

The European Green City Index



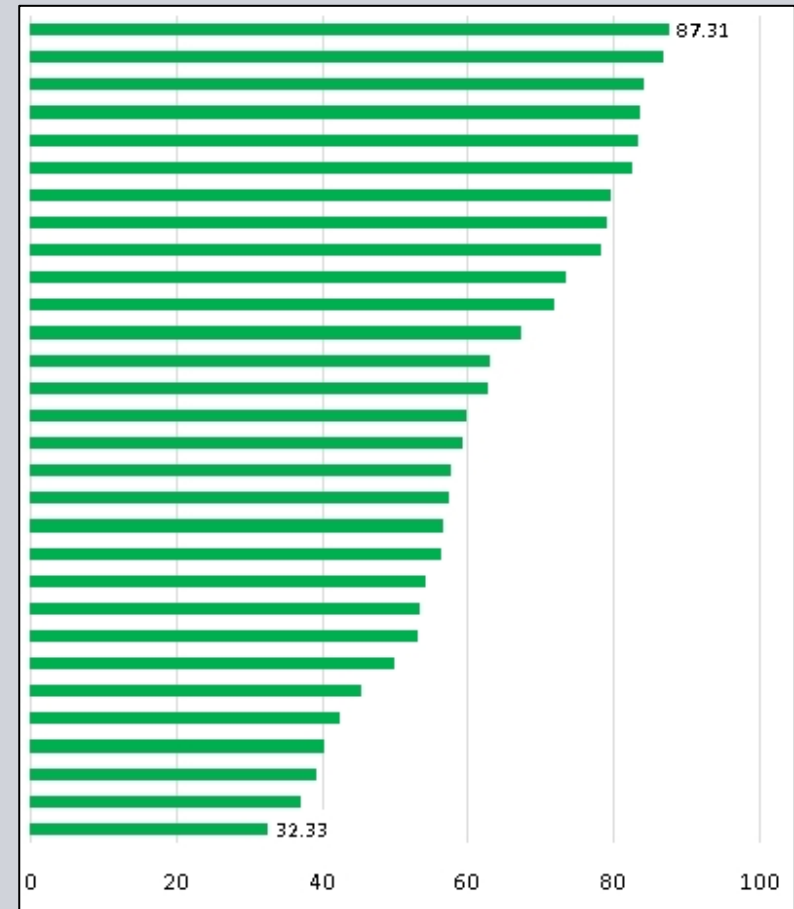
European Green City Index

Assessing the environmental impact of Europe's major cities

A research project conducted by the Economist Intelligence Unit, sponsored by Siemens

The European Green City Index (EGCI)

- Compares 30 major European cities in terms of their environmental performance and policies—giving a specific score to each.
- Allows key stakeholders to compare how their city performs in comparison with their peers.
- Scores cities across eight categories—CO2 emissions, energy, buildings, transport, water, waste and land use, air, and environmental governance.
- Is based on 30 individual indicators, including 16 quantitative measures and 14 qualitative ones.



