


∞ FUSION

Environmental Protection Report



CONTENTS

● About xFusion

● Environmental Protection Background

● xFusion's Approach and Practices

● Practice Green Concept

● Build Green Computing Power

● Expand Green Economy

About xFusion

xFusion Digital Technologies Co., Ltd. is a leading global provider of computing power infrastructure and services. xFusion continuously creates value for customers and partners and accelerates the digital transformation of the industry. Currently, xFusion is serving customers in 130 countries and regions, including 211 Fortune 500 companies and covering finance, carriers, Internet, transportation, and energy industries.

Our Vision and Mission: Provide leading digital infrastructure to build an infinite digital world



BACK- GROUND

The 21st century has seen a sharp increase in the severity of climate change, melting glaciers, plastic pollution, soaring e-waste, and other environmental problems, forcing us to reassess our relationship with nature. Even since the signing of the Paris Agreement in 2015, global warming has been still accelerating. However, we are happy to see that more and more countries have committed to the goal of carbon neutrality and are taking more action to slow climate change. Carbon neutrality will mean the shift from the fossil fuel era to a clean energy era. More and more countries and companies are investing in and using more renewable energy. To reduce our carbon footprint and the negative impact of human activities on the environment, people are exploring and developing the circular economy so that we can get the most out of the resources we use.

Environmental Protection Background

xFusion's Approach and Practices

As a global leading cloud computing and IT infrastructure provider, xFusion is working to protect the planet with our technology and to contribute to a sustainable world while chasing technology evolution. Specifically, we focus on “Practice Green Concept, Build Green Computing Power and Expand Green Economy”

Practice Green Concept



xFusion is also practicing the concept of environmental protection, and is committed to reducing the impact of digital products and services on the environment in the process of design, manufacturing, logistics, delivery, operation, as well as the entire life cycle. Promote energy conservation, emission reduction and circular economy development in various industries through innovative products and solutions, and continue to lead all parties in the industry chain to build a green and low-carbon society.



Build Green Computing Power

Green Products: xFusion has always insisted on continuously strengthening on building and promoting green computing power, leading full liquid cooling technology, exploring and participating in the construction of intensive computing power infrastructure, improving resource utilization, fully adapting to local conditions, and using wind, light, water and other energy sources. Also providing All-in-One solution integration of hardware and software systems, improving the efficiency of delivery and operation.

Expand Green Economy



Green Campuses: Technical and managerial measures help us to save energy, use renewable and clean energy, and reduce greenhouse gas emissions on xFusion campuses.

Green Manufacturing: Using more eco-friendly materials and reducing our use of raw resources. We will make the world a better place by using less resources.

Green Partners: Work with our partners to help customers in a diverse range of industries cut their energy consumption and emissions using IT solutions.



Practice Green Concept

Our vision and mission: Provide leading digital infrastructure to build an infinite digital world. We believe that digital technology not only promotes the development of the global economy, but also makes people's lives better. The digital economy is also green economy. Digital technology improves social production efficiency, improves energy utilization, and greatly promotes the continuous improvement of the world environment.

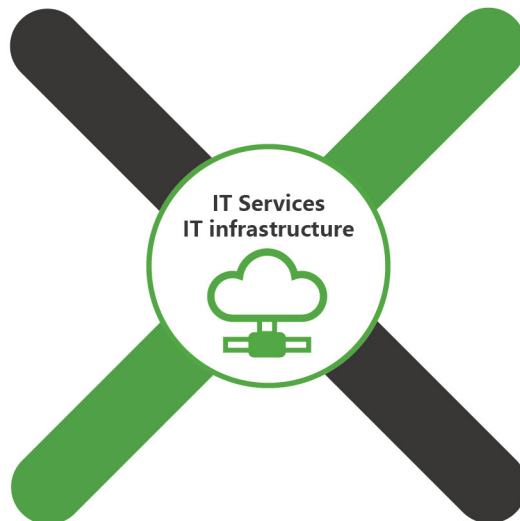
xFusion is also practicing the concept of environmental protection, and is committed to reducing the impact of digital products and services on the environment in the process of design, manufacturing, logistics, delivery, operation, as well as the entire life cycle. Promoting energy conservation, emission reduction and circular economy development in various industries through innovative products and solutions, and continue to lead all parties in the industry chain to build a green and low-carbon society.

Green Products

We assess the carbon footprints of our own equipment using the lifecycle assessment methodology, and minimize our energy consumption at every phase of the product lifecycle.

Green Manufacturing

We are using more eco-friendly materials and reducing our use of raw resources. We will make the world a better place by using less resources.



Green Campuses

A series of technical and managerial measures help us to save energy, use renewable and clean energy, and reduce greenhouse gas emissions on xFusion campuses.

Green Partners

We encourage our suppliers to set energy saving and emission reduction targets, and work with our partners to help customers in a diverse range of industries cut their energy consumption and emissions using IT solutions.

