IMPROVING QUALITY OF LIFE

Bringing people, places, and projects together to create a sustainable future

Sustainability Report 2015
2015 was a very important year for us. We unified our brand and refreshed our sustainability approach to reflect our global alignment, our ambitions, our capabilities, and the latest sustainability thinking. Throughout our business, we are committed to improving quality of life for all and believe we can achieve this by maximizing social, economic and environmental value.

We’ve dedicated this inaugural report to demonstrating the knowledge and technical ability our people bring, our unwavering client focus and our passion for outcomes that consistently exceed objectives.

Megatrends like climate change, water scarcity and urbanization mean our clients’ needs are constantly changing. This calls for us to innovate continually. We are responding dynamically through new ways of working and are seeing the positive impact for our clients.

I'm pleased to welcome you to the first global Arcadis Sustainability Report.

There are three ways we make a difference: the work we do with clients, how we operate our business and the activities of our people.

Together with our clients and partners, we push the boundaries of sustainability and fulfill our passion for improving quality of life. There are a number of great examples from 2015 - a selection of which I'm extremely proud to present to you here.

Yours sincerely,

Neil McArthur
CEO and Chairman of the Executive Board
Arcadis N.V.
Contents

27,000 People
in 300+ Offices
in 40+ Countries
Supporting clients in over 70 Countries worldwide

26 Empowering people in the Netherlands
Volunteering with KNHM

36 Building New York City’s resiliency
Flood prevention

44 Reviving a piece of history
Reese air force base restoration

47 Protecting water for future generations
Revolutionizing wastewater in Puerto Rico

42 Empowering businesses and communities in Brazil
Community business initiatives

53 A garden in the sky
Lotte Center Hanoi

55 On safari
Al Ain Wildlife Resort, UAE

24 Providing education where it’s needed most
Tondo school, Manila
With more than 20 years dedicated to developing stakeholder relations for Arcadis, Joost Slooten’s vision for a sustainable future is driven by an understanding of the value our people, clients and partners bring in creating a better standard of living.

To continue on this journey, we strive to embed sustainability across our services and operations by developing our own people’s capabilities so they are equipped to solve the complex challenges the world faces today.

We know that improving quality of life is not something we can do alone, which is why we depend upon our partners’ knowledge and expertise. Our partnerships with institutions such as the World Economic Forum, World Business Council for Sustainable Development and UN-Habitat (see page 69) are pivotal in our ability to improve quality of life in rapidly growing cities around the world. I am excited to continue building these partnerships so that we can maximize our impact.

The value creation model shows how meaningful value is driven through embracing sustainability. Arcadis is committed to improving quality of life for all generations by maximizing social, economic and environmental value.

“I look forward to building upon our successes to create exceptional sustainable outcomes in the future.”

**Sustainability Priorities**

The material issues on which we will focus in 2016 are:

1. Innovation:
   The exploration of new sustainable solutions, as well as the application of better solutions that meet new environmental or social requirements and existing as well as future market needs.

2. Sustainable Outcomes:
   Improving quality of life through the projects Arcadis performs on behalf of clients. This includes the environmental and social components and design of projects, while at the same time creating long-term value for clients as a result of these projects.

3. Climate Change:
   A strategy to deal with how the changing climate will impact our business, e.g. demands for new services (opportunities), risk mitigation and business continuity. We choose to focus on these topics as our stakeholders indicate that Arcadis performance on these themes has the strongest impact on society. Focus on the other material topics will follow from our strategy on these sustainability priorities. In addition, we believe that these topics represent important future business opportunities for Arcadis.

**Value Creation Model**

- **Our commitment**
- **To positively impact**
- **Through our**
- **Clients**
- **People**
- **Business**
- **Operations**

**Measurement**

- **Financial Capital**
- **Social Capital**
- **Natural Capital**
- **Client & Industry Awards**

**Ecosystems & Landscape**
- **Management**
- **Energy & Climate**
- **Safe & Sustainable Materials**
- **Social Impact**
- **Sustainable Lifestyles**
- **Water**
- **Commercial & Corporate Wellbeing**
We are committed to improving quality of life for all generations by maximizing social, economic and environmental value. This is done by contributing positively to our seven impact areas and building sustainability into our three pillars: Clients, Operations and People.

Ecosystems & Landscape Management
- The rehabilitation, preservation and creation of ecosystems essential for social, environmental and economic value, as well as effective and sustainable landscape management.

Energy & Climate
- The reduction of greenhouse gas emissions strongly linked to climate change.

Safe & Sustainable Materials
- Minimizing exposure to harmful substances reducing the risk of social and environmental crises.
- Promoting the use of materials from sustainable sources and the protection of natural capital.

Social Impact
- Active engagement as part of society, including the development of human and social capital.
- Ensuring basic needs and the rights of workers and other stakeholders.

Sustainable Lifestyles
- A clear, unswerving focus on the health, safety and well-being of all those we come in contact with.
- The influence we can bring on sustainable consumption and behaviors.

Water
- Improving access to water, managing dirty water, matching quality with need, managing consumption and protection from flooding.

Commercial & Corporate Wellbeing
- The creation of financially viable and sustainable activities that balance risk and reward for all stakeholders.
- The adoption of transparent and open relationships and maintenance of high levels of integrity in all that we do.

* Developed from the six impact areas from the World Business Council for Sustainable Development
WELCOME TO A SUSTAINABLE FUTURE

A WHOLEHEARTED COMMITMENT TO IMPROVING QUALITY OF LIFE

The name Arcadis is derived from the word ‘Arcadia,’ which according to Greek mythology describes the finest place on earth to live. Our name perfectly represents our ambition to work towards creating a better environment for people to live, work and thrive.

As the leading global design and consultancy firm for natural and built assets, we’re able to apply our extensive collective knowledge throughout project lifecycles to achieve exceptional, sustainable outcomes.

Environment

We are the leading global environmental solutions provider to private industry. We strive to deliver projects that both protect the earth’s resources and meet our clients’ economic objectives. Our environmental consulting solutions address potential operational, regulatory and/or third-party liabilities.

Buildings

We deliver world-class architecture, planning, consultancy, project, program and cost management solutions for a wide range of buildings. From commercial properties to hospitals, schools, government buildings and industrial facilities, we pride ourselves on creating a balance of form, functionality, and environmental stewardship.

Infrastructure

Our infrastructure solutions create the conditions for efficient transport. We provide business advisory, design, engineering, and program management for some of the world’s most complex infrastructure projects, bringing stability, mobility and a better quality of life to communities around the world.

Water

As a global top five player in water services, we focus on the entire water cycle. From analysis and design to advanced treatment technologies, we deliver and engineer management services for public utilities and private sector industrial clients.
That’s why we came together with the Lovinklaan Foundation to form Satellite, a program for continuous innovation that encourages Arcadians around the world to submit their ideas on how to make the world a better place. By harnessing the power, knowledge and innovation of our Arcadians, we’re showing that we can take the lead and do what we can to make our contribution matter.

And the results have been phenomenal. Last year, we received over 200 submissions – a four-fold increase on 2013 – and selected three entries to form a shortlist to be voted on at a VIP dinner to win one of the coveted Arcadis Global Innovation Awards known as IMAGINE.

Here are the top three 2015 entrants and their ideas:

**Winning entry**
Balancing ion ratios in water, reducing toxicity and protecting the environment.
Steve Rogers
Joe Meyer
Anne Thatcher
Matt DeMarco

**Using big data to create smarter cities.**
Greg Yager
Erica Carvalho
Brian Adams
Matthew Tribe

**Maximizing the efficiency of water treatment plants.**
André Marguti
Gustavo Tanaka
Jack Bryck
Laurie Sullivan

**Mundaring, Western Australia. Location of Arcadis Treatment Plant.**

New and innovative ideas are key to delivering the sustainable solutions the world needs. Arcadis is all about taking smart ideas and making them work for our clients and the places and spaces they operate.
When the expertise of the team comes into full effect, it has the potential to truly impact lives.

