



World University Ranking

# Methodology and Evaluation of Green and Sustainable Campus Indicators for World University Ranking

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# Agenda

- **UI GreenMetric background**
- **Methodology**
- **Green and Sustainable Campus Indicators**
- **Improvement of the UI GreenMetric Indicators**
- **Data Collection and Analysis**
- **UI GreenMetric Evaluation**

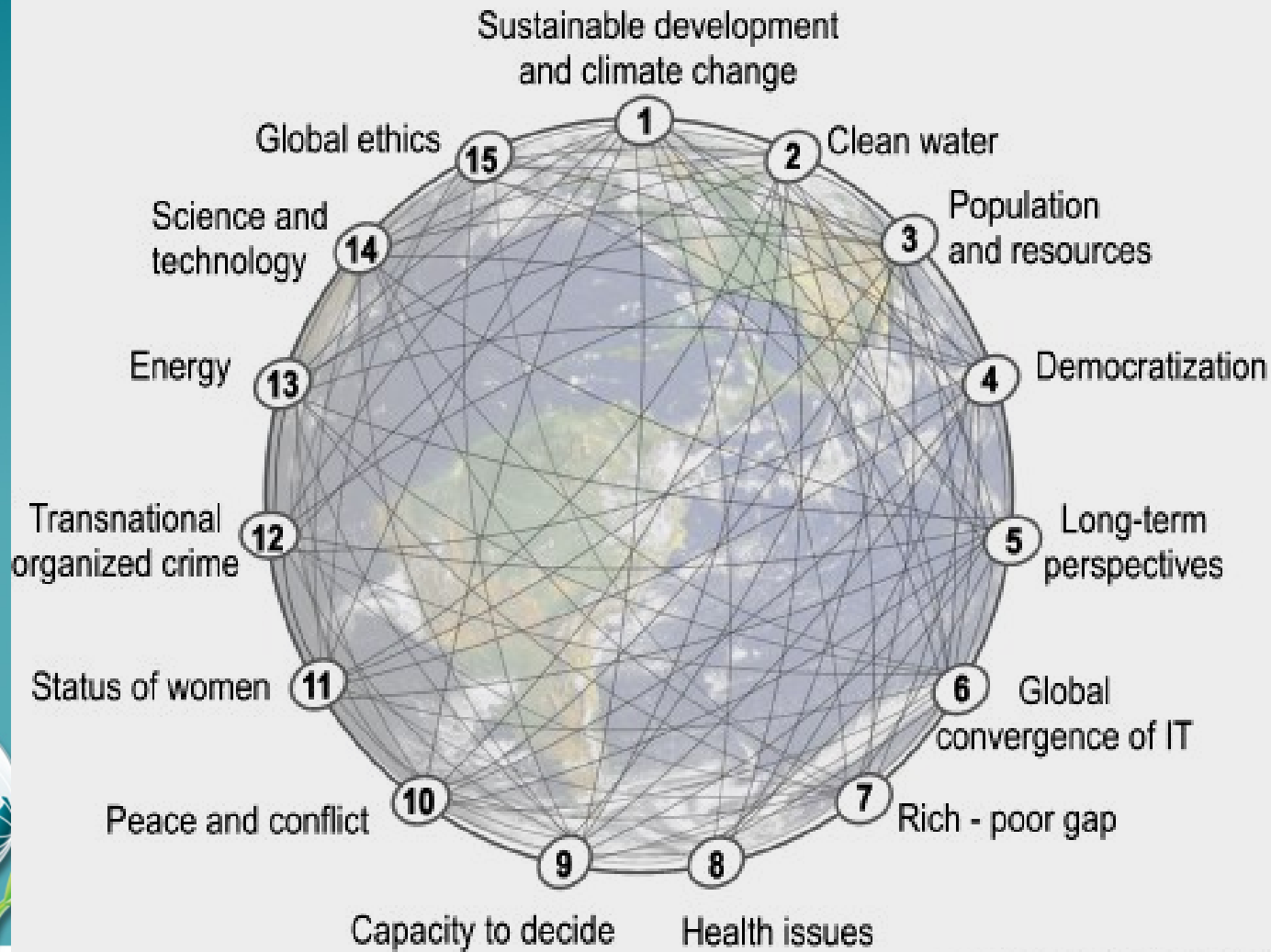


# Background

- 2010 – 2 years
- Based on the premise that there is room for a global ranking that will enforce measuring tools which can be used for developed and developing countries
- Overwhelming response
- Based on subjective evaluation of each university's energy consumption, climate change measures, waste treatment policy, water management, and low emission transportation program.
- Methodology of the ranking:
  - based on the scoring of some parameters which justified a green campus, i. e. environmental setting, climate change and energy conservation, waste, water, and transportation



