

# Sustainability

- Explain it with your own terms

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# Standards for assessment of progress for sustainable development

## The “Bellagio Principles”

### **1. Guiding Vision and Goals**

(clarity about sustainability)

### **2. Holistic Perspective**

(systems and subsystems)

### **3. Essential Elements**

(ecology, economics, social equity)

### **4. Adequate Scope**

(temporal and spatial)

### **5. Practical Focus**

(clear standards, manageable tools)

<http://www.iisd.org/pdf/bellagio.pdf>

### **6. Openness**

(transparent methods and sources)

### **7. Effective Communication**

(simple, and audience focused)

### **8. Broad Participation**

(diversity, completeness, link to policy)

### **9. Ongoing Assessment**

(iterative, adaptive, learning-focused)

### **10. Institutional Capacity**

(support, maintenance, development)

# Good Sustainability Policy?

## - Change the structure

- Change feedback structure/information links in the system
- Change the content and timeliness of the data that actors in the system have to work with
- Change the ideas, goals, incentives, costs, and feedbacks that motivates or constrain behavior
- In time, system with a new information structure is likely to change its social and physical structures.
- It may develop new laws, organizations, technologies, people with new skills, machines and buildings.
- Such a transformation need not be directed centrally; it can be unplanned, natural, evolutionary, exciting, joyful.

# EPI 2014

## What is the EPI?

The Environmental Performance Index (EPI) ranks how well countries perform on high-priority environmental issues in two broad policy areas: protection of human health from environmental harm and protection of ecosystems. Within these two policy areas the EPI scores country performance in nine issue areas comprising 20 indicators. Indicators in the EPI measure how close countries are to meeting internationally established targets or, in the absence of agreed targets, how they compare relative to the best performing countries.



## WHY THE EPI?

The EPI gives access to important environmental data organized in a way that is easily understandable, useful to policymakers, and drives productive competition. The EPI allows countries to compare their performance to neighbors and peers. With the inclusion of time series data, countries can also see how their own performance has changed over time.

Demand for robust, authoritative indicators of environmental performance is at an all-time high. It is driven by:

- A widespread recognition of the benefits data-driven decisionmaking offers;
- Ongoing pressure on governments to invest limited resources as wisely as possible;
- Growing concern over the dangers posed by poorly managed environmental risks;
- Widespread commitment to making sustainability a central operating principle of the post-2015 development agenda;
- Rapid diffusion of sustainability strategies in the corporate sector.

This Summary for Policymakers is intended to provide a big-picture overview of global environmental trends. Users are encouraged to delve deeper into the country profiles and indicator data on the website for more detailed results and analysis.