Bert Smolders
Shelter Program Manager
Established in 2010 and set to continue well into the future, the Shelter Program celebrated its fifth successful year in 2015. Led by Bert Smolders, this unique program combines financial support and Arcadian expertise.

The Shelter Program is a global partnership with UN-Habitat, the leading United Nations organization responsible for one of the most urgent challenges in the world: the quality of urban settlements all over the world. We wanted to focus our corporate social responsibility efforts in a clear direction through one global partnership, a partnership that would focus Arcadis’ combined knowledge, expertise, and passion with another organization’s needs. We chose UN-Habitat because it perfectly matched what we do and enabled us to provide services in parts of the world we otherwise wouldn’t have access to.

A wide range of our services are available to UN-Habitat, including urban planning, water management, urban finance, and sanitation as well as mobility and infrastructure, ecology, environments and waste treatment. The program is financially supported by the Lovinklaan Foundation, the largest shareholder in Arcadis. All seven board members are serving Arcadis employees. The Lovinklaan is a group that exists to support the continuity of Arcadis and the development of its people.

My role is to organize the program so that all stakeholders, UN-Habitat, Arcadis and the Lovinklaan Foundation, are happy with everything we’re doing. It’s a multi-faceted program providing external services focused on improving quality of life for the most vulnerable. It’s a way for us to showcase the passion Arcadians bring to their work, all while making the world a better place.

Employees who participate in a Shelter mission often remark that, for them, work is about much more than earning money. It’s really encouraging to see that idea come to life through their engagement with the program.

“ It’s a way for us to showcase the passion that Arcadians bring to their work, all while making the world a better place.”

Disaster recovery following the earthquake in Nepal

Arcadis employees and the local population active in the Shelter Program

IMPROVING QUALITY OF LIFE FOR THE MOST VULNERABLE COMMUNITIES SINCE 2010

The Shelter Program
One mission that stands out to me occurred in November 2013, when Tacloban in the Philippines was hit by a devastating storm, Typhoon Yolanda. Five thousand people were killed and thousands of others were displaced due to the destruction of their homes and communities.

Immediately after the typhoon hit, UN-Habitat contacted us to see what we could do to help and fortunately, because we had recently been working in the region, we were able to provide immediate support. We had a team on the ground just three weeks after the disaster hit. The situation was chaotic, and with a lot of aid money coming in, developing project plans was both urgent and critical. We sent quite a diverse international team to work on the plan. This was crucial because in situations like this, it’s common for very important, long-term decisions to be made very quickly. This is where the expertise of the team comes into full effect, and where it has the potential to truly impact lives.

Years later, the recovery and development plan we supported received praise from the highest levels of the Philippine government and is still used in their redevelopment efforts. I revisited the area late last year and was happily surprised to see that it looked a world away from the place I saw immediately after the typhoon had hit. There’s still a lot of work to do, but it’s well underway.

That’s just one example. We’ve organized over 80 missions, including more recent missions to Indonesia for flood prevention, the Philippines and Myanmar for sustainable urban planning, and Nepal to offer after the earthquakes. The Shelter Program is making a real difference.

Since the military dictatorship formally ended in 2011, Myanmar is still working to catch up with other Southeast Asian countries. Though people are still dealing with challenges such as rapidly growing cities and ongoing ethnic conflicts, it’s a place that has so much to offer.

The colorful but rundown British colonial houses, the vivid street markets, the giant gilded pagodas and the occasional monk smiling at me are the things that made a lasting impression about Myanmar.

During my time in Myanmar, I worked with a team to facilitate urban planning sessions to develop plans for about 81 cities. At the end of the training session with Myanmar urban planners, when each group’s work was presented for review and feedback, we recognized that within just three days the local planners had already improved their skills in urban planning. We had enabled them to plan more sustainable cities in Myanmar for the future with the help of the guiding tools of UN-Habitat.

Though challenging, our work absolutely paid off. We received such meaningful feedback from participants in the planning sessions. I can honestly say that the whole experience helped me to grow as a person.

“Within 3 days the Myanmar planners had already improved their skills in urban planning.”
A diverse team from the USA, UK, Belgium and the Netherlands set out on a Shelter mission to Kathmandu in August 2015. It had been four months since the Nepal earthquake had killed thousands of people and destroyed not only homes but also the country’s historic temples and monuments.

I was extremely excited to be chosen to join the mission for a number of reasons, but mostly because I think it’s really important for a company like Arcadis to practice what we preach. Our mission was to work on Hot Spot Analysis for townships in the Kathmandu Valley, as well as to concentrate on priority projects in Bungamati.

Together with the University of Ku Leuven students and Nepalese graduates in architecture and civil engineering, our team ran a series of workshops to come up with a redevelopment solution for one of the hardest hit historical areas in the region.

We spent about two weeks working through solutions and covered everything from improved building techniques to water treatment options. The result was a master plan for the Valley, and hopefully, a better quality of life for generations to come.

I think the best part of being on the Shelter mission was working with our expert team to understand the different approaches and solutions to the problems we faced. The team got on really well and we were all eager to support the Nepalese community as much as possible.

Arcadis has been working alongside the UN to tackle rising mercury levels and their impact on indigenous populations around the world.

Our work with the United Nations Environmental Programme (UNEP) aims to combat rising levels of mercury in the environment. This is important because mercury has serious implications on human health when it is absorbed into the bloodstream through the food we eat.

The consumption of fish that has been contaminated by a toxic substance derived from mercury in water is one of the main reasons mercury is increasingly present in our diet. For those people who are heavily dependent on fish as a food source, such as the Inuit, this is a big problem.

UNEP approached Arcadis to provide technical expertise on the Minamata Convention on Mercury, a global treaty designed to help reduce global mercury emissions.

Since the Convention was agreed to in 2013, we have assisted the UNEP in helping countries implement changes that will improve the quality of life for their people. So far, over 100 countries have signed up and more than 20 have ratified the Convention. This is helping to protect indigenous people’s way of life and improve their health. But our involvement hasn’t stopped there. Arcadian Wojciech Jozewicz, one of the world’s foremost experts on mercury emissions, has been working with a team of UNEP professionals to develop a set of best environmental practices for the most at-risk regions. This work will be released in 2016.

**The effects of mercury**

Exposure to even small amounts of mercury can cause serious health problems and is particularly dangerous to pregnant women. The toxin methylmercury can impair an unborn baby’s brain and nervous system, which can lead to developmental problems later in life.

As some indigenous people, such as the Inuit, are heavily dependent on fish as a food source, they are particularly vulnerable. Cutting mercury emissions that are eventually absorbed by fish is vital to the survival of the Inuit way of life.

“**Our work with the UNEP aims to combat rising levels of mercury in the environment and improve quality of life for all.”**
On the outskirts of Manila, thousands of children live and work on the biggest landfill site in the country. Thanks to the pioneering vision and enterprise of a local charity, we’re helping 1,000 children build a better life for themselves.

The Smokey Mountain dumpsite in Manila is one of the world’s biggest landfill sites, earning its name from the thick grey smoke it emits. Many thousands of people live on or around it, picking through waste to earn enough money to survive. Until the summer of 2010, 500 local children attended the local Tondo School, a lifeline that has prevented many of them from having to work on the landfill. However, the school’s building – a large warehouse – was fast becoming dangerous to use and was infested with rats, snakes, scorpions and prone to serious seasonal floods.

