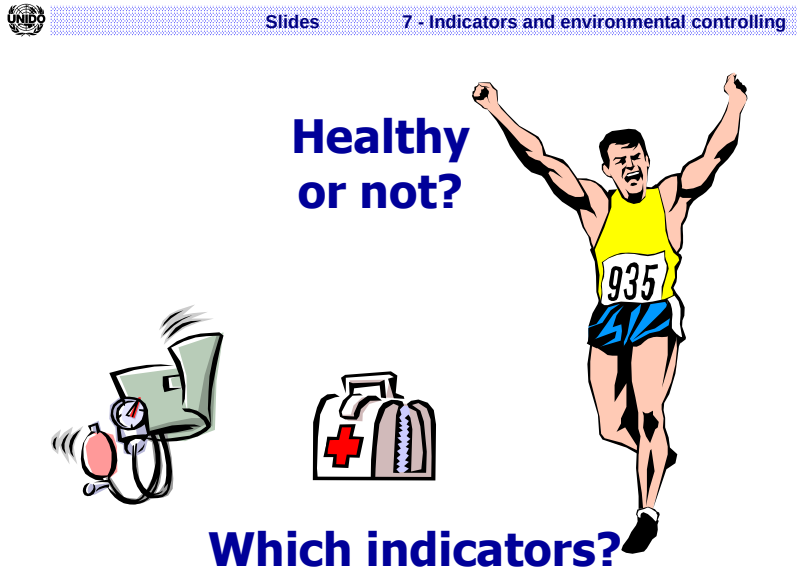
7 – Examples

7-1 Healthy or not healthy

The transparency below shows a runner finishing a 42 km marathon race.



The participants of the course play the role of a medical doctor whose task is to observe the athletes at the finishing line, check their physical condition and decide at a glance, whether an athlete is physically still ok and can continue to cool down, probably after receiving a blanket, or whether he needs immediate medical care. Which indications, which symptoms will the doctor check for?

In a brainstorming session the following answers might be collected:

- Heartbeat;
- Respiratory rate;
- Visual fixation;
- Colour of the skin;
- etc.

The trainer then points out that these figures and symptoms are **indicators**. By checking these indicators a doctor can tell quickly whether the athlete is still in a good physical condition or whether he needs medical care.

Comparable indicators have to be identified for each company, showing instantly if there is a problem regarding their environmental performance: if threshold values are not met, if material losses increase, if the water consumption rises, etc.

7-2 Indicators in a car

Man has a very poor feeling for higher speeds. If, for example, you have been driving on a motorway for about an hour and then leave the motorway, you will underestimate the speed in the curves.

Safe on the road?

Which indicators?

Ask the participants which figures are used to monitor a car, to check whether the engine is running well and whether the journey can be continued safely.

Collect the answers of the participants on a flipchart.

The answers might include:

- Speed;
- Revolutions per minute;
- Oil-pressure;
- Battery charge;
- Fuel level.

In the ensuing discussion point out that all these figures are indicators helping you to collect quick information on the state of the car, telling you whether you are perfectly safe on the road or whether the car needs urgent attention.

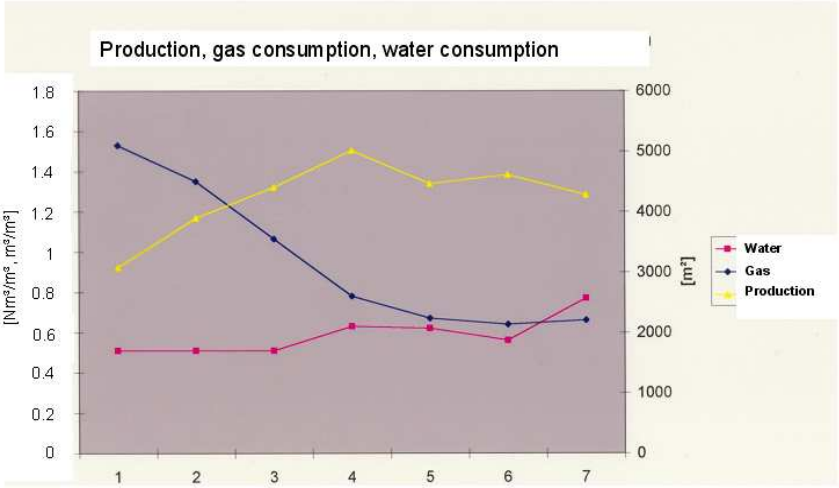
Comparable indicators have to be identified for each company, showing immediately if there is a problem regarding its environmental performance.