# 15 Global Challenges facing humanity



by The Millennium Project  
[www.millennium-project.org](http://www.millennium-project.org)

# Higher Education Sustainability Initiative for Rio+20

1. Teach Sustainable Development Concepts
2. Encourage Research on Sustainable Development Issues
3. Green Our Campuses
4. Support Sustainability Efforts
5. Engage With and Share Results Through International Frameworks



# Green Campus Evaluation

- College Green Report *Card* ([www.greenreportcard.org](http://www.greenreportcard.org))
- Green League (UK) - People and Planet
- Green Cool University - Sierra Magazine (Sierra Club)
- Sustainability Tracking Assessment and Rating System (STARS), the Association for the Advancement of Sustainability in Higher Education (AASHE)
- The Princeton Review Green Guide.
- ISO 50001 Standard in Energy Management



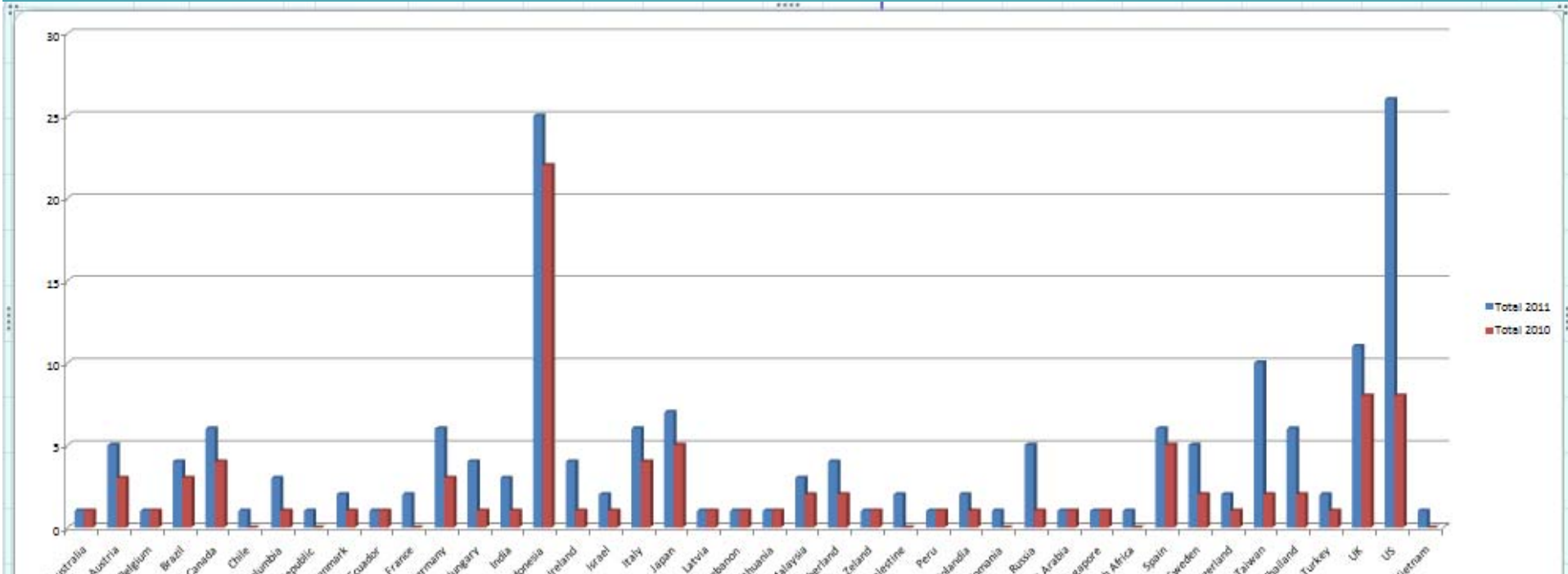
# 178 Universities, 42 Countries

No	Nation	Total 2011	Total 2010
1	Australia	1	1
2	Austria	5	3
3	Belgium	1	1
4	Brazil	4	3
5	Canada	6	4
6	Chile	1	0
7	Columbia	3	1
8	Czech Republic	1	0
9	Denmark	2	1
10	Ecuador	1	1