Jane Walker, founder of the Purple Community Fund (PCF), the charity that runs the Tondo School, had a vision to use 50 donated shipping crates to build a replacement school. After speaking unsuccessfully with several engineering firms, Jane found our team of global design experts based in Manila.

Together with PCF, we designed and constructed Tondo School’s new home. The school opened in December 2010 and is transforming the lives of 1,000 children. The construction is the largest and possibly the first multi-story school building made from connected shipping container crates. There’s even a playground on the roof.

An annual donation of €32,000 provides for a class of 35 students for a year, a sum which covers school supplies, meals, salaries, transport, health checks and a fieldtrip.

Jane Walker, Founder, Purple Community Fund

“Thanks to the Arcadis team’s commitment, we were able to see the project through to completion. Without them, we would have had to abandon educating the 500 or more children we already had in school, until we had sufficient funds to pay for both the engineering and the building work.”

A major renovation project has transformed the Brooke Army Medical Center, a campus that’s now leading the way in inpatient and ambulatory care.

In 2005, CallisonRTKL began working with the US Army Corps of Engineers to renovate the Brooke Army Medical Center, the US Army’s premier medical institution. Two key ideas were at the heart of the development: maximize patient comfort and minimize the site’s environmental footprint.

CallisonRTKL employed evidence-based design principles to enrich the healing environment. Improvements included all private patient rooms and outdoor healing gardens as well as the installation of high-efficiency glass windows to keep out the intense San Antonio heat while still allowing an abundance of natural light.

Minimizing the building’s ecological impact was fundamental to the design. Additional roof and wall insulation, sun screening, lighting efficiencies, plus fewer but larger air conditioning units to handle the stifling Texas temperatures have led to a 23% energy cost saving as compared to the established building’s performance.

Perhaps the perfect symbol of a building that enhances quality of life while minimizing its footprint is the 50,000 gallons of recycled water that cools the central utility plant and also feeds a beautiful landscaped pond and healing garden in the central grounds. Both the pond and the garden are important features for soldiers and their families in the arid South Texas desert.
EMPOWERING PEOPLE IN THE NETHERLANDS

VOLUNTEERING WITH KNHM

A team of 200 Arcadians is leading the charge for improved living standards in the Netherlands with the KNHM, a foundation that brings together inspiring professionals and local citizens who want to improve their neighbourhood, village or city.

128

years of collaboration

KNHM and Arcadis have a history dating back 128 years. Once an association to stimulate the development of agricultural land, forests and nature, KNHM split into a commercial operation and a foundation in 1972. The commercial arm was renamed Arcadis in 1998.

Today, the two between Arcadis and KNHM Foundation remain strong. Two hundred Arcadians volunteer with the Foundation to empower people in the Netherlands with the skills they need to improve their communities. The projects are focused around three main areas: creating today, creating tomorrow and creating community.

Creating today
Through a range of one-day activities, Arcadians provide hands-on assistance, such as help with home improvements and the clean-up of public spaces, to disadvantaged groups, including the elderly and disabled people.

Creating tomorrow
This program is all about nurturing future talent. For example, The Arcadis Challenge, an annual competition created to spark interest in science among second-graders, asks students to think creatively about issues the world may face in the future. Under the tutelage of KNHM and Arcadis, students develop ideas and solutions for the future city of Arcadis.

Creating community
The aim of this area is to share knowledge and experience with communities, at home and in developing countries. In cooperation with KNHM and the Netherlands Refugee Foundation, Arcadis volunteers use their real estate expertise to help locate vacant properties for refugee housing.

As the refugee crisis in Europe deepens, it’s clear there’s a pressing need to act. After making the perilous journey over land or sea, many still face an uncertain future here in Europe.

In the Netherlands, Arcadis volunteers are leveraging their real estate expertise to secure vacant properties to safely house refugees. In the Berlin office, we’ve taken on two long-term refugee work placement students, who are utilizing their skills in areas they are passionate about.

As is often the case with challenges of this magnitude, it’s smaller solutions that make the biggest difference to individuals. We are offering our expertise in program management, urban development and asset management pro bono to European public authorities and aid organizations. Currently, we coach the management of a Berlin refugee center enabling them to optimize processes. Our Darmstadt office collected 180 blankets – vital in the bitter Syrian winters; our Belgian office raised €1,500 – with more fund raising to come.

These funds and additional materials have a considerable impact in being able to provide essential services for refugees, but above all, it’s the message it sends that counts most. By mobilizing for this cause, we’re demonstrating that we’re open and welcoming and showing that we care deeply for those enduring true hardship.

Over two million people have now been displaced since the conflict in Syria began. Arcadis is calling on its industry partners to work together and do what we can to help.
Every design has to be unique, otherwise you fall into the trap of pattern dependency – doing things the way you’ve always done them.

Gertjan Jobse
Landscape Architect

Building sustainability into our landscape
New York City flood prevention

Sustainable Cities Index

A16 Rotterdam

Cities program and water business line

30

Tomorrow's world

Arcadis

Tomorrow's world

Arcadis

Rotterdam

7 Square Endeavour

34

36

37

32

36

Gertjan Jobse
Landscape Architect
 sustainability has always been part of landscape architecture, but it’s definitely becoming more important. “

I joined Arcadis because I wanted to work with an interdisciplinary team on design that positively impacts society. Because we collaborate across all the different phases of the project, we can see it right through to completion, which is very satisfying.

Our team of landscape architects are involved in a couple of brilliant projects at the moment that are making sustainable landscape architecture part of people’s everyday lives and – as a result – making them more enjoyable and rewarding.

I’m working on a project that’s using something called the Park Way concept. This is the concept of integrating a road into its surroundings, making it fit into its landscape more naturally. As a driver, it means you can experience the road in a more pleasant way. This is an idea that started out on small scale roads but we’re now applying it to a major highway in the Netherlands.

John: I’m really proud of the work we’ve done on the flood protection measures on the Dutch Coast. In anticipation of rising sea levels, the government knew they had to raise the barriers – the current barriers would be too low. We put forward a plan where, instead of simply raising the height of the barrier, we would create a sand dune. Today, that dune exists, and it’s beautiful. It has a beach with beach houses and bike tracks and cycle paths that people can use. It has been a total transformation of the area.

landscape architecture is the search for visionary designs that capture the eye and the heart. For us, the user’s experience is paramount. Designs that are creative and sustainable are what sets Arcadis apart. At every step, from design to execution, we collaborate closely with other relevant disciplines. In this way, our clients can rely on our complete involvement and on rapid solutions that create added value. We make beauty feasible.

Floriade 2012 and Cradle to Cradle

Client: Sven Stimac, Project Director, Floriade 2012

The World Horticulture Exposition Floriade 2012, organized by the Region Venlo, was one of the first major sustainable land development projects in the Netherlands inspired by the Cradle to Cradle™ (C2C) design philosophy. This C2C framework was originally applied to building and manufacturing design and is now being adapted for land development.

The design principles for Expo Park were inspired by C2C™. These included closed-loop thinking, solar power and design with future generations in mind. These principles were taken into account at every phase – from concept and design to engineering, procurement, construction and maintenance.

Implementing a qualitative concept like the C2C™ requires openness and creativity from every team member. That’s exactly what Arcadians brought to the project.