The cities

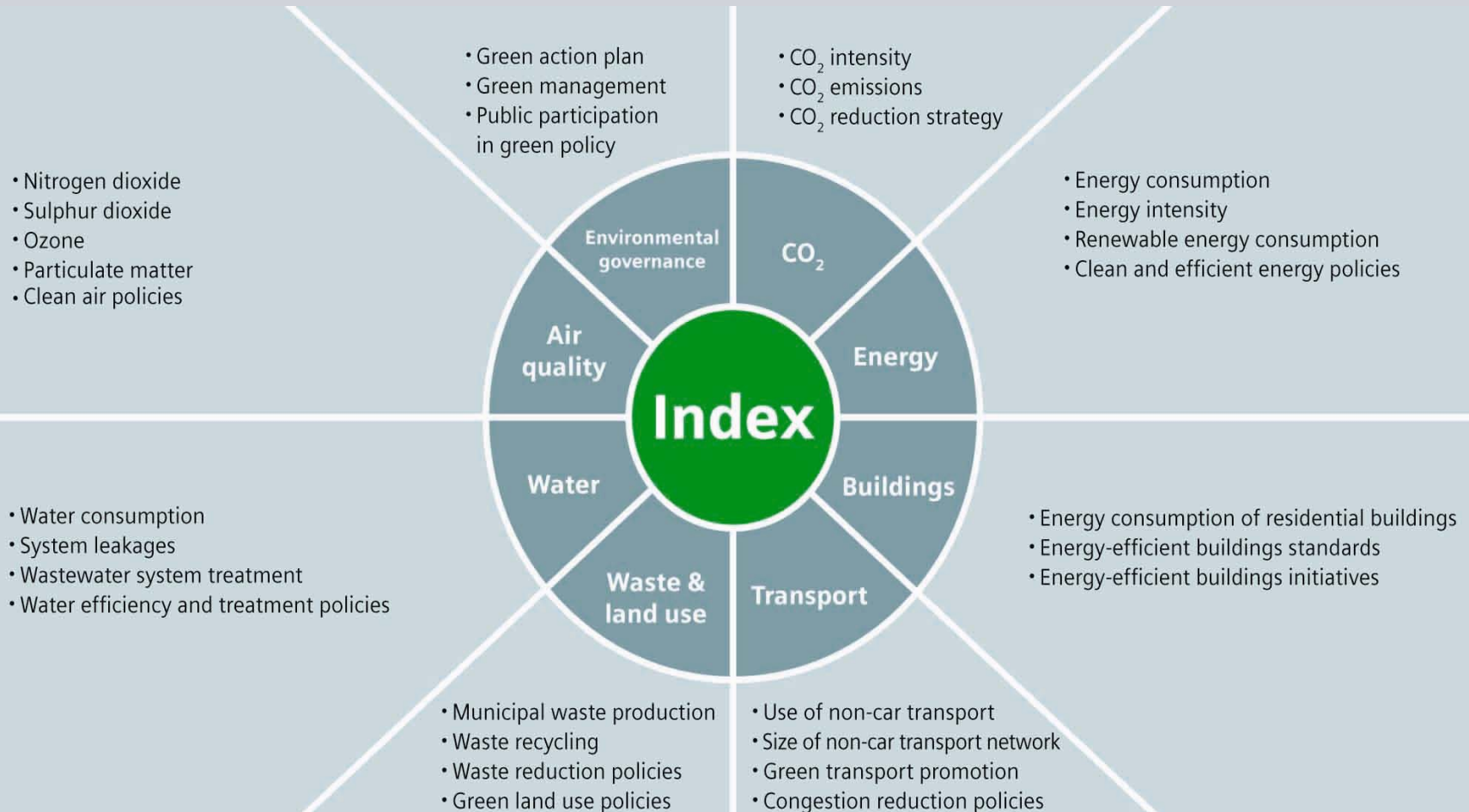
- Amsterdam, Netherlands
- Athens, Greece
- Belgrade, Serbia
- Berlin, Germany
- Bratislava, Slovakia
- Brussels, Belgium
- Bucharest, Romania
- Budapest, Hungary
- Copenhagen, Denmark
- Dublin, Ireland
- Helsinki, Finland
- Istanbul, Turkey
- Kiev, Ukraine
- Lisbon, Portugal
- Ljubljana, Slovenia
- London, UK
- Madrid, Spain
- Oslo, Norway
- Paris, France
- Prague, Czech Republic
- Riga, Latvia
- Rome, Italy
- Sofia, Bulgaria
- Stockholm, Sweden
- Tallinn, Estonia
- Vienna, Austria
- Vilnius, Lithuania
- Warsaw, Poland
- Zagreb, Croatia
- Zurich, Switzerland



A unique index

- Provides a complete set of 30 comparable indicators for all cities, with aggregated scores for each
- Based on transparent methodology

- Covers all main official or business capitals, rather than only on an opt-in basis
- Independently researched by Economist Intelligence Unit, with input from numerous sustainability experts



