

AIR

EARTH

WATER

FIRE

GOVERNANCE

PEOPLE

FINLAND CREATING A CLEAN COUNTRY

FINLAND CREATING A CLEAN COUNTRY

EUROPEAN ECO-INNOVATORS TOP TEN*

- 1 Sweden
- 2 Finland
- 3 Germany
- 4 Denmark
- 5 UK
- 6 Spain
- 7 Luxembourg
- 8 France
- 9 Austria
- 10 Belgium

A TOP EUROPEAN ECO-INNOVATOR

Finland ranks second in the 2014 European Eco-Innovation index, which is based on education, research, product development and knowledge-intensive business and industry.

* www.eco-innovation.eu



Front cover photo:

SOMETHING NEW OUT OF SOMETHING OLD

A former oil terminal on Helsinki's waterfront has been transformed into a residential and cultural space. One of the old oil tanks was converted into an event centre and an illuminated, living work of art.

CLEANTECH INNOVATION GLOBAL TOP TEN*

- 1 Israel
- 2 Finland
- 3 USA
- 4 Sweden
- 5 Denmark
- 6 UK
- 7 Canada
- 8 Switzerland
- 9 Germany
- 10 Ireland



A CLEANTECH INNOVATOR

Finland ranked second in the 2014 Global Cleantech Innovation Index published by WWF and Cleantech Group, rating 40 countries on 15 indicators related to the creation, commercialisation and growth of cleantech start-ups.

* www.cleantech.com

CLEAN = RESPONSIBILITIES

Finland is a land of plenty: we have plenty of clean water, clean air, and land for both agriculture and recreation. This abundance is a blessing bestowed on us by our natural environment. We can enjoy healthy living conditions and a good quality of life. At the same time, a clean environment allows the whole economy and a variety of businesses to flourish.

But there is a risk that all this abundance could make us undervalue the significance of having a clean natural environment and a functional society. Preserving these assets requires continual, long-term efforts. We are not always able to understand the global value of things that we regard as self-evident, nor the business opportunities they offer. The best innovations are often born of scarcity, rather than abundance. As a clean environment is an increasingly scarce resource globally today, there is growing demand for innovations in this field.

I sometimes hear people ask why Finland should continue to fight so vigorously for a clean planet when we are already doing so well in related international comparisons – and when due to our size we cannot significantly influence global trends. We must, however, take a critical look at our own consumption demands, which are excessive in relation to the resource capacity of our planet.

Being one of the first to adapt to global scarcity would enable us to seize the new business opportunities generated by growing demand for clean technologies. Only through ambitious and exemplary actions can we in Finland have a larger global impact on clean technology issues than our size would otherwise permit. As a small country this is also important for our own interests. An ever-increasing number of the global developments that directly affect us do not respect national borders.

This publication looks at various aspects of the concept of “clean” in Finland. Many of the things said about Finland give the impression that it is a clean country. There are indeed good grounds for saying that Finland is one of the cleanest countries in the world.



Paula Laine

Director, Strategy, Sitra

Sitra is a public fund aimed at building a successful Finland for tomorrow.

MORE INFORMATION

Sitra — The Finnish Innovation Fund
www.sitra.fi

AIR.EARTH.WATER.FIRE

A LAND OF BLUE SKIES

Air consists of almost colourless gases. Clean air observed from far away appears bluish. The Earth also looks blue when seen from space, due to our atmosphere. A clear sky should also look blue when observed from the ground. In Finland, this is almost invariably the case.

Air has a delicate blue tinge. It only tints objects when they are viewed at great distances. Nearby objects should radiate their own natural hues. When colours become dulled, or turn grey or brown, this indicates that there are impurities in the air. Finland is a very colourful country.

Finland is a big country by area — the fifth largest in the European Union. However, it only has just over 5.4 million inhabitants, so there is plenty of room to breathe all that clean air. And for decades, Finns have been taking the purity of the air very seriously, setting strict standards for air quality in urban areas and at industrial sites. Finland easily meets the EU's standards for air quality. The residents of Finland's cities are among the most fortunate ten per cent of urban Europeans in terms of the air quality they enjoy.

Some of the impurities found in the air are natural, while others are caused by humans. Differentiating between these two categories can sometimes be difficult. Wildfires and forest fires are natural phenomena, but what if a person started the blaze?

A GOOD AWARENESS OF AIR QUALITY

Pia Anttila, Senior Research Scientist at the Finnish Meteorological Institute (FMI), explains how the air in Fin-



MORE INFORMATION

Finnish Meteorological Institute
<http://en.ilmatieteenlaitos.fi>

land is continually monitored to detect any gases or substances that should not be present, including sulphur and nitrogen oxides, and fine particles.

Finnish industrial plants and power stations used to release considerable quantities of sulphur dioxides into the air as recently as the 1980s, but thanks to new technologies Finland's sulphur dioxide emissions are now very low. Since the 1990s, nitrogen oxide emissions have likewise been reduced thanks to the adoption of catalytic converters in petrol-driven vehicles, followed by the introduction of emission-reducing technology for diesel vehicles during the 2000s.

The most dangerous airborne particles for our health are the smallest ones: fine particles, measuring 2.5 micrometres, which form during combustion processes. They enter our lungs when we breathe. Finland's air contains very low concentrations of fine particles. Larger particles, which usually form through mechanical friction, are less dangerous to human health, though they still reduce air quality.

Though the sky above Finland is almost always fabulously blue, there are occasional exceptions to this rule. In the springtime, when the wind may pick up particles of asphalt detached by vehicles' studded winter tyres, along with grit spread on roads during the winter, the sky in major city centres may briefly lose its blue tinge. This problem should not be blown out of proportion, however. Even during the worst such periods the urban air quality in Helsinki's streets is still high by global standards.