No	Nation	Total 2011	Total 2010
11	France	2	0
12	Germany	6	3
13	Hungary	4	1
14	India	3	1
15	Indonesia	25	22
16	Ireland	4	1
17	Israel	2	1
18	Italy	6	4
19	Japan	7	5
20	Latvia	1	1

No	Nation	Total 2011	Total 2010
21	Lebanon	1	1
22	Lithuania	1	1
23	Malaysia	3	2
24	Netherland	4	2
25	New Zealand	1	1
26	Palestine	2	0
27	Peru	1	1
28	Polandia	2	1
29	Romania	1	0
30	Russia	5	1

No	Nation	Total 2011	Total 2010
31	Saudi Arabia	1	1
32	Singapore	1	1
33	South Africa	1	0
34	Spain	6	5
35	Sweden	5	2
36	Switzerland	2	1
37	Taiwan	10	2
38	Thailand	6	2
39	Turkey	2	1
40	UK	11	8
41	US	26	8
42	Vietnam	1	0
	Total	178	95





# Scoring

## WEIGHTING AND SCORING

Number	Criteria & Indicator	Point Allocation	Weighting
<b>1</b>	<b>Setting and Infrastructure</b>		<b>24 %</b>
1.1	Open space area / total area	300	
1.2	Open space area / total people	300	
1.3	Total electricity use / total people	300	
1.4	Total car entering / total people	200	
1.5	Total bicycle found / total people	200	
1.6	Course related / total course	300	
1.7	Research fund related / total research fund	200	
1.8	Percentage of university budget for sustainability effort	100	
1.9	Publication related	100	
1.10	Event related	200	
1.11	Organization related	100	
1.12	Sustainability Website	300	
	<b>Total</b>	<b>2400</b>	
<b>2</b>	<b>Energy and Climate Change</b>		<b>28%</b>
2.1	Energy efficient appliances usage	300	
2.2	Renewable energy usage policy	300	
2.3	Energy conservation program	300	
2.4	Green building element	300	
2.5	Climate change adaptation and mitigation program	300	
2.6	Greenhouse gas emission reductions policy	300	
2.7	Percentage of area on campus covered in vegetation in the form of forest.	200	
2.8	Percentage of area on campus covered in planted vegetation	200	
2.9	Policy to reduce the use of paper and plastic in campus	300	
2.10	Policy for a smoke-free and drug-free campus environment	300	
	<b>Total</b>	<b>2800</b>	
<b>3</b>	<b>Waste</b>		<b>15%</b>
3.1	Recycling program for university waste	300	
3.2	Toxic waste recycling	300	
3.3	Organic waste treatment	300	
3.4	Inorganic waste treatment	300	
3.5	Sewerage disposal	300	
	<b>Total</b>	<b>1500</b>	
<b>4</b>	<b>Water</b>		<b>15%</b>
4.1	Water conservation program	500	
4.2	Retention: non-retentive surfaces on campus as percentage of total area	500	
4.3	Piped water	500	
	<b>Total</b>	<b>1500</b>	
<b>5</b>	<b>Transportation</b>		<b>18%</b>

5.1	Transportation policy designed to limit the number of motor vehicles used on campus	500	
5.2	Transportation policy designed to limit or decrease the parking area on campus	300	
5.3	Campus buses	500	
5.4	Bicycle and pedestrian on campus	500	
	<b>Total</b>	<b>1800</b>	
	<b>TOTAL</b>	<b>10000</b>	<b>100%</b>