7-3 Indicators in a galvanizing company

The third example shows an Excel chart with data collected daily in an anodizing company specifying water consumption, energy consumption and the consumption of chemicals.

day		water			gas			pickle		degreasing	eloxal-bath	sealing		carrier		ampere	face
		meter reading start	meter reading end	difference	meter reading start	meter reading end	difference	pickle additive	caustic soda		H2SO4	sealing additive	acetic acid	CO	colour		m²
1	Thursday			0			0										
2	Friday			0			0										
3	Saturday			0			0										
4	Sunday			0			0										
5	Monday			0			0										
6	Tuesday			0			0										
7	Wednesday			0			0										
8	Thursday			0			0										
9	Friday			0			0										
10	Saturday			0			0										
11	Sunday			0			0										
12	Monday	271.440	271.614	174	524.267	526.654	2.387	100	300	25	400	3		12	1	36.100	240,667
13	Tuesday	271.614	271.732	118	526.654	526.874	220	10	25		40	3	3	12	1	38.600	257,333
14	Wednesday	271.732	271.822	90	526.874	527.099	225	10	25		40	3		12	1	42.400	282,667
15	Thursday	271.822	271.950	128	527.099	527.330	231		25		40	3		8	3	31.800	212,000
16	Friday			0			0							0	0	0	0,000
17	Saturday			0			0										0,000
18	Sunday			0			0										0,000
19	Monday	271.950	272.077	127	527.330	527.885	555	10	75		40	3		10	3	42.600	284,000
20	Tuesday	272.077	272.186	109	527.885	528.107	222	10	75		200	3		9	2	32.100	214,000
21	Wednesday	272.186	272.308	122	528.107	528.315	208	10	25		40	3		8	5	38.700	258,000
22	Thursday	272.308	272.423	115	528.315	528.530	215	10	25		120	3		9	4	41.500	276,667
23	Friday			0			0										0,000
24	Saturday			0			0										0,000
25	Sunday			0			0										0,000
26	Monday	272.423	272.561	138	528.530	529.102	572	10	50		120	3		7	8	40.400	269,333
27	Tuesday	272.561	272.687	126	529.102	529.357	255	10	50		40	3		8	3	34.400	229,333
28	Wednesday	272.687	272.787	100	529.357	529.598	241		50		40	3	2	8	5	41.000	273,333
29	Thursday	272.787	272.987	200	529.598	529.825	227	10	25		40	3		14	0	42.000	280,000
30	Friday			0			0										0,000
31	Saturday			0			0										0,000
total				1.547			5.558	190	750	25	1160	36	5	117	36	461.600	3.077,33
unit				m³			m³	kg	kg	kg	kg	kg	kg				m²
										remarks:	to high consumption of sulfuric acid and pickle					
											values from analysis do not accord with Schlötter						
											heat value has to be corrected about 1832, because of the heating of the room						
											make excel- scales with optimization allowance						
											observation of the gasvalue						
											employee training waterusage and drip down characteristics						

The chart is also used to relate the daily consumption to daily production. The results are shown in the graph below. A further analysis of the data shows that production increased over the year whereas energy consumption went down from January to June. This drop can be explained by a pronounced difference in seasons, as the company is situated in Austria with its Central European climate. During winter, when outdoor temperatures can be as low as -15 °C, more energy is consumed for heating.



Next we have a look at the water consumption. The specific water consumption is stable from January to March. Why does it increase in April?

Put this question to the participants and give them five minutes to think about possible explanations, then collect their answers on a flipchart.

Answers may include:

- Product change;
- Production increase causes more stress for the operators;
- Changes in water quality;

The answer in this case was that the production manager changed in April and the new production manager did not pay much attention to water consumption any more. After seeing the actual consumption data, he discussed the problem with the workers. Immediately afterwards, in July, the specific water consumption went down to the consumption values of January.

This illustrates the importance of an effective feedback using indicators which are published within the company, for example on the "green notice board". Indicators can also be discussed in production meetings or in the meetings of the environmental team.

7-4 Chicken efficiency

This example is taken from a chain of fried chicken outlets. The ratio of "waste chicken" to sold chicken was used as an indicator to characterize the efficiency of each shop and the bonus payment for the management of each outlet was calculated accordingly.

But what is the most efficient way of optimizing this indicator? Put this question to the participants and collect their answers on a flipchart.

Example: "Chicken efficiency"

- **Is the ratio of sold fried chicken to waste chicken**
- **Is the indicator for waste**
- **Is the most important indicator in the organization**
- **Does it make sense?**

Obviously optimum efficiency is reached, if a chicken is put on the grill when a customer orders it. In this way no waste chickens have to be thrown away. However, especially young customers do not like to wait very long, so by making them wait the company will actually lose clients. For this reason the sole indicator was later replaced by a set of two indicators: the chicken efficiency plus an indicator characterizing the average waiting time.

Remember that by using indicators you provide feedback and actually will direct the course of action of a company's staff.