2014 EPI RANKINGS

Rank	Country	Score	10-yr.	Rank	Country	Score	10-yr.	Rank	Country	Score	10-yr.
1.	Switzerland	87.67	+	60.	Jordan	55.78	-	119.	Central African Republic	42.94	+
2.	Luxembourg	83.29	+	61.	Seychelles	55.56	+	120.	Libya	42.72	+
3.	Australia	82.40	+	62.	Montenegro	55.52	+	121.	Zambia	41.72	-
4.	Singapore	81.78	+	63.	Azerbaijan	55.47	+	122.	Papua New Guinea	41.09	+
5.	Czech Republic	81.47	+	64.	Cuba	55.07	+	123.	Equatorial Guinea	41.06	+
6.	Germany	80.47	+	65.	Mexico	55.03	+	124.	Senegal	40.83	+
7.	Spain	79.79	+	66.	Turkey	54.91	+	125.	Kyrgyzstan	40.63	+
8.	Austria	78.32	+	67.	Albania	54.73	+	126.	Burkina Faso	40.52	+
9.	Sweden	78.09	+	68.	Syria	54.50	+	127.	Laos	40.37	+
10.	Norway	78.04	+	69.	Sri Lanka	53.88	+	128.	Malawi	40.06	+
11.	Netherlands	77.75	+	70.	Uruguay	53.61	+	129.	Cote d'Ivoire	39.72	+
12.	United Kingdom	77.35	+	71.	Suriname	53.57	+	130.	Congo	39.44	+
13.	Denmark	76.92	+	72.	South Africa	53.51	+	131.	Ethiopia	39.43	+
14.	Iceland	76.50	+	73.	Russia	53.45	+	132.	Timor-Leste	39.41	+
15.	Slovenia	76.43	+	74.	Moldova	53.36	+	133.	Paraguay	39.25	+
16.	New Zealand	76.41	+	75.	Dominican Republic	53.24	+	134.	Nigeria	39.20	+
17.	Portugal	75.80	+	76.	Fiji	53.08	+	135.	Uganda	39.18	+
18.	Finland	75.72	+	77.	Brazil	52.97	+	136.	Viet Nam	38.17	+
19.	Ireland	74.67	+	78.	Thailand	52.83	+	137.	Guyana	38.07	+
20.	Estonia	74.66	+	79.	Trinidad and Tobago	52.28	+	138.	Swaziland	37.35	+
21.	Slovakia	74.45	+	80.	Palau	51.96	+	139.	Nepal	37.00	+
22.	Italy	74.36	+	81.	Morocco	51.89	+	140.	Kenya	36.99	+
23.	Greece	73.28	+	82.	Bahrain	51.83	-	141.	Cameroon	36.68	+
24.	Canada	73.14	+	83.	Iran	51.08	+	142.	Niger	36.28	+
25.	United Arab Emirates	72.91	-	84.	Kazakhstan	51.07	+	143.	Tanzania	36.19	+
26.	Japan	72.35	+	85.	Colombia	50.77	+	144.	Guinea-Bissau	35.98	+
27.	France	71.05	+	86.	Romania	50.52	+	145.	Cambodia	35.44	+
28.	Hungary	70.28	+	87.	Bolivia	50.48	+	146.	Rwanda	35.41	+
29.	Chile	69.93	+	88.	Belize	50.46	+	147.	Grenada	35.24	+
30.	Poland	69.53	+	89.	Macedonia	50.41	+	148.	Pakistan	34.58	+
31.	Serbia	69.13	+	90.	Nicaragua	50.32	+	149.	Iraq	33.39	+
32.	Belarus	67.69	+	91.	Lebanon	50.15	+	150.	Benin	32.42	+
33.	United States of America	67.52	+	92.	Algeria	50.08	+	151.	Ghana	32.07	+
34.	Malta	67.42	+	93.	Argentina	49.55	+	152.	Solomon Islands	31.63	+
35.	Saudi Arabia	66.66	+	94.	Zimbabwe	49.54	+	153.	Comoros	31.39	+
36.	Belgium	66.61	+	95.	Ukraine	49.01	+	154.	Tajikistan	31.34	+
37.	Brunei Darussalam	66.49	-	96.	Antigua and Barbuda	48.89	+	155.	India	31.23	+
38.	Cyprus	66.23	+	97.	Honduras	48.87	+	156.	Chad	31.02	+
39.	Israel	65.78	+	98.	Guatemala	48.06	+	157.	Yemen	30.16	+
40.	Latvia	64.05	+	99.	Oman	47.75	+	158.	Mozambique	29.97	+
41.	Bulgaria	64.01	+	100.	Botswana	47.60	+	159.	Gambia	29.30	+
42.	Kuwait	63.94	+	101.	Georgia	47.23	+	160.	Angola	28.69	+
43.	South Korea	63.79	+	102.	Dominica	47.08	+	161.	Djibouti	28.52	+
44.	Qatar	63.03	-	103.	Bhutan	46.86	+	162.	Guinea	28.03	+
45.	Croatia	62.23	+	104.	Gabon	46.60	+	163.	Togo	27.91	+
46.	Taiwan	62.18	+	105.	Bahamas	46.58	+	164.	Myanmar	27.44	+
47.	Tonga	61.68	+	106.	Vanuatu	45.88	+	165.	Mauritania	27.19	+
48.	Armenia	61.67	+	107.	Bosnia and Herzegovina	45.79	+	166.	Madagascar	26.70	+
49.	Lithuania	61.26	+	108.	Barbados	45.50	+	167.	Burundi	25.78	+
50.	Egypt	61.11	+	109.	Turkmenistan	45.07	+	168.	Eritrea	25.76	+
51.	Malaysia	59.31	+	110.	Peru	45.05	+	169.	Bangladesh	25.61	+
52.	Tunisia	58.99	+	111.	Mongolia	44.67	+	170.	Dem. Rep. Congo	25.01	+
53.	Ecuador	58.54	+	112.	Indonesia	44.36	+	171.	Sudan	24.64	+
54.	Costa Rica	58.53	+	113.	Cape Verde	44.07	+	172.	Liberia	23.95	+
55.	Jamaica	58.26	+	114.	Philippines	44.02	+	173.	Sierra Leone	21.74	+
56.	Mauritius	58.09	+	115.	El Salvador	43.79	+	174.	Afghanistan	21.57	+
57.	Venezuela	57.80	+	116.	Namibia	43.71	+	175.	Lesotho	20.81	+
58.	Panama	56.84	+	117.	Uzbekistan	43.23	+	176.	Haiti	19.01	+
59.	Kiribati	55.82	+	118.	China	43.00	+	177.	Mali	18.43	+
								178.	Somalia	15.47	+