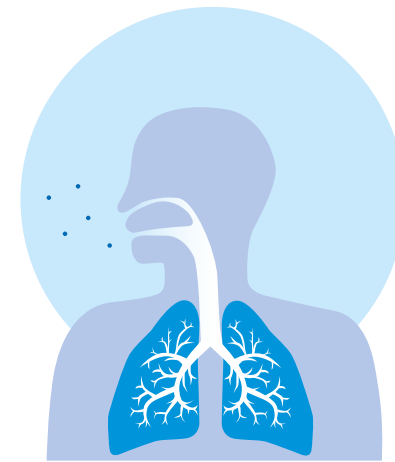
The FMI has twelve air quality measurement stations covering the whole of Finland from Utö in the southwest archipelago to Utsjoki, the northernmost point in Finnish Lapland. These stations are in rural locations to minimise the impact of local or chance factors on data. A further 98 stations closely monitor local air quality in large urban areas and at industrial plants continually in real time. This keeps us well informed about air quality throughout Finland, and makes it easy to discover the reasons behind any changes.

BREATHE DEEPLY

"Air quality has a noticeable effect on human health," explains Pia Anttila. "However, air is a difficult substance — you can't keep it within national borders. For this reason atmospheric concentrations of carbon dioxide, a key factor in climate change, are roughly the same across the globe."

Pollutants can likewise travel thousands of kilometres, although much pollution remains localised. The health impacts of breathing the air in some of the world's biggest and fastest-growing cities are comparable to those caused by extremely heavy smoking.

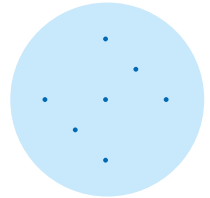
In Finland there is room to breathe. The air is clean everywhere, even in the cities. Finns are consequently healthy and long-lived. They can also enjoy their colourful landscape, especially in the autumn when the trees change colour from green to red, yellow and gold before the snow falls.



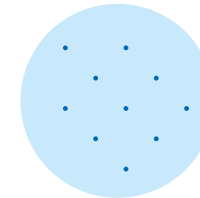
ATMOSPHERIC PARTICULATES

Particulates are the deadliest form of air pollution due to their ability to penetrate deep into our lungs and blood streams, where their effects may induce DNA mutations, heart attacks and premature death.

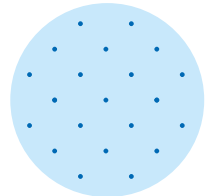
Average particulate matter concentrations in Finland
 $5 - 8 \mu\text{g}/\text{m}^3$



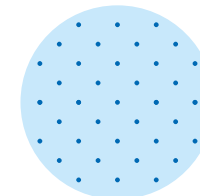
WHO Recommendation
 $10 \mu\text{g}/\text{m}^3$



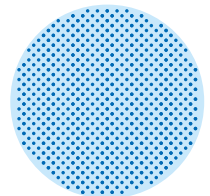
New EU recommendation (2020)
 $20 \mu\text{g}/\text{m}^3$



Unhealthy concentrations for sensitive groups
 $35.5 - 55.4 \mu\text{g}/\text{m}^3$



Hazardous concentrations
 $250.5 - 500.4 \mu\text{g}/\text{m}^3$



Sources: en.wikipedia.org/wiki/Particulates | www.epa.gov/airquality/particulate_matter/health.html | <http://epi.yale.edu/epi> | Finnish Meteorological Institute

AIR. EARTH. WATER. FIRE.

PRESERVING OLD WAYS ALONGSIDE NEW WAYS

The new Suurpelto residential district (in Espoo near Helsinki) harnesses the latest technology for urban living. A ground-source heat pump provides heating and cooling for the district's day care centre. Special delivery areas for groceries in apartment block lobbies enable residents to order groceries over the Internet 24/7.

Finland is one of the cleanest countries in the world, and this is largely thanks to the Finns themselves. However, Finland cannot succeed alone, as threats to the environment do not respect national borders.

"Protecting Finland's natural environment and preserving its purity is largely a matter of cooperation and joint influence, both in Finland and the European Union, and globally," says **Tuula Varis**, Director General, Ministry of the Environment. "Our task as government officials is to prepare proposals for environmental protection, present them to decision-makers, and then act on their decisions."

"Our own opportunities to live in a clean country with clean water and clean air to breathe are, of course, exceptionally good. Finland's nature is unspoilt, and our citizens are environmentally aware. Things are so good that there is a lack of urgency. We tend not to suffer from environmental scandals or crises in Finland, so it's easy to become complacent and take comfort in the fact that the problems lie elsewhere — here in relatively remote Finland we don't need to pay any particular attention to the purity of nature or the environment, as everything's mostly fine," she explains.

A LIFESTYLE OVERHAUL

Varis stresses that such complacency is dangerous. In order to ensure that everyone in the world has the chance

to live in a good environment with a reasonable standard of living, even Finland has to change.

“Environmental issues are often more complex than a polluted body of water or poor air quality. Production and consumption patterns must change, so that our demands remain within the limits of what our planet can bear. The old way that farmers used to think is still valid, in that it’s important to leave the land to the next generation in as least as good a condition as it was when you inherited it,” says Varis.

“Households have the greatest impact on the climate and the environment through housing, transport and food. There is room for improvement in all three areas. For example, households in Finland waste up to a fifth of the foodstuffs they buy, which remain uneaten.”

Varis emphasises that we have a lot to learn from earlier Nordic farming communities. People used to get their food, their energy, and in fact everything else from nearby, in their own fields and farmyards. Anything left unused also remained nearby, as there weren’t really any vehicles or places to take it ‘away’ to.