The results

The overall rankings

Overall			CO ₂			Energy			Buildings			Transport		
City	Score		City	Score		City	Score		City	Score		City	Score	
1	Copenhagen	87,31	1	Oslo	9,58	1	Oslo	8,71	-1	Berlin	9,44	1	Stockholm	8,81
2	Stockholm	86,65	2	Stockholm	8,99	2	Copenhagen	8,69	-1	Stockholm	9,44	2	Amsterdam	8,44
3	Oslo	83,98	3	Zurich	8,48	3	Vienna	7,76	3	Oslo	9,22	3	Copenhagen	8,29
4	Vienna	83,34	4	Copenhagen	8,35	4	Stockholm	7,61	4	Copenhagen	9,17	4	Vienna	8,00
5	Amsterdam	83,03	5	Brussels	8,32	5	Amsterdam	7,08	5	Helsinki	9,11	5	Oslo	7,92
6	Zurich	82,31	6	Paris	7,81	6	Zurich	6,92	6	Amsterdam	9,01	6	Zurich	7,83
7	Helsinki	79,29	7	Rome	7,57	7	Rome	6,40	7	Paris	8,96	7	Brussels	7,49
8	Berlin	79,01	8	Vienna	7,53	8	Brussels	6,19	8	Vienna	8,62	8	Bratislava	7,16
9	Brussels	78,01	9	Madrid	7,51	9	Lisbon	5,77	9	Zurich	8,43	9	Helsinki	7,08
10	Paris	73,21	10	London	7,34	10	London	5,64	10	London	7,96	-10	Budapest	6,64
11	London	71,56										-10	Tallinn	6,64
12	Madrid	67,08												
13	Vilnius	62,77												
14	Rome	62,58												
15	Riga	59,57												
16	Warsaw	59,04												
17	Budapest	57,55												
18	Lisbon	57,25												
19	Ljubljana	56,39												
20	Bratislava	56,09												
21	Dublin	53,98												
22	Athens	53,09												
23	Tallinn	52,98												
24	Prague	49,78												
25	Istanbul	45,20												
26	Zagreb	42,36												
27	Belgrade	40,03												
28	Bucharest	39,14												
29	Sofia	36,85												
30	Kiev	32,33												

Water			Waste and land use			Air quality			Environmental governance		
City	Score		City	Score		City	Score		City	Score	
1	Amsterdam	9,21	1	Amsterdam	8,98	1	Vilnius	9,37	-1	Brussels	10,00
2	Vienna	9,13	2	Zurich	8,82	2	Stockholm	9,35	-1	Copenhagen	10,00
3	Berlin	9,12	3	Helsinki	8,69	3	Helsinki	8,84	-1	Helsinki	10,00
4	Brussels	9,05	4	Berlin	8,63	4	Dublin	8,62	-1	Stockholm	10,00
-5	Copenhagen	8,88	5	Vienna	8,60	5	Copenhagen	8,43	-5	Oslo	9,67
-5	Zurich	8,88	6	Oslo	8,23	6	Tallinn	8,30	-5	Warsaw	9,67
7	Madrid	8,59	7	Copenhagen	8,05	7	Riga	8,28	-7	Paris	9,44
8	London	8,58	8	Stockholm	7,99	8	Berlin	7,86	-7	Vienna	9,44
9	Paris	8,55	9	Vilnius	7,31	9	Zurich	7,70	9	Berlin	9,33
10	Prague	8,39	10	Brussels	7,26	10	Vienna	7,59	10	Amsterdam	9,11

Europe's cities: by no means average

- Nearly all cities have lower **CO₂ emissions** per head than the overall EU27 average of 8.46 tonnes. The 30-city average is also well below the average, at 5.21 tonnes.
- 23 out of 30 cities have a **CO₂ reduction target** of some kind, separate from any national target. Of these, 15 have a concrete, city-specific action plan in place. The average reduction target to 2020 is about 15%.
- Nearly all cities have signed up to participate in the Covenant of Mayors.
- More than half of all citizens in these cities (62.5%) either walk, cycle or take public **transport** to commute to work. Two thirds of all cities actively promote green modes of transport.
- The average municipal **waste** per head generated each year across these cities is 511 kg, slightly better than the EU average of 522 kg. By contrast, the US average is 760 kg and Australia is 690 kg.
- 24 cities have implemented measures to reduce the amount of waste they produce.