■ Top 10 Trend Performers 
 ■ Lowest 10 Trend Performers 
 + Country Improvement In Performance 
 - Country Decline In Performance

# Global Scorecard

The world lags on some environmental issues, while demonstrating progress in others. A 'global scorecard' provides first-time insight as to the world's collective impacts on the major environmental issues of our time.

Complete methods, data, and results are available online at [www.epi.yale.edu](http://www.epi.yale.edu).

## KEY FINDINGS

Overall, results are high in Access to Drinking Water, Child Mortality, and Access to Sanitation. Poorer results are found in Air Quality, Fisheries, and Wastewater Treatment. While in most areas, trends suggest improvement, some primary issues like air quality and fisheries show distressing decline over the last decade.

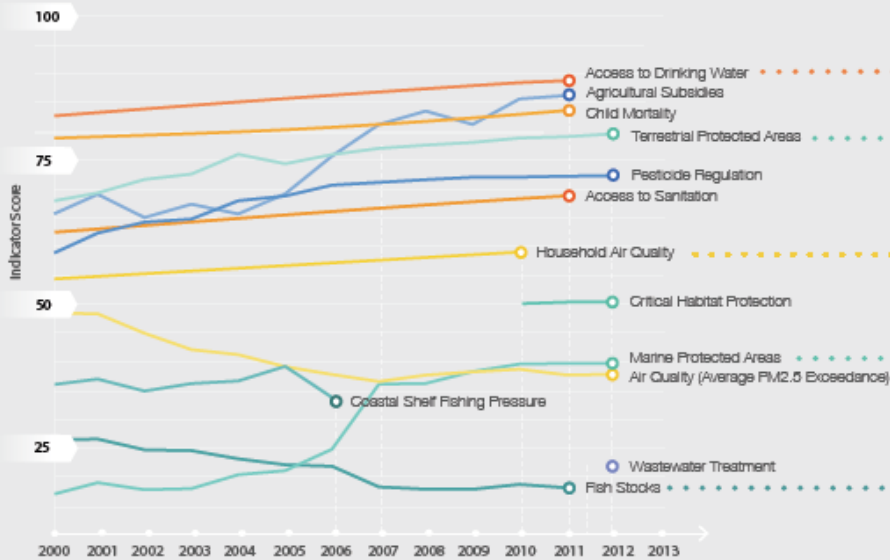


Figure 1. Global indicators for most of the policy issues assessed by the EPI demonstrate improvement over time. Footnote: Wastewater Treatment only has one data point and no available time series. Similarly, relevant global indicators were not possible for the Climate and Energy or Forest indicators, which already represent 10-year trends.

**2 billion** people now have access to improved drinking water and sanitation

Since 1990 more than 2 billion people have gained access to improved drinking water and proper sanitation, exceeding Millennium Development Goal (MDG) targets and improving global well-being. In Afghanistan alone, the percentage of households with access to clean drinking water went from 5 percent in 1991 to 61 percent in 2011. Ethiopia has also been able to connect more of its villages to safe drinking water through investment from the national government and international aid. These great successes resulted from a well-organized measurement system that allowed policymakers to track their performance, identify priority needs, and create mechanisms to maintain accountability.