“We cannot, of course, return to the past, for the simple reason that technology has changed the world, and is still doing so at a rapid rate,” she says. “However, earlier generations took better care of their material possessions than we do. Recycling was essential; raw materials were always collected for reuse. Within the framework of the European Union, we are now setting very strict targets

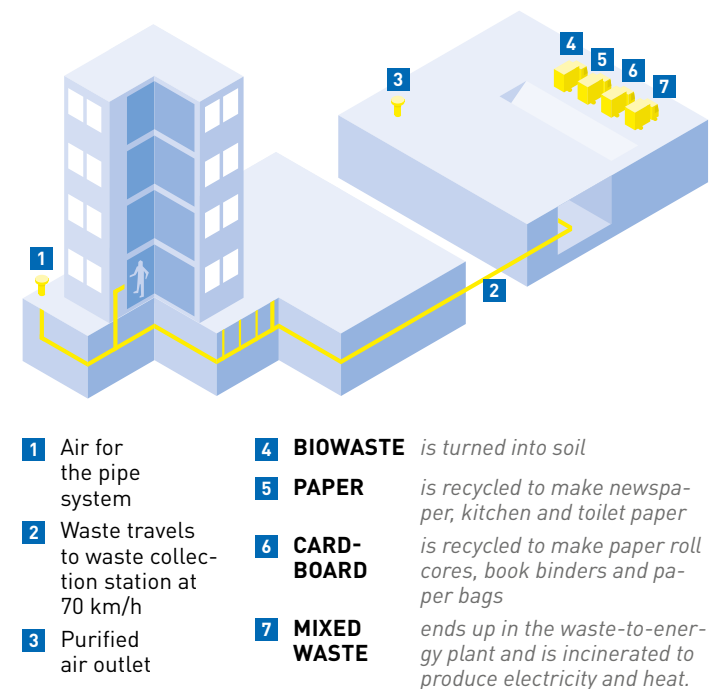
based on the same circular economy principles: we must make use of everything we can — with nothing thrown away. This will solve waste issues, or at least significantly improve them.”

BIODIVERSITY A KEY ISSUE

“The ongoing decline of biodiversity — which we can describe literally as an impoverishment — is also a serious problem, at least in the industrialised world. Every species has its own role to play in the world’s ecosystems, and the loss of even a single species often creates unpredictable problems,” adds Varis. “Many environmental issues are also international, since air and water circulate, and animals cross borders. Fighting on behalf of Finland’s natural environment and clean living conditions quite often means campaigning abroad, at international conferences. The natural environment and the entire country can also be cleaned around a conference table.”

Varis explains that Finland will have to be quite different in a generation’s time if it is to look — and be — as clean as it is today. Industrial production must be based on closed systems that do not burden the environment. Greenhouse gas emissions from fossil fuels must be cut close to zero. Energy production must be carbon-neutral and preferably based on renewable resources such as biomass. Recycling will be even more important in the future — all surplus materials must be used.

THE RÖÖRI WASTE SYSTEM



The Rööri waste system is used in Jätkäsaari, one of Helsinki’s new inner city housing areas.

MORE INFORMATION

Ministry of the Environment
www.ym.fi/en-US

A close-up photograph of a child's hand holding a clear glass under a running faucet. Water is pouring into the glass, creating bubbles. The child's face is blurred in the background. The text 'AIR.EARTH.WATER.FIRE' is overlaid in the top left corner.

AIR.EARTH.WATER.FIRE

CLEAN WATER IN ABUNDANCE

Finland has almost 200,000 lakes, thousands of kilometres of coastline, and countless rivers, streams and ponds. Water is all around. From any high spot the land seems to be covered by forests and water as far as you can see.

Although nature has given Finland the gift of clean water, this asset is also the result of concerted efforts. In an increasingly industrialised and urbanised world, water does not remain clean by itself. Industries and cities have to clean their water so that as little water pollution as possible occurs. This requires technical expertise as well as political will — and cleansing already polluted water requires a completely different kind of expertise.

Finland has always been a country of waterways. The sea, lakes and rivers form routes that have been vital for travel and transportation for thousands of years, long before roads and railways. Contacts with countries to the south and west have been maintained through Finland's Southwestern Archipelago. Water also enabled settlers to spread inland — since clean water was always available, as well as routes for travellers.

THE CHALLENGES OF INDUSTRIALISATION

The industrialisation and urbanisation of Finland did not go without a hitch, however. After the Second World War, the growth of industry, and in particular the wood-processing industries, was a key objective, and no one wanted to threaten the country's increasing prosperity by imposing overly strict environmental standards. This led

to water pollution, particularly in towns with heavy industries.

However, as these changes had occurred rapidly, within the space of a generation, people in Finland still remembered how glorious unspoilt nature could be. Even when industrialisation was at fever pitch, there were still clean lakes and plenty of other nearby reminders of better times. Finns never accepted damage to nature or the use of their rivers as sewers. They wanted to return to the good old days.

Since the 1970s urban areas and industrial plants have been reducing their emissions into waterways, and many lakes and rivers are once again clean, and as suitable for swimming, fishing or boating as they were decades ago. In the long run, clean water is in the best interests of industry, too, as production processes cannot use just any kind of water. It's better not to pollute the water than to pollute it and then have to clean it up.

Finland's lakes and rivers are also excellent sources of water for people living in urban areas. Tap water is both drinkable and delicious everywhere in Finland. Finnish tap water has performed well in taste tests, often rating comparably to recognised brands.

CLEAN WATER AND VITAL RESEARCH

"There is a lot of effort and technological expertise behind all of this," says **Mari Pantsar-Kallio**, who chairs the Finnish Water Forum, an association of about a hundred companies, research institutions and public agencies that strives to promote research and business involving water and its use.