Name: Gertjan Jobse and John Boon

Time with Arcadis: 10 years & 9 years

Location: Amersfoort, The Netherlands

Role: Landscape Architects

BEAUTIFULLY NORMAL BUILDING SUSTAINABILITY INTO OUR LANDSCAPE

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We make beauty feasible.
In a rapidly urbanizing world, the way in which cities are planned, built, operated and redefined has a huge social, environmental and economic impact. There are numerous databases that measure cities in a broad cross-section of livability and business climate indicators. Our strategy was to paint a broader picture of sustainability, benchmarking the performance of cities against three fundamental factors: their people, their profit and the planet. This gave us a comprehensive view of each location and its position on the sustainability scale.

Using a detailed, evidenced-based metric, the SCI takes into account environmental factors, such as carbon emissions, and observes them alongside both social demands, such as a work-life balance, and also a city’s economic performance. But the index is more than just a benchmark of individual places today; it offers a roadmap for future improvements outlining areas for attention.

The purpose of the Arcadis SCI is not to create a hierarchy of elite cities, but rather to indicate areas of opportunity as cities continue to make progress on their missions to become more sustainable economically, environmentally and for the good of their inhabitants.

The SCI has allowed Arcadis to own the 360° sustainable view of global cities. The campaign has been credited with leading the field of urban sustainability research, gaining hard-won endorsements from the Chair of UN-Habitat’s World Urban Campaign and garnering a favorable response from the Mayor of London’s office.

The Index created inroads to the Carbon Disclosure Project (CDP), the Economic Development Department for Kuala Lumpur, Rotterdam Mayor’s office, numerous academics, students, NGOs, bloggers and influencers.

The SCI was also recognized commercially with the following endorsements: the Best Use of Thought Leadership, Best International Campaign, Superior Achievement in Reputation Management and Best Business Communications Campaign.

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Download Sustainable Cities Index
www.sustainablecitiesindex.com

We are living in the century of the city, but are we living in the century of the sustainable city? Arcadis set out to answer this question with the first Sustainable Cities Index (SCI) 2015, which benchmarks 50 cities in 31 countries around the world to determine how viable they are as places to live.

Across the world, cities are performing better in terms of being sustainable for Profit and Planet purposes, but are failing to sufficiently meet the needs of their People.

Seven of the top ten performers are located in Europe, with Frankfurt coming top overall and London coming in as a close second.

The least sustainable cities include some of the fastest growing cities on the Asian continent Jakarta (45th), Manila (46th), Mumbai (47th), Wuhan (48th) and New Delhi (49th).

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The most sustainable cities are:

People
Measures social performance including quality of life
Rates transport infrastructure, health, education, income inequality, work-life balance, the dependency ratio and green spaces within cities. These indicators can be broadly thought of as capturing ‘quality of life’ for the populace in the respective cities.

Planet
Captures environmental factors like energy emissions and pollution
Looks at city energy consumption and renewable energy share, recycling rates, greenhouse gas emissions, natural catastrophe risk, drinking water, sanitation and air pollution.

Profit
Assesses business environment and economic performance
Examines performance from a business perspective, combining measures of transport infrastructure (rail, air, other public transport and commuting time), ease of doing business, the city’s importance in global economic networks, property and living costs, GDP per capita and energy efficiency.

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THE POWER OF MOBILITY, REGENERATION AND RESILIENCY CITIES PROGRAM AND WATER BUSINESS LINE

We have 13 global cities and four regional cities in our Cities Program portfolio. We’re working with all of them, and many other cities, to improve quality of city life and to make them more competitive, sustainable and investible. Our number one priority is to satisfy clients. We don’t deliver services; we deliver outcomes that delight our clients. That’s what we’re about.

The work we do is key because a more sustainable city is more environmentally attractive, which leads to greater investment, a higher level of tourism and increased livability.

We look at the work from three vantage points. The first thing we’re trying to do is to make cities more mobile. This means a focus on transport and moving people, whether that’s by rail, airports or vehicle, in a more intelligent way. That means better transportation systems, better roadways and better signalization. Many of these cities face big challenges with congestion and high commute times, so that’s often the first thing we focus on as city leaders.

The second thing we do is regenerate under-performing parts of the city, the places that aren’t as economically viable and liveable as they could be. So we’re especially good at reimagining, repurposing and repositioning parts of the city that have fallen into decline. The CallisonRTKL project is a really good example of this. (See page 25)

The third is resiliency. This involves making cities climate proof and less susceptible to climatic or man-made events that could disrupt supply chains and displace people. Resiliency is something I’m very passionate about and we have become a platform partner for the 100 Resilient Cities, pioneered by the Rockefeller Foundation.

Based on these three vantage points, we have several project highlights from each city. For example, we’re working with Los Angeles to reduce travel time by 20 minutes across the county for 90,000 metro passengers. In Berlin, we recently won a commission to reposition existing facilities into 320 residential properties – as well as a business attracting development – transforming it into a vibrant destination and living space to meet the demands of an increasing population. As for resiliency, we’re future-proofing lower Manhattan against storm surges like that of Hurricane Sandy to protect residents and businesses alike. (See page 36)

Regeneration in Chicago

The Chicago River was historically an afterthought or disposable part of the city. But after a push by the Mayor Rahm Emanuel to make the Chicago River a “front porch”, Arcadis is now making the river a destination. This represents our approach to regenerating cities. We go beyond buildings and infrastructure, we build places that people want to visit.

Water Business Line

I also lead the Water Business Line. We focus on three areas in water – water resiliency, quality and efficiency. I believe these three areas are essential contributors towards sustainability.

Once again, resiliency is a focus point with an emphasis on too much water (flooding, storm surges and rising sea levels), or too little water, with drought and scarcity. The key to resiliency is planning ahead and futureproofing. The second is quality – the quality of water supplies, the quality of receiving waters, of life experiences, of communities and their waterscapes. Finally, there’s efficiency and our advisory water offering, which focuses on managing built water assets more resourcefully, controls overall costs and funding, and ensures service continuity.

I’m particularly proud of the Carlsbad Desalination facility in North America, which opened in December 2015. The facility provides San Diego with a locally controlled, drought-proof supply of high-quality water. Arcadis was the engineer of record for this facility, and our desalination outcome is helping San Diego County diversify its water supply portfolio.

Sustainability’s challenges

Funding and convincing people that sustainability is a good investment are always sustainability’s biggest challenge. However, the climate accord reached in Paris will make sustainability a priority, particularly for climate emissions. There’s a whole push by the 100 Resilient Cities to get cities to commit 10 percent of their operating budget to resiliency, which translates to a 10 percent commitment to sustainability because they are so closely linked.
The Netherlands take sustainability very seriously. So when it came to designing and building the A16 Rotterdam, a new part of the city’s ring road, Rijkswaterstaat, the executive body of the Dutch Ministry of Infrastructure and the Environment came to Arcadis for help.

Rijkswaterstaat had a variety of ideas for ways to tackle sustainability throughout the project, so we at Arcadis, collected those ideas and built on them. We worked with the Rijkswaterstaat to set a sustainability target for the build, then created a plan to help them meet it. And to make sure every organization helping build the road considered sustainability, we created the Sustainable Opportunities A16 Rotterdam document to challenge and push them, every step of the way.

We made sustainability a driving force behind building the A16 Rotterdam all the way from design to construction.

On October 29, 2012, Hurricane Sandy hit New York City. The subways were flooded. Homes and businesses were destroyed. And 43 people died. Billions of euros worth of damage was caused.

As part of New York City’s response to this disaster, the BIG U concept was born – a ten mile long protective system which also provides social, economic and environmental benefits to more than 55,000 people in Lower Manhattan.

Arcadis is involved with the collaborative East Side Coastal Resiliency study, the first comprehensive engineering design phase of the BIG U. This required speaking to communities whose worlds had been shaken and showing how the funding could transform New York City. Cost-benefit analyses found that by investing about €1 billion into resiliency design strategies – like the flood prevention system – the city would reap more than €5 billion in benefits.