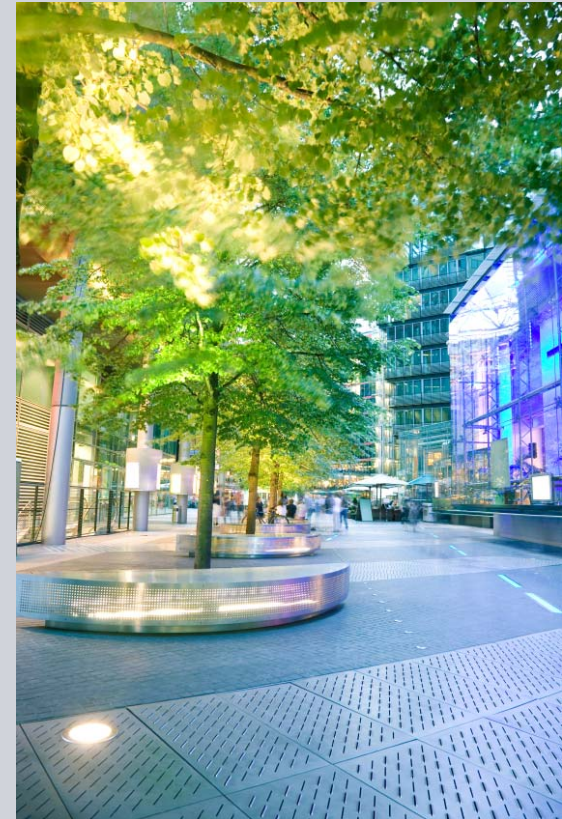
But still work to be done

- An average of slightly more than one in three residents drive to work across these 30 cities, contributing to increased CO2 emissions and general air pollution.
- The average proportion of **renewable energy** consumed is just 7.3%, a long way short of the EU's stated goal of increasing the share of renewable energy usage to 20% by 2020.
- Just 14 of the 30 cities actively promote **green energy usage** through low or no taxes, subsidies or regulations.
- Nearly one in four litres of **water** consumed by cities is lost through leakage.
- Less than one fifth of overall **waste** is currently recycled.