Pantsar-Kallio notes that Finnish hydrotechnology

is systematically exported to the rest of the world. The current state of waters in Finland is so good that major investments are no longer necessary at home. However, in many parts of the world, clean water remains a critical resource without which economic and social development is impossible.

"To some extent, Finnish hydrotechnology companies have developed alongside information and communications companies," she says. "Measurement plays a key role in water treatment, as water cannot be cleaned without knowledge of its composition. Hydrotechnology also inevitably requires expertise in chemistry and other areas.

"One of Finnish hydrotechnology's greatest achievements is the creation of a major new wastewater treatment plant in the nearby Russian city of St Petersburg, which is home to five million inhabitants. This plant rose out of almost nothing on the back of cooperation between Russian decision-makers and Finnish expertise. The state of coastal waters in the Gulf of Finland has improved dramatically as a result of this project," says Pantsar-Kallio.

However, hydrotechnology involves a lot more than wastewater treatment. There is sufficient water in the world, yet in many places there is a serious lack of clean, fresh water. Finns know how to design waterworks, and this expertise is widely exported to Asia and other regions. Technologies for dealing with sludge, desalination and mine water all require considerable expertise that can only be based on research findings. Managing the various aspects of water treatment and exporting related technologies to regions in need is a major Finnish strength.

LAND OF WATER

10% of Finland is covered by fresh water bodies including many rivers and a total of about 188,000 lakes. In relation to population size Finland and Sweden have the most abundant renewable reserves of fresh water per capita (more than 20,000 m³ per inhabitant per year).



TOP RATING FOR WATER AND SANITATION

The 2014 Environmental Performance Index lists Finland as one of a group of select countries receiving the highest possible rating on access to drinking water and sanitation.

ACCESS TO DRINKING WATER

ranking

1

SCORE

100

out of 100

ACCESS TO SANITATION

ranking

1

SCORE

100

out of 100

<http://epi.yale.edu/epi>

MORE INFORMATION

www.finnishwaterforum.fi/en/home
www.unwater.org



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ENERGY FROM THE FOREST

The world of tomorrow will still be reliant on energy, but energy production methods must be changed to protect the climate and preserve the environment.

The fossil fuels that are so vital to transportation today must gradually be replaced by clean, renewable sources of energy. One of the most suitable energy sources is biomass, and in particular wood.

“In Finland, considerably more trees are grown than are used. Switching to wood-based energy sources would be a major step towards a carbon-neutral economy,” says Professor **Nils-Olof Nylund** of the VTT Technical Research Centre of Finland. “One of the hazards of small-scale woodburning is that it produces a variety of fine particles, but these can be removed during industrial-scale combustion.”

Nylund describes wood as a “green, pleasant and local” energy source. A local supply of wood is crucial, since it’s not economically viable to transport wood long distances. Wood can also be used to manufacture liquid biofuels for vehicles.

ALTERNATIVE ENERGY SOURCES

Fossil fuels have powered the world for a couple of centuries. Initially it seemed that first coal and then oil would provide a never-ending source of energy and a basis for our well-being. We now know better. A clean future cannot be built on fossil fuels. We need other, renewable

MORE INFORMATION

www.biotalous.fi/bioeconomy

The Finnish forestry company UPM has developed a new, cleaner biodiesel fuel, which is manufactured using by-products from the pulp-making process. Its fossil carbon dioxide emissions are 80% less than those of standard diesel oil. The first production facility is due to start up in 2014.



sources of energy. And there are only a limited number of alternatives.

Wind and solar energy have already been extensively harnessed to produce energy, but they have serious limitations for geographical reasons: the wind does not blow everywhere, and the sun does not shine everywhere — at least not consistently or predictably enough.

Vehicles also impose their own special demands, as their energy sources must be mobile. Vehicles require liquid or gaseous fuels with a high energy density, but solar and wind power can be used to generate electricity. Nylund reminds us that compared to liquid fuels electricity is extremely difficult to store and transport. Electric cars are clean, but they can only be a part of the solution.

“A litre of diesel oil weighs about 0.8 kilos. It contains approximately as much energy as a hundred-kilo battery. Electricity can be used more efficiently than, for example, diesel; but this doesn’t change anything. The high energy density of liquid fuels enables long journeys for both passengers and cargo,” Nylund says.

Nylund stresses that second-generation biofuels are already viably manufactured. Biodiesel and bioethanol can both be manufactured from woodchips. Bioethanol can be mixed with petrol for use in modern engines, while biodiesel can be used as such in diesel engines.

FILL UP WITH WASTE

Finnish biofuel producers also make use of wastes from the food and drink industry, which are transformed into

ethanol at local, highly automated plants. Up to 85% of petrol could be replaced with bio-based ethanol.

“A wide range of very different solutions could be used to power the vehicles of the future. Electricity is ideal for traffic within cities. Using current generation methods, the carbon dioxide emissions from electric engines are only about a third of those from modern petrol engines. Biofuels are an excellent choice as long as their manufacture does not affect the food supply. Wood-based biofuels are an interesting possibility, as they are carbon-neutral,” Nylund says.

Energy solutions for industrial facilities and communities will inevitably be different from those required for transportation. Both sectors require heat, and industry also requires considerable amounts of electricity. Nylund says that woodchips would suffice for such purposes, and there would be no need to transform the wood into liquid fuel. Boilers could be used to generate heat from woodchips, with steam-driven turbines used to also generate electricity. Many kinds of waste, including wastewater, are worthy of consideration as carbon-neutral energy sources. Less waste than ever will be produced in the future. Everything that can be recycled will be recycled, and the rest will be burnt to create energy. A clean environment requires us to make good use of our rubbish.