**14.6%** of terrestrial area protected in 2012  
**9.7%** of marine area protected areas in 2012

Well-organized data systems and clearly established targets have led to widespread increase in protected areas, like Mount Cameroon National Park in Cameroon. Cameroon established the park in 2009 because data showed the area is home to some of the most threatened mammal species in the world. Likewise, Peru is one of the few countries to carefully analyze its territory to identify areas where critically threatened or endangered species exist, and to specifically protect these areas.

**34%** of global fish stocks are collapsed  
**27%** are overexploited

When measurement is poor or not aligned with proper management, natural and human systems suffer. The EPI documents that weak measurement systems give rise to poor outcomes. For instance, marine fisheries are badly monitored, many fleets deliberately misreport catch data or fail to report, and international policy targets are ad hoc and incomplete. It is no surprise that fish stocks around the world are in stark decline.

## REGIONAL RANKINGS & TRENDS



**2.3 million** sq. km. of forest lost  
**0.8 million** sq. km. of forest gained

A much wider array of tools for filling key measurement gaps is available now, compared to the 1980s and 1990s when environmental indicators first entered the International spotlight. New technologies such as remote sensing and institutions in the form of third-party organizations have emerged, and the EPI makes use of these cutting-edge innovations. Forestry measures, for example, can now make use of satellite data to generate metrics that are far more comparable and comprehensive than what emerged from previous modeling efforts and national reports. New data using over 650,000 satellite images reveal the true global extent of forest loss and gain over the last decade.

**1.78 billion**  
people breathe unsafe air today

Despite all the media attention it gets, air quality measurement capabilities are weak and poorly coordinated with management. International policy targets are largely absent, and the world has observed policy stagnation and alarming air pollution crises in a growing number of cities. With the expansion of industry and fossil fuels-based transportation sectors in the developing world, the number of people breathing unsafe air has risen by 606 million since 2000. It now totals 1.78 billion people.

#### OTHER CONCLUSIONS

##### 01. The EPI contributes to the Post-2015 development agenda.

The 2014 EPI results are released at an opportune time to inform the United Nations' Sustainable Development Goals (SDGs). Guided by discussions with water experts contributing to the development of the SDGs, the 2014 EPI introduces a new indicator on wastewater treatment. This indicator shows that overall, countries are performing poorly with respect to wastewater treatment, which is a major driver of ecosystem water quality.

##### 02. Cities offer opportunities and challenges when it comes to environmental sustainability.

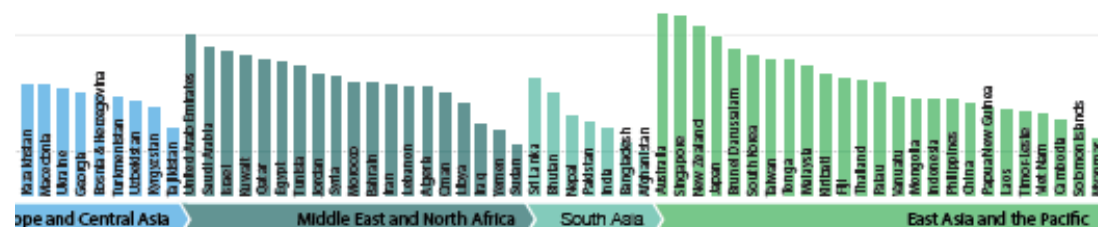
Some elements of sustainability, such as wastewater treatment, benefit from denser urban populations. Others, including air pollution, are harder to address under crowded conditions. Singapore, for example, is a highly dense, urbanized nation that ranks in the Top 10 of the 2014 EPI. The city-state's high performance on Wastewater Treatment, Access to Drinking Water, and Improved Sanitation speaks to the potential of urban infrastructure to secure some elements of environmental health. In fact, Singapore's wastewater treatment system actually enables it to recycle a high proportion of its water resources.