1



## UI GreenMetric Ranking 2011

University	Nation	Total Score	Ranking
University of Nottingham	UK	8,033.54	1
Northeastern University	US	7,981.46	2
University of Connecticut	US	7,708.02	3
University College Cork	Ireland	7,682.48	4
Linkoping University	Sweden	7,661.23	5
University of California, Berkeley	US	7,601.87	6
University of California, Los Angeles	US	7,498.49	7
Washington University In St. Louis	US	7,359.69	8
University of California Merced	US	7,347.30	9
University of Bath	UK	7,341.27	10
University of California, Davis	US	7,302.67	11
University of North Carolina, Chapel Hill	US	7,266.75	12
Cornell University	US	7,257.54	13
York University	Canada	7,245.76	14
University of Ottawa	Canada	7,241.23	15
Grand Valley State University	US	7,224.65	16
Da Yeh University	Taiwan	7,210.86	17
Universiti Putra Malaysia	Malaysia	7,204.60	18
National Taipei University of Technology	Taiwan	7,191.68	19
Osaka University	Japan	7,150.20	20

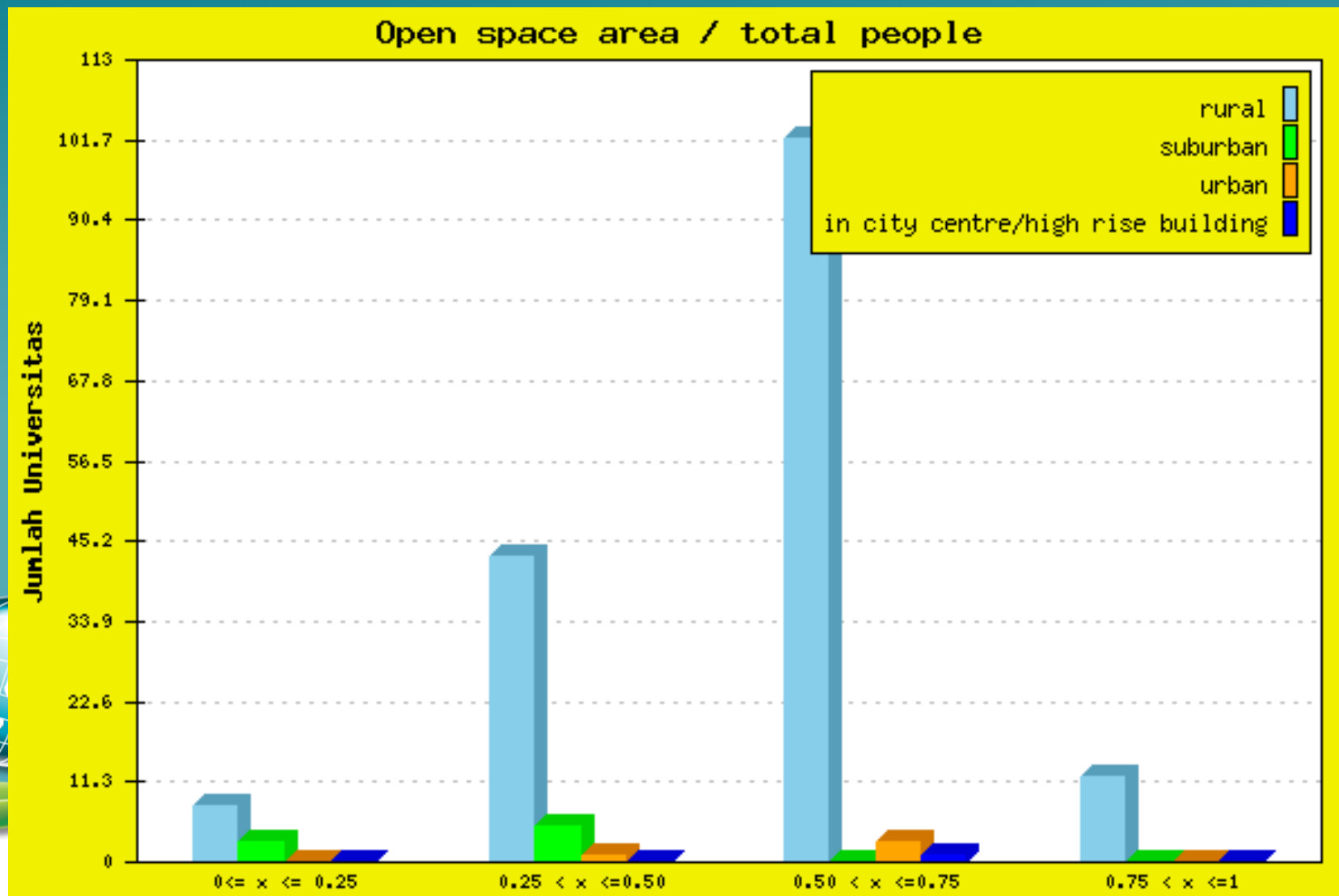


## UI GreenMetric Ranking 2011

University	Nation	Total Score	Ranking
Universite de Sherbrooke	Canada	7,139.87	21
Universitas Indonesia	Indonesia	7,124.39	22
Virginia Commonwealth University	US	7,114.28	23
Newcastle Unuiversity Newcastle upon Tyne	UK	7,087.85	24
University of Sussex	UK	7,080.49	25
University of Washington	US	7,071.97	26
National Dong Hwa University	Taiwan	7,062.83	27
Bangor University	UK	7,048.57	28
Escuela Superior Politecnica del Litoral	Ecuador	7,010.95	29
Asia University, Taiwan	Taiwan	6,947.82	30
University of Limerick	Ireland	6,868.31	31
Universidad de Alcala	Spain	6,859.50	32
Yuan Ze University	Taiwan	6,808.32	33
National Chiao Tung University	Taiwan	6,805.83	34
University of Warwick	UK	6,797.09	35
University of North Texas	US	6,755.90	36
Georgia Institute of Technology	US	6,721.69	37
Tamkang University	Taiwan	6,705.45	38
National University of Singapore	Singapore	6,704.61	39
Institut Pertanian Bogor	Indonesia	6,648.12	40