BIOFUEL CYCLE





KNOW WHAT YOU

Finnish food is exceptionally clean. This begins in the fields and barns: healthy soils do not require excessive chemical protection. Extensive nationwide monitoring and inspection along the food production chain meanwhile ensure that good hygiene is maintained.

"In Finland our clean natural environment, the lack of industrial pollution, and our sparsely populated countryside pave the way for clean foodstuffs. However, these factors alone are not sufficient, and we must work systematically to ensure the cleanliness and safety of Finnish foodstuffs," says **Leena Räsänen**, Director, Food Safety at the Finnish Food Safety Authority Evira.

"Exceptionally few animal diseases are widespread in Finland, so very few livestock need to be medicated. Potential causes and transmitters of disease are also closely monitored. When Finland joined the EU, we retained our right to inspect any beef, pork, poultry and eggs imported from other EU Member States, and require them to meet our own standards of cleanliness and bacteriological purity. Our limits are stricter than in the rest of the EU, except for Sweden," she says.

Cleanliness increases exponentially. With few plant diseases to worry about, few pesticides are used. Compared to the rest of Europe, fewer traces of pesticides can be found in Finnish foodstuffs. This is probably one reason why organic vegetables have been slow to gain a foothold in Finland. Organic produce is not as popular as it is in much of Central Europe since Finland's 'ordinary' foodstuffs are already extremely clean.

Räsänen stresses that the food hygiene inspection system covers all parts of Finland, even remote areas. Evira

MORE INFORMATION

Finnish Food Safety Authority
www.evira.fi

Ministry of Agriculture and Forestry
www.mmm.fi

YOU'RE EATING

is the central organisation responsible for food safety; the regional authorities have their own areas of responsibility; and municipalities employ health inspectors. This comprehensive system is further facilitated by a nationwide network of veterinarians.

TRUSTED INSPECTORS

Leena Räsänen emphasises that people have faith in Finland's food inspection system, in the same way that they trust other Finnish authorities. "When a product is pulled from the shelves for one reason or another, the public is usually relieved that a problem has been resolved. They see it as a sign that another scam has been exposed."

Food inspections in Finland take a positive approach. The relatively new Oiva system provides services directly to companies as well as consumers. The Finnish Food Safety Authority Evira's authorised inspectors monitor food hygiene standards by business location. The results are public, published on the Internet, and also displayed on stickers by the entrance to each store.

The sticker's broad smile assures customers that everything is in order. Oiva inspections are based solely on food hygiene. The smiley sticker does not say anything about the taste of a product or the extent of a store's range — only that foodstuffs are handled in the correct manner and are clean and edible. Similar systems are used in other countries, but Finland has something that is not found anywhere else: a hygiene proficiency certificate, informally known as a 'hygiene pass'.

Everyone who works with unpacked foodstuffs must obtain such a certificate by passing an official test to show that they understand the basics of handling food-

stuffs. Short-term assistants do not require a hygiene pass, but no one is allowed to work for more than three months without obtaining one. Courses are widely available for anyone wishing to acquire a pass. Evira produces the test questions and model answers. Only Evira's authorised expert testers can award someone a hygiene pass to demonstrate their awareness of high standards of cleanliness.

FRESH FOREST FARE

The freshness and cleanliness of Finnish food is not just about administration and documentation, however. Finns tend to feel close to nature, and make active use of their extensive rights of access to land. You are allowed to pick as many wild berries and mushrooms as you can carry from Finland's forests and wetlands, no matter who owns the land. You may not trespass in someone's yard or garden, and you can only collect wild food plants, but this is more than enough. There is no need to be concerned about the purity of wild foods collected in Finland's forests — they are guaranteed to be clean. Many Finns, irrespective of their social status, pick berries and mushrooms during the summer and autumn. Delicacies from the forest are still well loved by modern Finnish families.

Fishing and hunting are also popular. You can fish with a simple rod and line almost anywhere, and permits for other types of fishing are easy to obtain. Crayfish are an August delicacy that people often catch themselves in local waters. Hunting is controlled, and permits are required, but many people take advantage of this chance to put something special on the dining table in the shape of fresh wild game.

FINLAND'S FORESTS ARE FULL OF CLEAN FOOD



100 kg = 20 full buckets

Even in years when harvests are poor, Finland's forests contain plenty of wild berries per person.



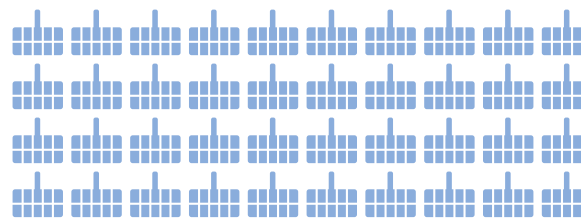
10%

Only about 10% of all lingonberries and bilberries are harvested each year.



3 kg

In a good year Finnish wholesalers buy from pickers about three kilos of wild berries per person.



200 kg = 40 full baskets

Finland's forests could provide about 40 basketfuls of wild mushrooms a year per person.



1 kg

Finnish households annually gather just over a kilo of mushrooms per household.

A CLEAN CONSCIENCE

When levels of corruption are compared globally, Finland and the other Nordic countries are rated as model pupils year after year. In the latest Transparency International Corruption Perceptions Index (CPI), Finland ranked third out of 177 countries. This index has been published for about 20 years, and throughout this period Finland has been rated as the least corrupt country or very near the top.

There are many reasons for this lack of corruption. One concerns Finland's strong legal tradition: Finns trust in the law and other regulations. Deliberate infringements are invariably seen as poor judgement. Organisations are generally small and administrative structures simple, making it difficult to hide malpractice. Corruption cannot thrive out in the open. Finns are not saints, and some people do occasionally slip onto the wrong side of the tracks. But respect for the law is so strong that such behaviour is not accepted, and those involved invariably lose their reputation.