##### 03. For some priority indicators, measurement capabilities remain distressingly weak.

The sustainability of agricultural practices and freshwater resource management, for example, have virtually no reliable metrics by which to identify priority needs, set policy targets, or evaluate national performance. Other key areas lacking adequate measurement include exposure to toxic chemicals, solid waste management, recycling, and wetlands protection. Issue areas that are fundamentally ecological and systems-oriented tend to be measured least effectively. Failing to manage such systems poses increasing risks, and the need to step up to the measurement challenge is dire.

##### 04. The world needs better measurement and indicator systems.

To meet the growing demand for environmental performance indicators, the world will need to build on existing strengths and invest in innovative approaches. The EPI team remains committed to working with interested partners, as it already has with air quality and water resources, to develop new measurement and indicator systems. Such innovation will require tighter partnership between governments, corporations, scientists, and civil society. The EPI documents the tangible benefits that arise where such efforts are pursued and the shameful damage that manifests where they are not.



# Switzerland

EUROPE

## OVERVIEW

1

OVERALL RANK  
OUT OF 178



87.67

OVERALL SCORE  
OUT OF 100



+0.8%

10 YEAR TREND  
OUT OF ±45.88%



\$82,730

GDP/CAPITA

8.00

MILLION PEOPLE

41,272

SQUARE KM

ISSUE SCORE  
FOR 8 CORE ISSUES



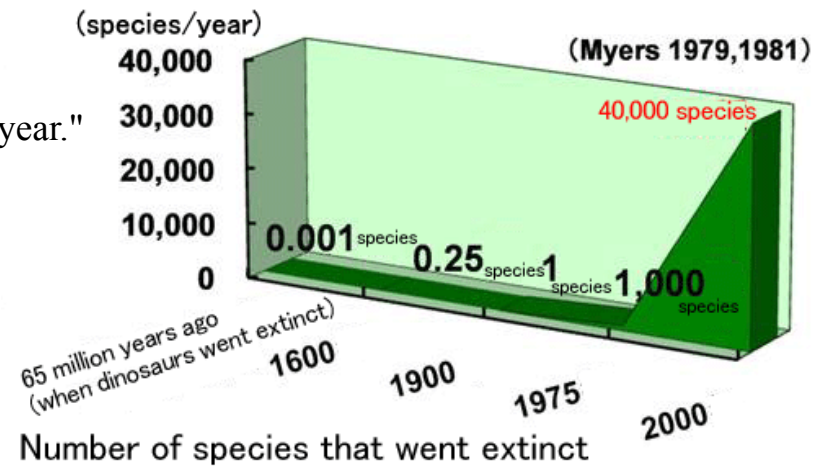


# Latest Policy Measures (for Biodiversity)

- Convention on Biological Diversity
- Status: "about 40,000 species go extinct every year."

## - TEEB Report

Net Present Value (NPV) of annual Natural Capital loss as a result of forest loss is between EUR 1.35 trillion - EUR 3.1 trillion (US\$ 2.0 trillion - US\$ 4.5 trillion)



The Strategic Plan of the Convention on Biological Diversity or the “Aichi Target”, adopted by the meeting includes 20 headline targets, organized under five strategic goals that address the underlying causes of biodiversity loss, reduce the pressures on biodiversity, safeguard biodiversity at all levels, enhance the benefits provided by biodiversity, and provide for capacity-building.

Among the targets, it is important to note that Parties:

- Agreed to at least halve and where feasible bring close to zero the rate of loss of natural habitats including forests;
- Established a target of 17 per cent of terrestrial and inland water areas and 10 per cent of marine and coastal areas;
- Through conservation and restoration, Governments will restore at least 15 percent of degraded areas; and
- Will make special efforts to reduce the pressures faced by coral reefs.

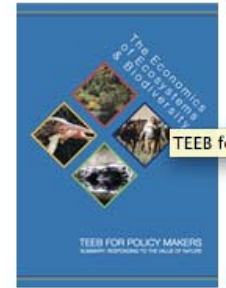
Parties also agreed to a substantial increase in the level of financial resources in support of implementation of the Convention.

