044	1,113,453	2,219,952
2017 Q1	2,532,760	1,179,500	3,712,260	-	-	-	149,500	1,539,348	1,688,848	5,401,108
2017 Q2	6,994,034	4,993,317	11,987,351	323,276	-	23,276	317,695	678,636	996,331	13,306,958
2017 Q3	1,394,764	397,651	1,792,415	-	-	-	90,820	565,592	656,412	2,448,827
2017 Q4	2,786,270	934,000	3,720,270	-	-	-	145,017	1,242,220	1,387,237	5,107,507
2018 Q1	3,651,884	14,619,517	18,271,401	-	-	-	-	150,000	150,000	18,421,401
2018 Q2	12,296,566	8,916,128	21,212,694	-	-	-	144,771	1,151,674	1,296,445	22,509,139
2018 Q3	865,042	1,034,915	1,899,957	-	-	-	13,218	103,409	116,627	2,016,584
2018 Q4	687,642	2,336,868	3,024,510	-	-	-	141,593	915,413	1,057,006	4,081,516
2019 Q1	975,232	630,000	1,605,232	-	-	-	692,146	600,000	1,292,146	2,897,378
Total	37,597,740	41,381,829	78,979,569	3,127,760	296,149	3,423,909	2,398,284	17,201,275	19,599,559	102,003,037