The result of all the research? The City has been awarded over €157 million as part of the National Disaster Resilience Competition for Lower Manhattan. With this funding and the strategies Arcadis helped to put forward, if disaster ever strikes again, New York City will be better prepared.

It becomes more and more clear to me: making a city future-proof isn’t about technical solutions; it is about people. Arcadis understands this.

Jeroen de Leeuw
Process Manager, Rotterdam Theatre

“This is a monumental opportunity to shape a proactive, long-term design plan for a resilient New York City.”

Peter Glus
Senior Vice President, Arcadis and New York City Executive

Benefits from €500 million investment

€5 bn

100% climate neutral by 2030

Tomorrow’s world
It’s our job to take something that is a problem and to transform it into a solution.

Miriam Ribeiro
Socioeconomic Consultant
I’m an economist in the environmental division at Arcadis, working on projects that explore how businesses can contribute to better, more productive societies. For example, we’re working on an exciting ‘cash for trash’ project in Demarcação, on the banks of the River Machado, that’s recycling garbage to improve quality of life. One example is using waste plastic bottles to build new fishing boats. This remote area lacks sufficient garbage collections, so the project is a way to reduce waste whilst having a life-changing impact for the local people. The idea came from people living in the community, and we’re currently training those involved, teaching the skills they need to keep the enterprise going.

There’s no magic formula to creating these kinds of projects - they just have to offer solutions that work for all the stakeholders involved. That means delivering a return for our clients and for the communities we’re working in. Stakeholder engagement and collaboration is key to this. Projects with ‘sustainable’ in their description are, by definition, here for a long time. That means they sometimes take a while to start delivering results. For a client, this can make it very difficult to commit resources. Our solution is to start with a couple of quick projects, and once we have those running successfully, start negotiating the bigger, more ambitious initiatives.

Boat made from recycled materials launched for the first time!
We brought together a diverse group of people from our Environment, Water and Infrastructure teams to win a project that will transform the 15-acre former Town of Wallkill landfill site into a 2.4-megawatt solar energy power plant.

As well as making the proposal to the Town, we reached out to General Electric’s Solar Team (gE) to discuss building a partnership for potential investment. Thanks to this alliance and our combined experience in distributed renewable energy generation, Wallkill gave the multi-million euro project the go-ahead.

The plant will be furnished with state-of-the-art technology that offsets the town’s electrical load, all while providing significant energy cost savings to the town. Design work began in September 2015, with project completion and functional handover from Arcadis to gE expected by September 2016.

**EMPOWERING BUSINESS AND COMMUNITIES IN BRAZIL**

**COMMUNITY BUSINESS INITIATIVES**

**Support Program for Agro-industries**

The growing worldwide demand for non-timber forest products has led to deforestation in the Amazonian community’s way of life. The Downstream Support Program (DSP) addresses this by encouraging the sustainable use of natural resources while stimulating three agro-industries: fruit, nuts and cassava flour. To do this, we worked with local communities, technical institutions and the government to create a sustainable supply chain.

**From Bottles to Boats**

The Demarcação District, located on the banks of the River Machado, 202 km from Porto Velho, is part of the Downstream Support Program. After launching the DSP, it became apparent that there was no appropriate garbage collection, which led to masses of waste being accumulated. So Arcadis worked with the locals to address the problem. Together, we created the Eco Youth Project. We held 15-day workshops about how to safely reuse waste materials like plastic bottles. Young people in the area have since put what they learned into practice. A boat made of 5,000 plastic bottles and 28 wooden slats now stands proud in the town. Locals continue to make use of the city’s excess waste by creating usable products.

**Sustainable Management Arapaima**

One of Latin America’s largest freshwater fish species, Arapaima, was once a primary food source for many communities living near rivers. Sadly, due to its commercial exploitation, the fish is now near extinction in the Amazon’s larger cities. To reverse this trend, Arcadis established the Project for Sustainable Management Arapaima, a program that teaches fisherman how to evaluate lakes with the best fishing conditions and identify those that should be preserved for fish production. The new sustainable fishing model was first used in October 2015 and has proven to be an example of a sustainable economy suitable for the entire Amazon region.

**Making useless useful**

**“It’s a great example of the enterprise-wide client development model in motion - drawing upon the full breadth of capabilities that exist within the Arcadis organization to offer a win-win-win solution.”**

Pat Farr, Senior Vice President, Arcadis

**“The Town is extremely excited about this project. Transforming an otherwise unused Town property into a long-term asset that will reduce annual costs and allow the Town to meet nearly half of its electrical needs using renewable energy is a great example of how partnering with business and having a long-term view on sustainability can provide great outcomes for all parties involved.”**

Dan DePew, Wallkill Town Supervisor
When Veolia approached Arcadis to help set up a waste transfer station, dealing with 500,000 tons of waste sent by 16 local councils, we knew planning, governance and design would be at the heart of delivering the project successfully.

First, we prepared an Environment Impact Statement for approval by the NSW government, and then based on this feedback, incorporated several redesigns to mitigate environmental impacts and add value. With a new design, we integrated turning lanes to reduce impact on local traffic and repositioned vent stacks to minimize any potential odor impact, enhancing quality of life for nearby residents.

The Banksmeadow waste transfer station sends triaged waste to an alternative waste treatment facility (AWT) at Woodlawn, where it’s broken down and used in the rehabilitation of a heavily degraded mine site. As a result, a once taxable waste by-product has been recycled into a useful new material: it’s a fantastic win-win. And the results have been equally impressive. Not only can more councils access the AWT, leading to more recycling, but Arcadis estimates that nearly 90,000 tons of carbon annually will be saved, further minimizing greenhouse gas emissions around the world.

The city of Deventer in the Netherlands is built alongside the banks of river IJssel making the danger of flooding a constant concern. Local authorities devised a plan to safeguard the city against future flooding but those safeguards involved removing two million m³ of soil. That’s when Arcadis proposed a way to put the waste to meaningful use.

In a nearby location, two large-scale sandpits had lain dormant after an excavation for the A1 Highway. The Arcadis team used the waste soil from the flood defense project to restore the sandpits to their original state. As a result, shallows were created along the shoreline to accommodate the return of marine life; the number of birds in the area increased dramatically, and before too long, new plant species also appeared.
Over the past 10 years, Arcadis has supported the Puerto Rico Aqueduct and Sewer Authority (PRASA) with a number of services including program and project management, energy management and business advisory. With big responsibilities for essentials services like the collection, treatment and disposal of domestic and industrial wastewater, PRASA’s systems needed to be improved and upgraded if they were to cope with future service demands and environmental regulations.

Together, we worked to improve delivery and enhance the benefits obtained through wastewater projects included in the capital improvements program. Additionally, we worked with others to procure alternative energy sources, including solar PV, as well as pursuing energy reduction measures – reducing operating costs and providing cleaner energy for some of PRASA’s treatment plants. The capital improvement program, along with similar investments, has given Puerto Rico’s 3.6 million residents an improved wastewater service that is more reliable and of better quality, one that will serve their needs well into the future.

For centuries Rio Tietê in São Paulo, Brazil, facilitated trade, exploration and leisure activities. These activities were ultimately banned due to pollution in the river, mostly as a result of industrial waste.

The majority of the decline of the health and quality of the river occurred between 1940 and 1970 during a period of rapid urbanization and industrialization. Most of the waste from industries and sewage was conveyed into the Rio Tietê at a rate of approximately 134 tons per day. Population growth in São Paulo also led to illegal occupation of land and a subsequent increase in the amount of untreated sewage finding its way into the river.