Reference: COP10 2010

<http://cop10.jp/aichi-nagoya/english/cop/cop.html>

# The Economics of Ecosystem & Biodiversity

## 5 Suggestion for National and International Policy Makers



### 1. Reward benefits through payments and markets.

Payments for ecosystem services (PES schemes) can be local up to global. Product certification, green public procurement, standards, labeling and voluntary actions provide additional options for greening the supply chain and reducing impacts on natural capital.

### 2. Reform environmentally harmful subsidies.

Global subsidies amount to almost US\$ 1 trillion per year for agriculture, fisheries, energy, transport and other sectors combined. Up to a third of these are subsidies supporting the production and consumption of fossil fuels. Reforming subsidies that are inefficient, outdated or harmful makes double sense during a time of economic and ecological crisis.

### 3. Address losses through regulation and pricing.

Many threats to biodiversity and ecosystem services can be tackled through robust regulatory frameworks that establish environmental standards and liability regimes. These are already tried and tested and can perform even better when linked to pricing and compensation mechanisms based on the 'polluter pays' and 'full cost recovery' principles – to alter the status quo which often leaves society to pay the price.

### 4. Add value through protected areas.

The global protected area network covers around 13.9% of the Earth's land surface, 5.9% of territorial seas and only 0.5% of the high seas: nearly a sixth of the world's population depend on protected areas for a significant percentage of their livelihoods. Increasing coverage and funding, including through payment for ecosystem services (PES) schemes, would leverage their potential to maintain biodiversity and expand the flow of ecosystem services for local, national and global benefit.

### 5. Invest in ecological infrastructures.

This can provide cost-effective opportunities to meet policy objectives, e.g. increased resilience to climate change, reduced risk from natural hazards, improved food and water security as a contribution to poverty alleviation. Up-front investments in maintenance and conservation are almost always cheaper than trying to restore damaged ecosystems. Nevertheless, the social benefits that flow from restoration can be several times higher than the costs.

How can we make communication effective so that we can drive sustainability ?

- Disclosure and feedback

# Workshop: How would you communicate ?

## <Mission>

As a Communication Officer of Sustainable Development, please **present where your country stands in the movement towards sustainability**, using the Johari Window framework (explained in the following slides.)

## <Group work>

- 3 persons \* 2 teams (Japan, China, India, etc.)
- How would you communicate your country's stance towards sustainability / sustainable Development? Discuss each other and **fill in the Johari Window** (25 minutes).
- Present your country's stance to the other group – and vice versa. (3 minutes \* 5 teams )

## Framework: The Johari Window

- Developed by Joseph Luft and Harry Ingham
- One of the most useful models describing the process of human interaction

# The Johari Window

	Known to Self	Not Known to Self
Known to Others	1. OPEN	2. BLIND
Not Known to Others	3. HIDDEN	4. UNKNOWN

# The Johari Window (personal level)

Eg. Kazunori Kobayashi

	Known to Self	Not Known to Self
Known to Others	1. OPEN “My name is Kazunori Kobayashi.”	2. BLIND “When I get cold, I become bad-tempered.”
Not Known to Others	3. HIDDEN “I like Cinnabon roll more than anybody else.”	4. UNKNOWN “Maybe if I eat Cinnabon roll when I have a cold, everybody is happy.”