City trends

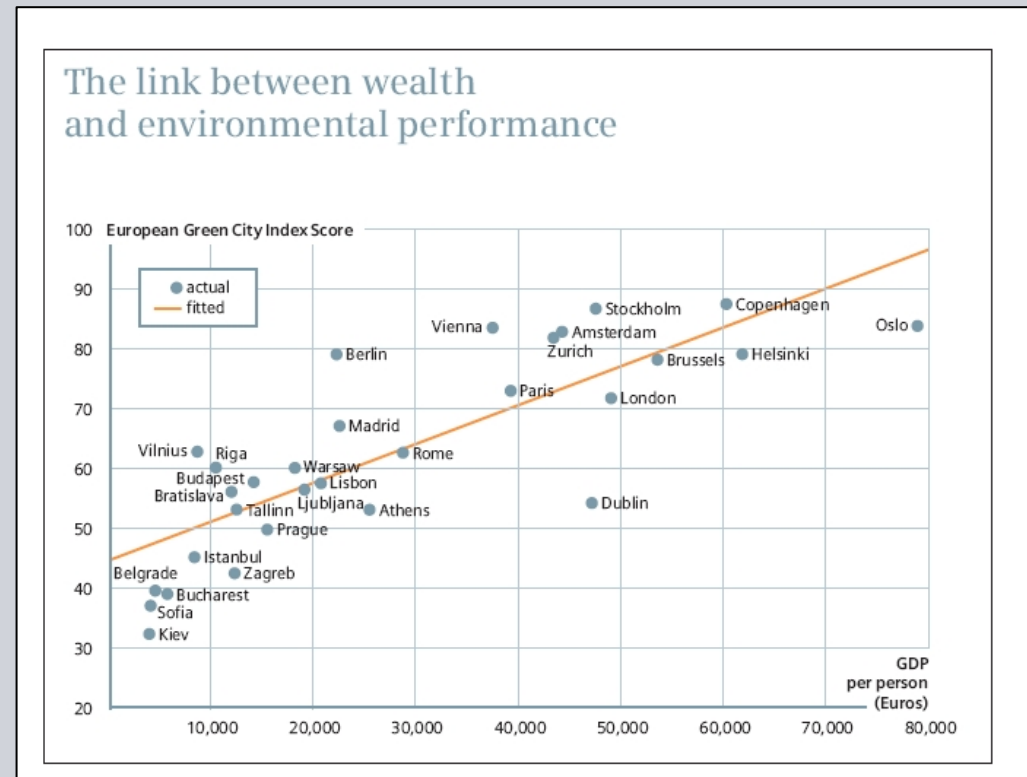
Examples from the West

- West European cities dominate the top half of the index, due in part to their longer history of environmental awareness
- Western cities also have the advantage in terms of the financial resources they can devote to green efforts
- Citizens are by and large kept fairly well-informed about environmental matters, and are very involved on a civic level



Big spenders

- Index shows a strong positive correlation between wealth and environmental performance
- Nine of the top 10 cities in index are “wealthy” (ie, have GDP per head above €31,000)
- There are some worthy exceptions though: middle-income Berlin still manages to come joint first in the buildings category



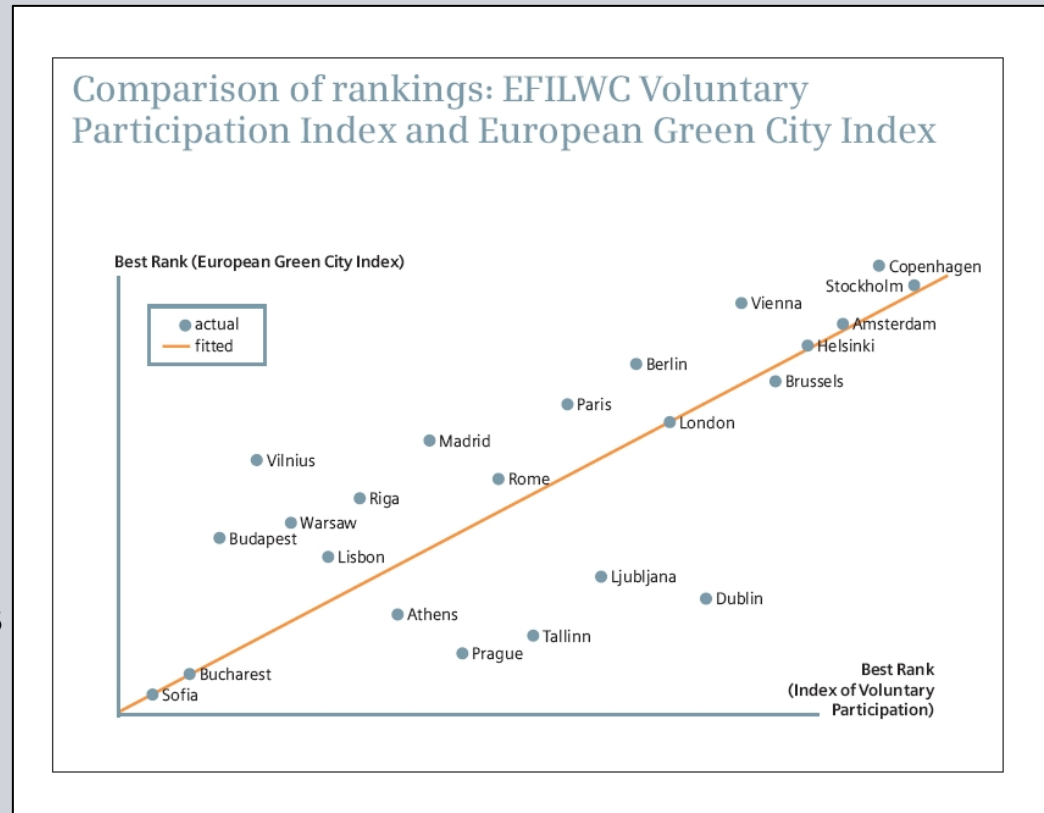
Promise from the East

- All east European cities have incomes of less than €21,000 per head, putting them at the bottom half of the index in terms of wealth
- East European cities face challenges of historical legacy, from poorly insulated mass housing to highly polluting heavy industry
- Citizens, understandably, also have significant pent-up aspirations, some of which cause conflict with green goals