The CPI measures corruption on the basis of data collected by 7–12 notable organisations including the World Bank. The index only measures corruption in public administrations, and not, for example, in private business. Finland and other top-rated countries generally score index values of about 90 out of 100. The most corrupt countries get index values of under 10.

MORE INFORMATION

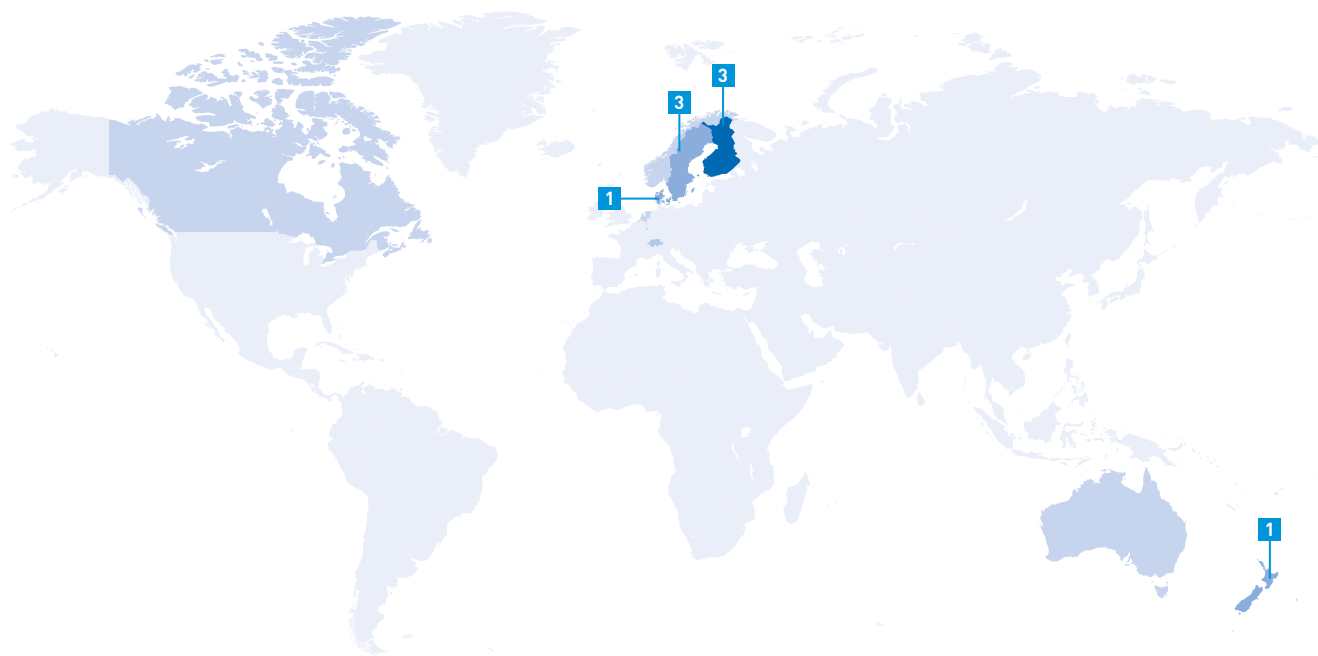
Ministry of Justice
<http://oikeusministerio.fi/en>

Ministry of the Interior
www.intermin.fi

Concerned that Finland and the other Nordic countries may have been rated too highly, the long-term chairman of the Finnish chapter of Transparency International, economist Mr. **Erkki Laukkanen**, drew up a new index based on people's subjective opinions of the prevalence of corruption in their own countries as well as evaluations made by institutions. Laukkanen's Integrity Index (II) is partly based on interview data collected by Transparency International, which has been published as the Global Corruption Barometer since 2003. In addition to government officials it covers political parties and the media.

"The numerical values in this index were much smaller than those in the CPI. However, it's important to note that the ranking order hasn't really changed. At the top, the Nordic countries, including Finland, are joined by Singapore, the Netherlands, Switzerland and Austria. Depending on the measurement method used, of the top ten least corrupt countries, six or seven are small Western European states," says Laukkanen, who nevertheless stresses that Finland should never cease to fight against corruption or get complacent over such good results.

"We should remember that globalisation promotes the spread of corruption. It's very difficult to operate in a corrupt country without succumbing to temptation yourself. By nature, the expanding role of the financial world also increases the secretiveness of business operations, which in turn promotes corruption," adds Laukkanen.



THE CORRUPTION PERCEPTIONS INDEX 2013

- | | | | |
|---|--------------------|---|-------------|
| 1 | Denmark | 7 | Switzerland |
| | New Zealand | 8 | Netherlands |
| 3 | Finland | 9 | Australia |
| | Sweden | | Canada |
| 5 | Norway | | |
| | Singapore | | |



WORLD PRESS FREEDOM INDEX 2014

1	Finland	6	Liechtenstein
2	Netherlands	7	Denmark
3	Norway	8	Iceland
4	Luxembourg	9	New Zealand
5	Andorra	10	Sweden

DETAILED PUBLIC SCRUTINY

Public administration in Finland is, as its name should imply, public. Legislation gives all citizens, including journalists, considerable rights when it comes to obtaining detailed information about decisions made by government officials and any contracts they have made with private companies. The general principle of the Act on the Openness of Government Activities is that decisions are public, although the preparatory work leading up to them is not. Every decision-maker, decision-making body or civil servant knows in advance that any decision, including the grounds for reaching it, will come under close scrutiny. This act is thus an effective tool against corruption.