Newspapers and NGOs joined a nationally-led social campaign to clean up the river in the early 1990s. A petition attracted 1.2 million signatures, prompting the launch of Projeto Rio Tietê by the São Paulo State Government to clean it up. Set into four stages over 25 years, the total investment is a projected €4.5 billion. Once completed the infrastructure will be able to safely treat the sewage generated by 19 million residents and drastically improve the health and quality of the river.

Since the first stage of the project, Arcadis has been the consultant and technical advisor to the company behind the project, Sabesp (São Paulo State Sanitation Company). Now in the third stage, as head of the consortium, Arcadis is helping Sabesp deliver the infrastructure to improve the quality of the water by connecting an additional 200,000 houses to the sewer system and increasing the volume of sewage treated to 84%.

Projeto Rio Tietê has successfully endured through a backdrop of hyperinflation, financial crises and changes in the political landscape. Sabesp is now planning the fourth stage of the project which aims to increase sewage collection of 19 million to 100% by 2024. Projeto Rio Tietê is a vital step toward improving the quality of life in for every resident in the city. It sets the stage for a sustainable future.
The bigger an infrastructure project is, the more opportunity you have to change the face of the industry.”

Irum Malik
Socioeconomic Master Planner

Beyond compliance
Isabelle Spiegel, France

Water at Work, Kahramaa

Malaysia High-speed Rail
Irum Malik, UK

Sustainability at scale
Why are we building it? It’s not just so we can lay some tracks – it’s so we can better connect cities and provide more opportunities for people, improve the rail industry in terms of equality and diversity, and increase the number of apprenticeships. My role is about helping technical delivery people understand that they’re doing a lot more than just building a railway. I think that applies to any major infrastructure project that we do; people think about cost, risk, time – but rarely think about the long-term legacy. If you don’t consider the benefits, you lose sight of why you are doing what you are doing in the first place.

There are the standard transport benefits you get from these projects. It’s quicker to get from one place to another and the project increases rail capacity, but connecting cities can also catalyze growth and regeneration. You can create developments around stations. And building the railway creates job opportunities for local people who can gain skills they might never have been able to get otherwise, which in turn, increases the talent pool. To me, the bigger an infrastructure project is, the more opportunity you have to change the face of the industry and to change the face of the nation it’s located in.

I’ve worked on a couple of high-speed rail projects, most recently in Malaysia, and spend a lot of my time encouraging stakeholders to consider the need to structure the project in terms of the benefits we’re delivering to people.

I’d say nine times out of ten when you say ‘sustainability’ to people they assume you’re talking about environmental impacts, when really, it’s so much more.

**An integrated approach:**

By improving the infrastructure in some regions, we’re strengthening trade links with neighboring countries, which works to boost economic growth and, in turn, brings us one step closer to reducing poverty and providing equality of opportunity in the area. In other regions, we’re connecting cities and helping rebalance the economy, while also providing development opportunities for new socioeconomic groups. There are the standard transport benefits you get from these projects. It’s quicker to get from one place to another and the project increases rail capacity, but connecting cities can also catalyze growth and regeneration. You can create developments around stations. And building the railway creates job opportunities for local people who can gain skills they might never have been able to get otherwise, which in turn, increases the talent pool. To me, the bigger an infrastructure project is, the more opportunity you have to change the face of the industry and to change the face of the nation it’s located in.

“I’d say nine times out of ten when you say ‘sustainability’ to people they assume you’re talking about environmental impacts, when really, it’s so much more.”
Previously, in case of an emergency, the country would have had only one day’s worth of water to rely on. With the reservoirs, it will have up to 30 days of potable water.

“Connecting the cultural history of Vietnam with a sustainable future for Hanoi.”

“A GARDEN IN THE SKY
LOTTE CENTER HANOI

Lotte Center Hanoi, a 272m tall sky garden tower in Hanoi, Vietnam, is a celebration of Vietnamese culture and sustainable design. It is the city’s first intelligent mixed-use building designed to minimize energy and water consumption.

The tower’s unique architecture is inspired by Vietnam’s traditional long dress, the Ao Dai. The sleek and tapered design is defined by bold vertical lines flowing upwards, a representation of Vietnam’s growing influence in Asia. When the Vietnamese and particularly Hanoi’s communities learned about the design concept for the tower, people immediately identified with the reference to the long dress as deliberate gesture meant to reflect the values of their culture.

Lotte Center Hanoi consists of two independent towers connected by a series of sky garden atria. Every level throughout the tower has access to expansive, multi-story, light-filled communal spaces which serve as high-rise community gardens. The geometric insertion of the sky garden atria has led to a 70% reduction in electrical lighting use, as compared to a floor plate geometry without sky gardens.

Communally, windows within the residences offer framed views of the gardens, referencing Vietnam’s historical garden houses.

Current technological challenges and costs associated with water supply and sewage treatment are critical in developing countries, magnifying the need for integrated wastewater solutions. Lotte Center Hanoï’s sewage is treated on-site to the greatest extent possible. Membrane bioreactors, which provide highly compact, fully automated, low odor wastewater treatment, are located in the podium basement.

“Multistory sky gardens offer unique community spaces and panoramic city views in this mixed-use tower, for lease tenants and visitors alike.”

“Connecting the cultural history of Vietnam with a sustainable future for Hanoi.”

In a place like Qatar – a global hub and Football World Cup host – water is fundamental to support growth and development. In 2012, Kahramaa engaged Arcadis to overhaul its existing water supply strategy by constructing a system of mega reservoirs with a 15 million m3 capacity just outside of the capital Doha.

A series of smaller reservoirs powered by hydraulic equalization, this new infrastructure asset is now the world’s largest potable water store, shoring up Qatar’s water security for generations. Water storage is increasing from 2 to 30 days of rationing. Integrated into the system are state-of-the-art testing facilities to maintain water quality and an advanced seven-day reserve system guaranteeing water supply in the event of disruption.

A on-going four-year project, involving the latest in design and project management techniques, we’re proud to play our part in delivering a key piece of infrastructure that will bring benefits to citizens and business for years to come.

“The tower represents the best of new sustainable technology, delivering both a sense of community and of well-being.”

WATER AT WORK
KAHRAMAA

70% Reduction in electrical lighting use
BEYOND COMPLIANCE INTEGRATING ENVIRONMENTAL AND SOCIAL GOVERNANCE

We’ve just completed our ‘Cash with a Conscience’ campaign, exploring issues around Environmental and Social Governance (ESG) with financial institutions based mainly in the US and Europe.

Given today’s economic climate, this was expected, but many clients struggle with quantifying this value and developing an operational strategy that builds on these gains.

This is the challenge Arcadis can help with, and the journey begins with assessing risk; for example, evaluating what effect investments may have on the environment or quantifying the sustainability of current people policies.

Once Arcadis has done this, we also identify business opportunities and translate them into a 100-day plan to monitor progress, learn from the findings and communicate all of this both internally and/or externally. It’s about working with risk and turning it into a new opportunity.

Low-cost & sustainable
Sewage treatment is both low-cost and sustainable in the long term

Founded over 40 years ago, Al Ain Wildlife Park and Resort (AWPR) in the UAE is a beautiful wildlife resort. It combines stunning wilderness with traditional architecture and is supported by unobtrusive infrastructure. As with any other natural infrastructure project, the challenge AWPR faces is protecting its natural character while remaining accessible to all.

So Arcadis, along with our consortium partners, worked with local agencies to not only integrate infrastructure into the landscape but also use it as a development tool to make the resort more sustainable. Every decision was carefully considered. Irrigation systems were seamlessly integrated into the resort with seasonal plants and sympathetic materials; surface drainage was developed in collaboration with downstream agencies to minimize the impact of storm surge, and innovative, low-cost design solutions including control flows in sewerage and storm drainage systems were adopted taking into consideration a sustainable, long term impact on the environment.