Civic duties make for greener cities

- Cities with an active civil society perform well in the index
- A comparison with other studies shows a strong correlation between voluntary civil participation and environmental performance
- Prior studies have confirmed this point (eg, installing insulation in old homes in London)



London focus

London overview

London_United Kingdom



Photography: Siemens AG

Select city data

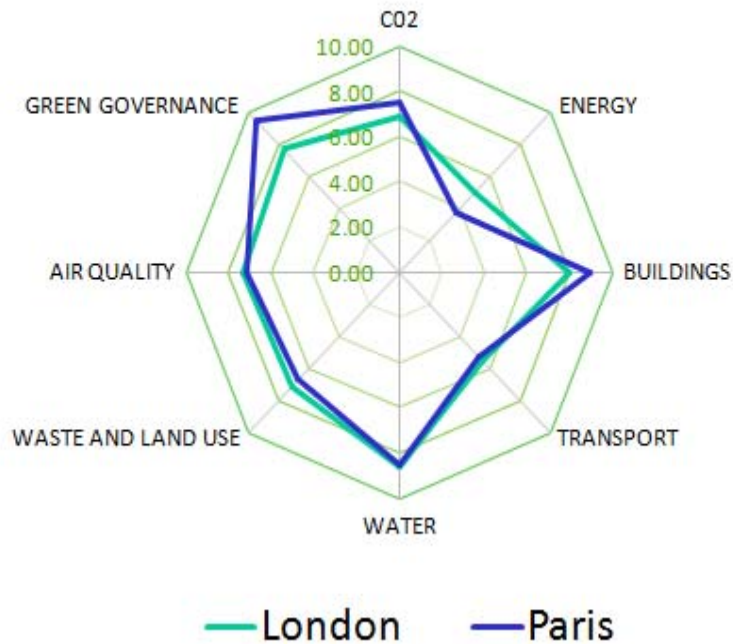
Population:	7.6 million
GDP per head, PPP:	€ 44,890
CO ₂ emissions per head:	5.84 tonnes
Energy consumption per head:	77.96 gigajoules
Percentage of renewable energy consumed by the city:	1.20 %*
Total percentage of citizens walking, cycling or taking public transport to work:	63 %
Annual water consumption per head:	57.59 m ³
Share of waste recycled:	20 %

* Estimate

London: key stats

- **Energy and CO₂ emissions:** London produces a roughly *average amount of emissions* per head (5.84 tonnes), but uses a *low proportion of renewable energy* (1.2%, as opposed to an average of 7.3%).
- **Transport:** About *one in five people or walk or cycle* to work, despite a poor cycle network, which is above average (14%); and about four in ten commute on public transport (49%). But about one in three still drive, even with congestion charge.
- **Water:** Fifth-lowest level of water consumption: 57 cubic metres per head, as opposed to 105m³ average. But *loses one in four litres of water to leakage* in the system.
- **Waste:** *Only about 20% currently recycled*, although this is on a par with the average. Londoners produce 558kgs of waste per person, above the 511kg average.

London versus Paris



	London		Paris	
	Score / 10	Rank / 30	Score / 10	Rank / 30
TOTAL	71.56	11	73.21	10
C02	7.34	10	7.81	6
ENERGY	5.64	10	4.66	16
BUILDINGS	7.96	10	8.96	7
TRANSPORT	5.55	16	5.29	19
WATER	8.58	8	8.55	9
WASTE AND LAND USE	7.16	11	6.72	12
AIR QUALITY	7.34	12	7.14	13
GREEN GOVERNANCE	7.67	15	9.44	7

Thank You

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