In Finland, administrative authority is wielded by both state and municipal administrative bodies. The national government is organised as in most other European countries. The highest decision-making body is Parliament, which with 200 representatives is large in relation to the size of the country. Parliament enacts Finland's statutory laws. The government is then entrusted by Parliament to put these laws into practice. Quite a large

number of political parties operate in Finland. At the moment the eight parties represented in Parliament thoroughly evaluate and judge each other's actions and objectives — and do not hesitate to make any contentious issues public as necessary.

POWER AT LOCAL LEVEL

Local government plays a significant administrative role. Finland has a large number of municipalities in relation to its 5.4 million inhabitants — just over 300. These municipalities vary greatly in character: Finland's smallest municipality, the island of Sottunga, has just 100 inhabitants, while the capital city, Helsinki, boasts over 610,000. Municipalities enjoy a great deal of autonomy with regard to organising education, cultural services, and transportation. This autonomy is guaranteed by their power to levy and collect taxes. In addition to indirect taxation, such as VAT, Finns pay income tax to both the state and the municipality where they live, as well as pension and social security contributions.

Thanks to Finland's strong local government, deci-

sions tend to be made close to the people. Most municipal councils contain many different parties — a single-party majority is rare. This ensures mutual accountability at all levels of decision-making.

Tax records are also public. Anyone has the right to ask the tax office how much another person has made in terms of both earned and unearned income, and also how much tax they have paid — and the tax office must provide this information. Taxation tables are published annually. It is difficult to hide your assets in Finland.

In the comparisons published by Transparency International, Finland is rated as the best country for freedom of the press. Finland topped a similar list drawn up by the World Press Freedom Index in 2014, as it often has in previous years. Freedom of the press greatly helps to combat corruption. International comparisons are also complimentary to Finland's legal institutions, which are independent of political power. This clear separation of powers further enhances citizens' trust in Finland's legal system.

3 VIEWS: CLEAN FINLAND

Three people who have moved to Finland give their personal impressions of the country.



RIK POPPIUS / POPPIUS & CO

ROMAN SCHATZ, GERMANY / FINLAND

FINLAND — AS CLEAN AS IT GETS

“Since we have many more trees in this country than people, breathing clean, oxygen-rich air is something completely normal for us Finns.

With a total of 187,888 lakes, drinking and cooking with fresh, pure water is also something we just take for granted. Our tap water is better than any fancy bottled table water.

Our fruit, our vegetables, our cereal, our elk, our fish and our reindeer grow far away from traffic, industry and pollution. This means that ordinary Finnish food is often purer than the organic foodstuffs produced in densely populated countries.

But clean air and clean water are only the beginning; our famed cleanliness extends much further than this, well into morals and ethics. We don't have a single political prisoner in our jails. Our women were the first in the world to have universal suffrage, and today we are almost world champions in gender equality.

And still more important: We are a non-aggressive, non-destructive people. We have never invaded any other country. Only once in our entire history did we attempt to conquer the world — and it worked, too: only a little while ago we sold a mobile phone to almost every living human.

Let's see what we'll come up with next. But rest assured it'll be something clean.”

Roman Schatz is a German-born author and journalist. He has written two novels and several books about Finland — aiming to describe how the country appears from a sensible person's point of view. Schatz moved to Finland in 1986 and is nowadays a Finnish citizen.

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RIK POPPIUS / POPPIUS & CO

YINA YE, CHINA

BLUE SKIES — HELPFUL PEOPLE

“When I was arriving on my first flight to Finland, I saw a country covered in trees and lakes, so different and amazing. The first impression this gave me was of a country that is green, quiet, cold and a bit empty — there were not many people. The expressions of passers-by also seemed cold, but I soon realised that this was misleading. Finnish people are very nice and kind-hearted. They always come over to offer help when others encounter difficulties.”

“For me, the most striking features of Finnish nature are the clear blue sky, the vast forests, and the long days of the summer and the long nights of the winter.”

“Finnish human nature is special, too: shy before drinks, yet bold and talkative after!”

Yina Ye has had only positive encounters with Finnish officials: “They usually do their work at a slow pace, but on the other hand they are always patient with everyone. They explain processes, and kindly try to help people solve problems.”

“There are many good common qualities in Finnish people and customs. I’d particularly like to stress that most people are honest, patient, kind-hearted and polite.”

Yina Ye came to Finland in the early 2010s, initially to study at the University of Helsinki, where she is now also a research assistant at the Department of Computer Science. She comes from Fujian Province in southeast China.

MARIA LIMA TOIVANEN, BRAZIL

FROM RAIN- FORESTS TO FINNISH FORESTS

“The first time I came to Finland was as a visitor in the summer. Pretty yellow flowers lined the roads, and I visited a very beautiful archipelago. I then moved to Finland in the spring and enjoyed nice parks, beautiful lake scenery, and people bathing in the sun — as a matter of fact, too much sun in the summer! Then came fall and winter, the dark and cold.”

Nature is important to Maria Lima Toivanen, especially Finland’s forests. “I appreciate them for the walks, the mushrooms, and the wild berries. The freedom to enjoy forest fruits, to pick them no matter who owns them, is a very enjoyable experience,” she says.

“Life is pretty well organised here by the State, to the point that family and friends only have a minor role in the formation of an individual. People who want to pursue their dreams here can chase them without too much fear.”

“Over the years, the sauna has definitely become an important thing for me. Swimming in wild waters might be an experience I’ll save for later in life, because of them being so cold. I can wait,” she adds with a smile.

Maria Lima Toivanen is from Brazil. She moved to Finland almost ten years ago. Her reasons for coming to Finland were personal, but as a researcher of innovation she soon found herself a position in Finnish academic life.