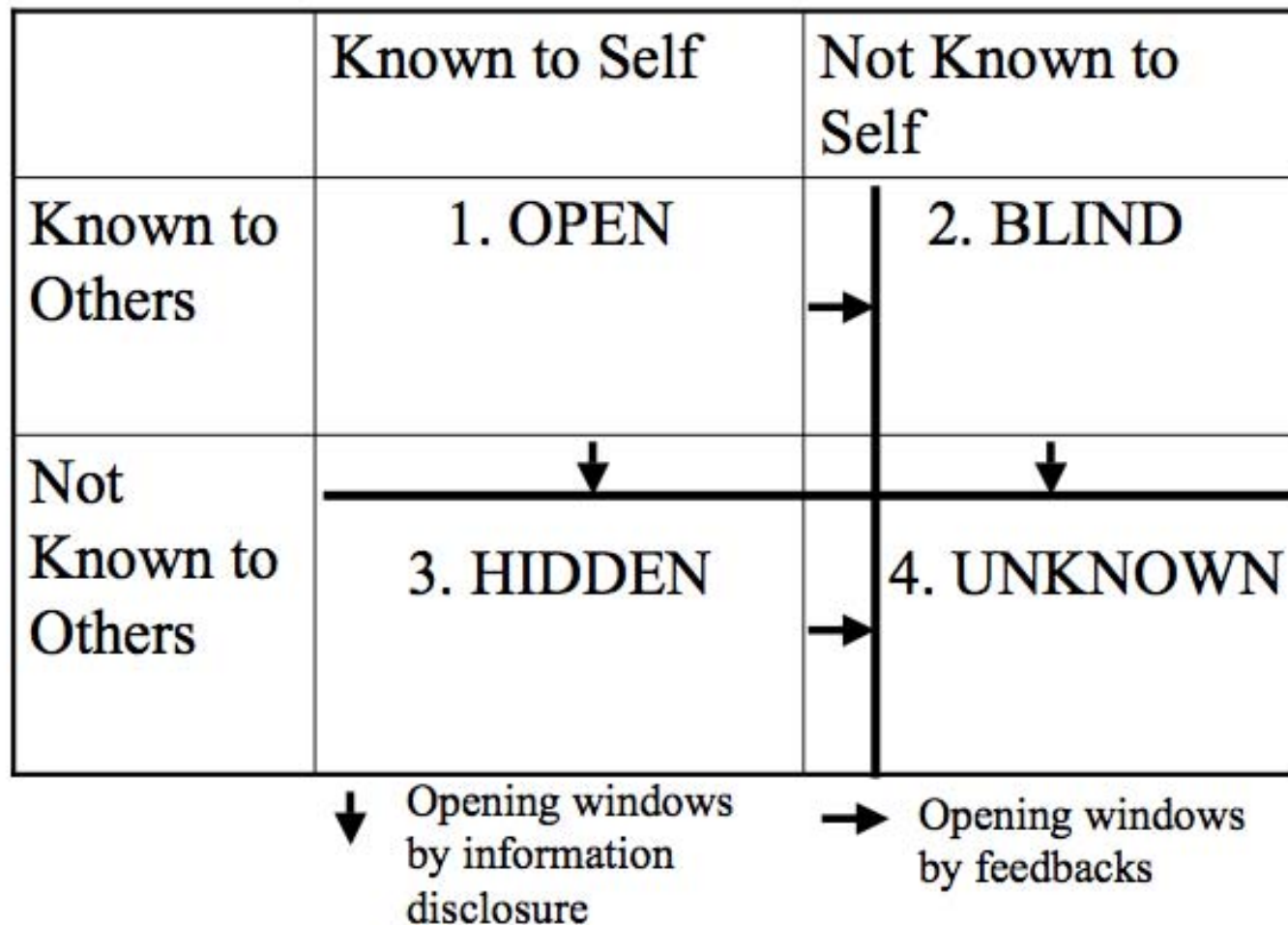
# The Johari Window (country level)

Eg. Japan (in regards to sustainability)

	Known to Self	Not Known to Self
Known to Others	<p><b>1. OPEN</b></p> <p>“Environmental high-tech”</p> <p>“lack of resources”</p>	<p><b>2. BLIND</b></p> <p>“very materialistic”</p> <p>“If everybody lives like Japanese does, we need 3 planets.”</p>
Not Known to Others	<p><b>3. HIDDEN</b></p> <p>“Extremely high energy efficiency”</p> <p>“Motta-nai spirit”</p>	<p><b>4. UNKNOWN</b></p> <p>“Maybe Edo is a model of sustainable society.”</p> <p>“Maybe a long shoreline can be a source of energy.”</p>



# The Johari Window



# Plan

1/19

- Session 1. - What is sustainability?
- countries and int'l communities
  - measurement and tracking

- Session 2. - vision
- indicators and policy => Workshop

1/26

- Session 1. - Group work & Presentation

- Session 2. - Discussion
- Latest policy framework