Above all, we’re proud to have demonstrated that development and sustainability don’t have to be mutually exclusive; they go hand-in-hand. And what’s more, the project has inspired a new generation of empowered conservationists at AWPR to protect the resort and preserve it so that it remains in use for generations to come.

A holistic approach:
ESG needs to be integrated into everyday operations. As an ‘add-on’ it doesn’t work and without results, there’s nothing to communicate. By making it an integral part of what a client does, we’re improving efficiency, marketing it as a driver for new business and using positive results to enhance their reputation within their field.

Sustainability at scale

"We assist clients to reduce their environmental footprint while helping them access new business and increasing their revenues.”

Name: Isabelle Spiegel
Time with Arcadis: 1 year
Location: Paris, France
Role: Director Business Advisory Environment Europe
We’re at a crucial moment in time where we owe it to our children, and the generations who follow, to be sensible in the decisions we make.

Bianca Nijhof
Global Account Leader
There are two projects that stand out for me. The first is a measurement and management tool for cities developed for the European Commission; the other is around natural capital and is part of our work with the World Business Council for Sustainable Development.

I enjoy working with the European Commission. The work is always cutting edge, and it’s very helpful to be so aware of the latest policy developments. The project we’re working on at the moment is a self-assessment tool for cities. It’s currently being tested by about 10 different cities in Europe. It’s designed to help cities understand and measure their sustainability performance, compare themselves to others and design effective plans for improvement.

Because we wanted as many cities as possible to be able to make use of it, we created a tool that can be used both by cities that are starting to define their sustainability agenda and by those that are sustainability frontrunners. Cities that use the tool also receive a personalized list of the top five steps they can take to improve their environmental performance.

The second project I’m really excited about is with the World Business Council for Sustainable Development (WBCSD), which Arcadis was invited to join back in 2014.

I’m involved in the ecosystems and landscape cluster at the WBCSD. One of the working groups within this cluster is “How can businesses invest in natural infrastructure and eco-system restoration?”

We’re also developing the Natural Capital Protocol – the first global uniform standards for the business case for nature. It’ll be ready to launch in July 2016, and I think it will fundamentally change how businesses operate.

The protocol will help organizations measure and value their impacts and dependencies on natural capital. Repairing or improving natural spaces has typically been seen as a job for the government, but they simply don’t have the money to restore everything that needs attention. Business does—we just need to figure out the business model. Now that would be truly innovative.
Conceived of a self-sufficient vertical city, the Net Zero Tower is designed to include offices, a hotel, dining, retail outlets and homes connecting surrounding neighborhoods, business districts and government centers to become a central business district landmark.

The tower is a model of high-tech sustainable innovation. Multiple energy sources on site will generate enough power to meet the building’s needs while several design features will conserve energy. For example, its ‘fins’ shade the glazing to protect the building from heat while simultaneously providing ample surface space for solar panels. This means it is self-sufficient in energy generation and won’t consume energy from the grid network – it’s net zero.

A sustainable future is all about building facilities that reduce their impact on the environment while boosting the well-being of the people who occupy them. Exeter Active will play a key role in keeping local residents happy and healthy, and with a forecast €90 million in revenue over the next 25 years, this project shows that by adopting new approaches, better community facilities are not only sustainable – they contribute to it too.

Of all municipal buildings, swimming pools are usually the biggest energy consumers. So when Exeter, a city with an impressive track record of climate science, needed a new swimming pool, it was clear that the City Council’s sustainability ambitions would be suitably high. Known locally as Exeter Active, the 25m pool at the heart of this new facility will be constructed to the Passivhaus standard.

The first of its kind in the UK, and one of only a few Passivhaus pools in the world, The Passivhaus standard places a unique focus on energy efficiency, reducing the energy consumed in heating and cooling while still providing high levels of user comfort.

A model of high-tech sustainable innovation, the 400-meter Net Zero Tower could set the standard for super tall high-rise energy efficiency and become a model for climate-conscious development.
Right now, along with some other young Arcadians, I’m looking to natural communities to decipher what the base elements are for strong communities and seeing how we can apply those elements to our teams and projects. It’s really interesting basic biomimicry. Arcadis is taking this really seriously and is about to launch a pilot team to test these base elements from natural communities. We’re all quite curious to see what will come out of it.

Biomimicry is just one way we’re investing in our people and enabling them to forge whole new ways of working. Biomimicry takes time-tested patterns and designs in nature and replicates these to address a whole range of problems in an organic way.

Currently, there’s too much focus on knowledge and processes, but if we can allow our colleagues to collaborate in ways which are more natural, this will ultimately deliver greater value and creatively for our clients.

I don’t think sustainability is important just for Arcadis – it’s important for the world. My studies were centered around forests, nature conservation and water ecology, and I think for at least the last 15 or 20 years, everything they’ve taught about these topics has focused on the effect we have on our environment.

To improve the quality of life, one of the fundamental elements is making sure we take care of our environment. A lot of the world’s issues are related to it, so to me it’s not a question of why it’s important, but rather about taking responsibility for what we’re doing and giving it the emphasis it deserves.

More than anything I try to share my passion for natural environments and biomimicry because I know that it can really help us perform more sustainably.

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Across our industry and beyond, people often consider nature as something that limits potential for economic growth. I find this frustrating because both business and nature can profit simultaneously if we realize the value nature brings, both directly and indirectly. So it’s about changing the perception of sustainability in the wider industry.

For example how many people know that guarding your natural (and social) environment will also profit your business?

A growing movement

Natural capital has been a hot topic in the Netherlands for a while now, but I’m working to make it a global issue within our business. I ran a project in India last year and it was great to see people in other countries making specific business decisions with natural capital in mind.

It also came up at COP21 in Paris last year. I noticed there were three main subjects discussed in the meetings I attended – sustainable cities, the Sustainable Development Goals, and natural capital. The emerging theme was that after being carbon neutral, the next step is to make sure that we change our perspective so that we are able to see the value of Natural Capital to our global economies.

The future of natural capital

We have to shift industry perception of sustainability from being an ‘add on’ to being an integral part of good business. We’re at a crucial moment in time where we owe it to our children, and the generations who follow, to be sensible in the decisions we make.

Name: Bianca Nijhof
Time with Arcadis: 8 years
Location: Amsterdam, The Netherlands
Role: Global Account Leader

I’m trying to find a way for us to recognize the value nature brings businesses.
MAKING CITIES SUCCESSFUL

The carbon reduction target will drive action, such as uptake in renewables. But more generally, it means sustainability awareness and expectations have been raised. I’m excited about our work in cities – a big part of the sustainability challenge, but an even bigger part of the solution. I’m working on a project called Zero Emissions Cities with the World Business Council. We’re working with Birmingham (UK), Amsterdam and Mumbai to see how we can deliver zero emission cities by focusing on smart mobility, buildings, waste and energy infrastructures.

Of course, we want to make cities better for communities by improving green spaces, transport systems, air quality and energy security. But we’re also making cities more successful, for example by reducing their costs or attracting potential investors. From airports to pharmaceuticals, sustainability must be linked to success across the board.

Of course, there are always challenges. For example, in the UK, legislation isn’t always helpful. Despite this, I feel very positive – the future is full of opportunity.

The climate conference in Paris at the end of 2015 signaled a shift in the context surrounding sustainability.

“I’ve been in sustainability for 25 years, and its time is absolutely now.”