SAUNA

BACK TO BASICS ON THE SAUNA BENCH

Cleanliness has always been important to Finns; so important that every home had a special space for washing well before water pipes and showers were invented.

In the countryside, each home had a sauna in a separate building in the yard. Cities had dense networks of public saunas in the basements or outbuildings of apartment blocks. People visited saunas to cleanse themselves carefully and thoroughly.

Inside a sauna it is often very dark, as well as very hot. You sit in your place, and you may speak if you wish, but usually only in muted tones. The sauna is not a place to whistle or shout. Many people use whisks made of birch twigs to massage their skin or merely for enjoyment. Gently patting yourself with birch leaves removes dead layers from your skin, as well as making it feel and smell good. You don't need any clothes in the sauna.

People sit in the sauna either for just a few moments, or until they start to sweat. There are as many ways to enjoy a sauna as there are people — there are no official rules or universal rituals. Everyone takes a sauna as they see fit. If you're looking to enjoy a really euphoric feeling after your sauna, popping in for just a moment or two won't be enough. You need to get properly warm. If you have a chance to swim after taking a sauna, that's ideal. Some people like to roll around in the snow in between visits to the sauna, and that's fine too. Sweat a bit (or at least get warm), wash, and feel euphoric — that'll do.

The Finnish dream sauna is a small cabin by a lake or a sea bay. Phrases that seem to crop up in stories about the

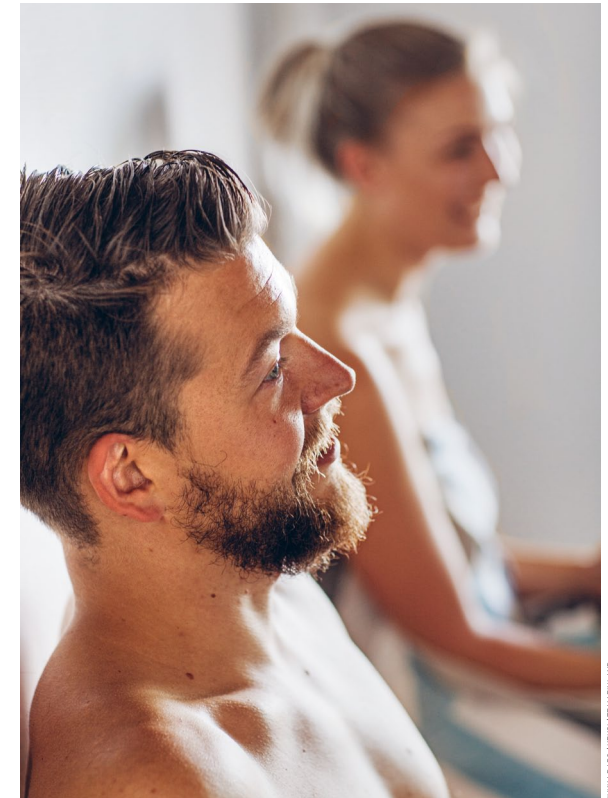
sauna include 'eternal summer', 'sunny evenings', 'tranquillity'. The reality today may be different, however. Saunas can be found in apartments, in almost every detached house, in every hotel, and even in some hotel rooms. A sauna is a sauna, even if it isn't on a lakeshore, under a blue sky with white clouds reflected on the water's surface. There are over three million saunas in Finland — everyone across the country could take a sauna at exactly the same time without difficulty.

It doesn't matter whether the sauna is in the corner of an apartment or on a sublimely tranquil lakeshore, the idea is the same: to get warm, to sweat, and to cleanse both your body and your soul. It's difficult to describe the feeling after a sauna with any other word than 'cleansed'.

A FOCUS FOR FAMILY LIFE

As recently as the 1960s and 1970s the sauna was still a place where major decisions could be made, though that is hardly the case nowadays. Important issues could be discussed after the sauna, but not really during it. It was in the sauna that people would eventually decide whether they could enter into business partnerships — perhaps after some mutual back-scratching.

The sauna has become a much more private affair since those days. Deals are rarely if ever made in the sauna, and the increasing role played by women has ended the sauna's role as a venue for business negotiations. These days saunas are more often taken together by families, groups of students or friends of the same gender, and sometimes by close friends of both sexes if



everyone accepts this.

The sauna has played a profound role in Finnish life for centuries. Before tiled bathrooms and water pipes were installed in homes it was the only place where you could remove the dust and dirt of work. Women gave birth there, and the bodies of the deceased were washed there. Life began and ended in the sauna. For Finns, the sauna truly was — and still is — a clean and sacred place.

CLEAN FINLAND FACTS

TOP RANKING FOR FINLAND ON SEVERAL INDICATORS

The cleanest air in Europe

2014 Environmental Performance Index

Finland has the cleanest air in Europe together with Ireland and Iceland, and is also rated among the top countries worldwide for clean air.

World leader in health indicators

2014 Environmental Performance Index

Finland is among the leading countries in terms of mortality rates of children between the ages of one and five, which are strongly influenced by environmental factors such as air pollution and access to clean drinking water.

The most stable country in the world

The Fragile States Index 2014, Fund for Peace.

Finland is the most stable and least vulnerable to collapse or conflict of the 178 nations listed on this index.

Europe's cleanest food

European Food Safety Agency EFSA, 2013

Food in Finland is cleaner than anywhere else in the EU. About 72% of Finnish food products contain no traces of pesticides, compared to an average of about 50% across the EU. The highest levels of pesticide residues were identified in foods from outside the EU, particularly in imported fruits and vegetables.

The best water quality in the world

UNESCO World Water Development Report

Finland has the best water quality in the world, according to the first UNESCO World Water Development Report, issued in 2003.



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