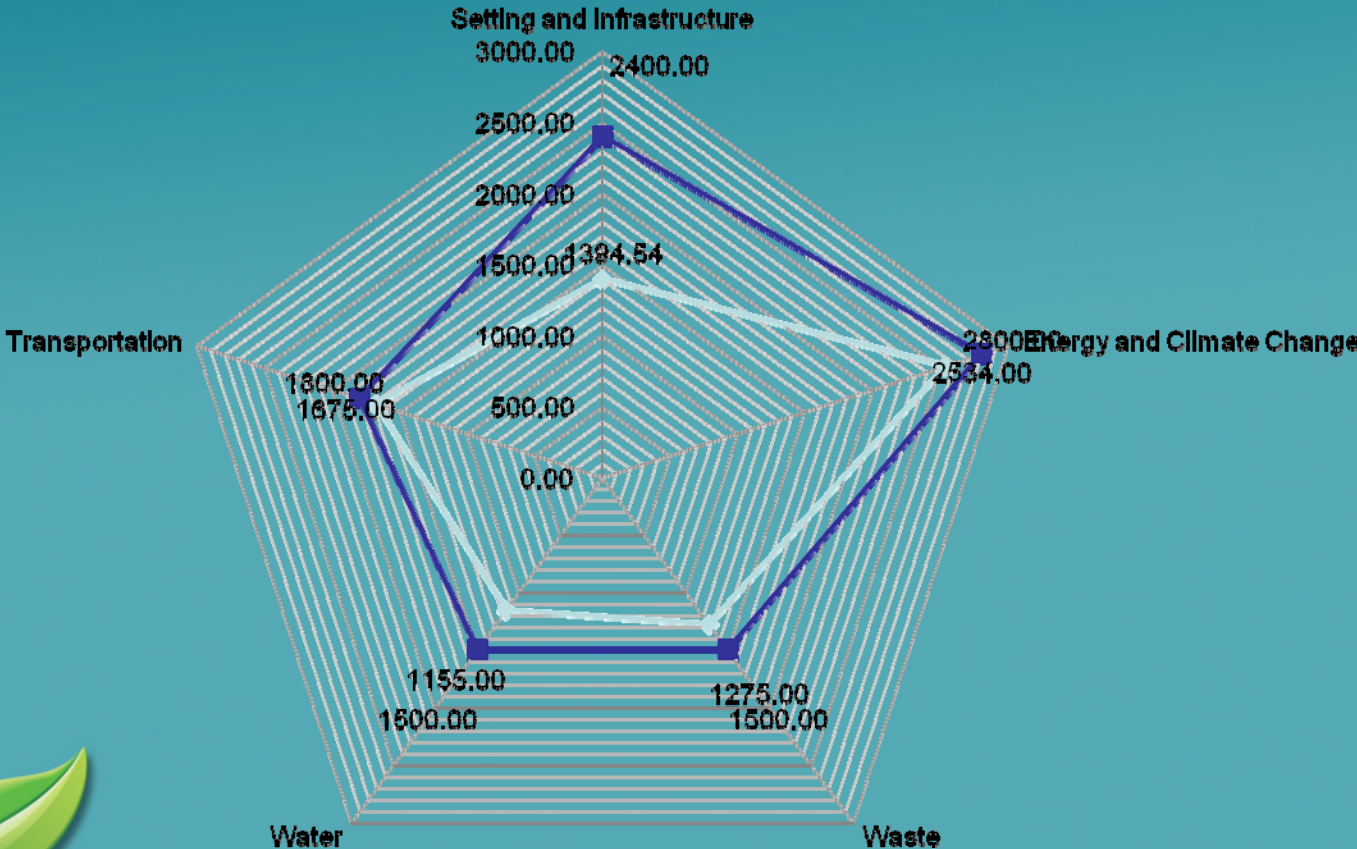


# Open space area campus / total Number of people



# 1. University of Nottingham

◆ University of Nottingham
 ■ Max Point



# Comments

- *“Although Green Metric is not yet an established ranking, I think we can all be proud of our strong showing in this international benchmarking exercise. The challenges of sustainability for an institution with a STEM-rich portfolio and physical infrastructure with major legacy energy issues are significant. However, as a community we are having a real impact and I would like to thank colleagues and students for their ongoing commitment. I would also like to encourage everyone to think about recycling more in 2012 as this is still one of our weaker performance measures.” - Professor Kevin Edge, Deputy Vice Chancellor of University of Bath UK, Professor Kevin Edge.*



# Comments

- *“To me, it’s really inspiring when we sit here in Canada and we see that overall there’s this inaction on environmental issues. And here we stand as an institution at the university that has exceeded environmental standards. Next year, we’d love to see how we can move up. We can study the competitors. We can look at all the best practices from other universities ”- Kira Lamont, volunteer at the Sustainability Office of the University of Toronto.*





# UI GreenMetric Ranking of Taiwanese Universities

1.	Da Yeh University Taiwan	7210.86	17
2.	National Taipei University of Tech Taiwan	7191.68	19
3.	National Dong Hwa University Taiwan	7062.83	27