Name
Nick Hayes

Time with Arcadis
5 years

Location
London, United Kingdom

Role
Head of Sustainability Services (UK)
We partner with global organizations and institutions that are thought leaders in sustainability. These partnerships reflect the role we play in leading and shaping the global sustainability agenda.

**Arcadis** supports the following initiatives:

- **WBCSD** (World Business Council for Sustainable Development)
  - We are active members of the World Business Council for Sustainable Development (WBCSD).
  - Made up of 192 global firms, WBCSD is the voice of business in several bodies, including the UN Climate Summit.
  - 2015 was all about the COP21 UN Climate Summit in Paris. Through our commitment in the Energy Efficiency in Buildings project, by being a part of the Low Carbon Technology Partnerships initiative, we contributed to the business solutions brought to the table in Paris.
  - In 2016 we will continue to drive projects that catalyze market-wide energy efficiency investment in new build and in renovation of existing building stocks. We will continue to improve our own performance to limit the rise of global temperatures below 2°C and pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels.

- **WEF** (World Economic Forum)
  - Lovinklaan was founded in 1982 to promote the interests of Arcadians, to provide for the continuity of Arcadis and to stimulate employees to participate in the Global Share Plan or one of our other programs. With an equity interest in Arcadis NV of over 17 percent, we are the largest shareholder. The returns on this investment, the yearly dividend payment, are used for the benefit of Arcadis and its people all over the world.
  - With our support of global Arcadis knowledge exchange and innovation programs we stimulate internal synergy and collaboration and make a valuable contribution to the global ambitions of Arcadis and its employees.
  - In 2016, we will increase our involvement in the Infrastructure & Urban Development industry agenda to help cities transition to a smarter, climate resilient future.

- **UN-Habitat**
  - UN-Habitat contributes to one of the most urgent challenges in the world—sustainable urbanization. UN-Habitat’s mission is to promote socially and environmentally sustainable towns and cities by improving the quality of life of citizens around the world. Arcadis supports UN-Habitat in facing these urban challenges by sharing our knowledge and expertise on the ground through the Shelter program. This is much more important than just donating money; it is a global partnership that makes a real difference. It’s about building a better, sustainable future for all our communities.

- **100 Resilient Cities**
  - Pioneered by the Rockefeller Foundation, 100 Resilient Cities (100RC) is dedicated to helping cities around the world become more resilient to the physical, social, and economic challenges that are a growing part of the 21st century.
  - 100RC supports the adoption and incorporation of a view of resiliency that includes not just the shocks—earthquakes, fires, floods, etc.—but also the stresses that weaken the fabric of a city on a day-to-day or cyclical basis.
  - Through financial and logistical guidance, developing resiliency strategies, providing access to service providers and creating a network of cities that can learn from each other, 100RC aims to facilitate global resiliency among governments, NGOs, the private sector, and citizens.

- **Natural Capital Coalition**
  - The Natural Capital Coalition (NCC) brings together the different initiatives and organizations working in natural capital to collaborate on projects that will help to deliver a common vision of a world where business conserves and enhances natural capital.
  - As of December 2015, the Coalition had 173 members, covering seven stakeholder groups: civil society and not-for-profit, research (science and academia), business, membership organizations, standard setters, finance, policy (government, advisors and policy makers).
  - We provide intellectual property, resources and practical support to help businesses understand and incorporate their impacts and dependencies on natural capital.

**World Economic Forum**

- In 2015 we became a member of the World Economic Forum (WEF), an organization that engages with the world’s political and business leaders to shape global, regional and industry agendas. WEF works to define challenges, solutions and actions, always in the spirit of global citizenship.
  - Our passion to improve quality of life and to be recognized as the best can only be achieved by involving the Arcadis culture. In addition to our existing programs, we continue to look for new opportunities to stimulate innovation, to transfer knowledge, and to connect employees.

**Lovinklaan Foundation**

- Lovinklaan was founded in 1982 to promote the interests of Arcadians, to provide for the continuity of Arcadis and to stimulate employees to participate in the Global Share Plan or one of our other programs. With an equity interest in Arcadis NV of over 17 percent, we are the largest shareholder. The returns on this investment, the yearly dividend payment, are used for the benefit of Arcadis and its people all over the world.
  - With our support of global Arcadis knowledge exchange and innovation programs we stimulate internal synergy and collaboration and make a valuable contribution to the global ambitions of Arcadis and its employees.
  - In 2016, we will increase our involvement in the Infrastructure & Urban Development industry agenda to help cities transition to a smarter, climate resilient future.

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Our Performance

Tracking our performance with quantitative data helps us to monitor, review and improve everything we do. At present, most of our data relates to our operations and people pillars. Our client pillar is hugely diverse, so tracking this in a robust and meaningful way is a challenge, but one which we are exploring solutions for.

We constantly look for ways to better capture data. A number of years ago our North America business adopted the internet-based Integrated Data – Environmental Application (IDea) platform, which we initially developed as a client solution to simplify and standardize sustainability data tracking. This year, IDea has been expanded to our UK and Australia businesses, with a view to rolling this out to our global business soon. This will help streamline our data gathering and reporting process.

In 2015, there were two real successes for us around quantitative reporting:

• Recognition from CDP as a leader in Climate Change Transparency, with a score of 100 out of 100 for our 2015 disclosure.

• A 27% improvement on our Dow Jones Sustainability Index (DJSI) score now places us in the top 35% for our industry. This was the second year we responded and we are pleased with the progress. We will continue to target progress here.

Here is our 2015 data for a number of key topics, compared with our 2014 performance:

<table>
<thead>
<tr>
<th>Environmental</th>
<th>2014</th>
<th>2015</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope 1 CO2e</td>
<td>0.71</td>
<td>0.71</td>
<td>MT CO2e/ FTE</td>
</tr>
<tr>
<td>Scope 2 CO2e</td>
<td>1.37</td>
<td>1.29</td>
<td>MT CO2e/ FTE</td>
</tr>
<tr>
<td>Scope 3 CO2e</td>
<td>1.74</td>
<td>1.63</td>
<td>MT CO2e/ FTE</td>
</tr>
<tr>
<td>Total CO2e</td>
<td>3.81</td>
<td>3.64</td>
<td>MT CO2e/ FTE</td>
</tr>
<tr>
<td>Paper Consumption</td>
<td>37</td>
<td>31</td>
<td>kg/FTE</td>
</tr>
<tr>
<td>Responsibly Sourced Paper</td>
<td>82</td>
<td>83</td>
<td>Percent</td>
</tr>
</tbody>
</table>

For more detail and historic figures, please see the Annual Report.

<table>
<thead>
<tr>
<th>Health and safety</th>
<th>2014</th>
<th>2015</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Recordable Case Frequency</td>
<td>0.33</td>
<td>0.29</td>
<td>per 200,000 work hours</td>
</tr>
<tr>
<td>Lost Time Case Frequency</td>
<td>0.15</td>
<td>0.13</td>
<td>per 200,000 work hours</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Charity</th>
<th>2014</th>
<th>2015</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funds donated by Arcadis to charitable institutions</td>
<td>850,000</td>
<td>2,012,510</td>
<td>Euros</td>
</tr>
<tr>
<td>Time employee volunteering during paid working hours</td>
<td>Not collected</td>
<td>6,446</td>
<td>Hours</td>
</tr>
</tbody>
</table>

We would like to thank all our people, throughout Arcadis, who have contributed to the case studies and profiles we have included in this report. It’s your passion and hard work that make it all possible.

An apology for the many projects and stories we have not been able to include. Read many more on our website or follow Arcadis on social media.

Finally, thank you to all our clients, whose challenging briefs make it worthwhile coming to work every day.

Arcadis. Improving the quality of life.