4.	Asia University, Taiwan Taiwan	6947.82	30
5.	Yuan Ze University Taiwan	6808.32	33
6.	National Chiao Tung University Taiwan	6805.83	34
7.	Tamkang University Taiwan	6705.45	38
8.	Chienkuo Technology University Taiwan	5636.53	75
9.	National Cheng Kung University Taiwan	5106.62	101
10.	Taipei Medical University Taiwan	4890.79	116





# Grindsted [2011, Journal of Env Economics]

- *UI Greenmetric has become one of the “sustainable campus performance rankings” measuring the competitiveness of sustainable campus operation performance in the form of a ranking system. Finally, in 2010 the University of Indonesia made a call for a global ranking list of universities’ sustainable performance ratings. Thus, UI Green Metric Ranking of World Universities is the first attempt to make a global ranking of universities’ sustainable behavior in order to “to provide a profile and a way of comparing the commitment of universities towards going green and promoting sustainable operation”.*



# Summary

- Ranking: Single country, bussinees school, graduate School, regional, world HE system.
- Other: University Ranking Initiative for Green and Sustainable campus.
- Information on GreenMetric achievement of different world universities
- Recognition of effort in green campus and sustainable campus development
- Encourages university improvement in the future.
- ISCN: International Sustainable Campus Network
- Integrated reporting universities





Terimakasih – Thank you -  
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