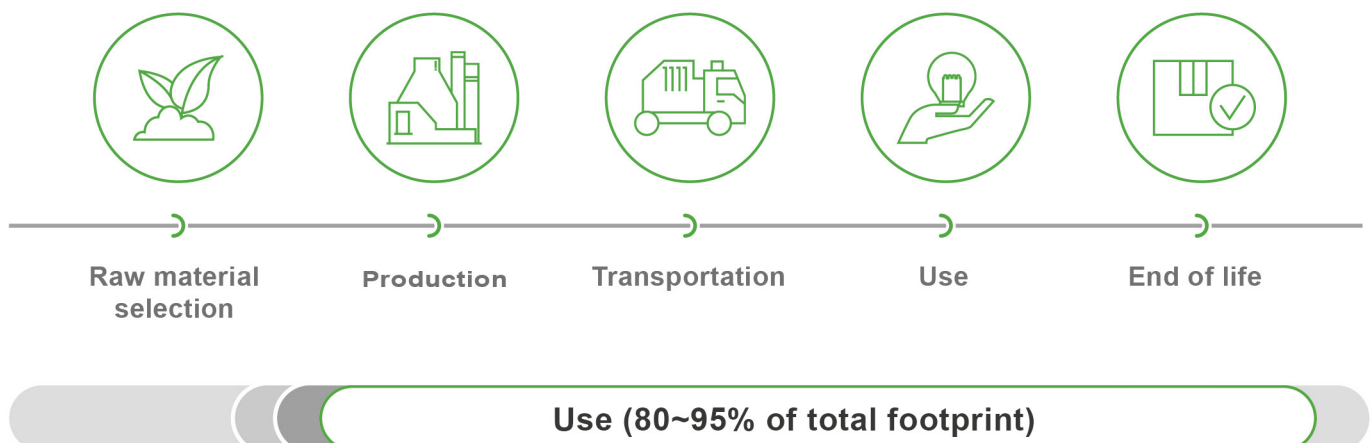
Build Green Computing Power

Green Products: Minimizing Our Carbon Footprint

xFusion focuses on computing products and solutions, our carbon footprint assessment shows that for common IT equipment, the largest part of the carbon footprint is generated in the use phase. If we can reduce the energy consumption of IT products at the source, and increase the use of renewables, our products will have a much smaller carbon footprint. xFusion has kept innovating in energy-saving technologies to increase product energy efficiency. Our products are enabling energy conservation and emission reduction in a wide range of industries, contributing to a greener world.



Carbon footprint of the lifecycle of computing products



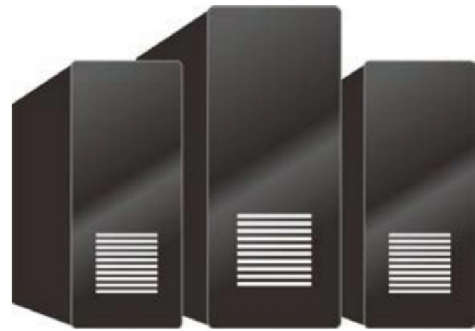
Data Centers: No Longer Energy-intensive with Technology Innovation

Today, there are more than 4 billion Internet users. They access a wide variety of smart services, from online shopping and online study to social networking and online entertainment. Every one of these services is built upon data centers. Data centers are the heart of a digital economy, but they consume large amounts of energy. An ultra-large data center consumes nearly 100 million kWh of electricity every year, and according to an estimate, data centers are responsible for 1% of global electricity usage. To make data centers less energy-intensive, xFusion has made the cooling systems of data centers significantly more energy-efficient.

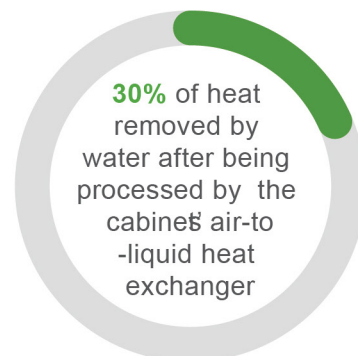
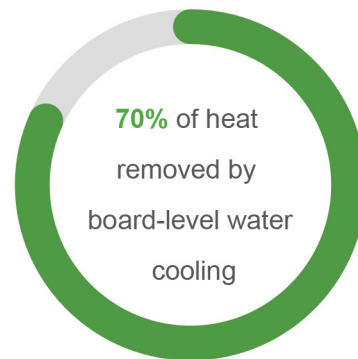
Full Liquid Cooling Makes Data Centers More Energy-efficient

AI applications, high-performance computing, and GPU servers have driven the power consumption of a data center rack as high as 20 kW, 30 kW, or even 50 kW. This increase in power density has posed an unprecedented challenge to conventional cooling systems. To address this challenge, xFusion developed a full liquid cooling solution.

In a closed liquid-cooled cabinet, all heat is dissipated in liquid, reducing the power consumption of cooling systems by 40% and cutting the power usage effectiveness (PUE) from 1.54 to 1.1, compared with a conventional air cooling solution. For a 50-kW cabinet, the annual power saving amounts to about 200,000 kWh. That is equivalent to a reduction of about 192 tons of CO₂.



* A closed liquid-cooled cabinet:
All heat dissipated in liquid



Annual CO₂ emission reduction for a **50-kW** cabinet is about **200,000kWh**, or **192 tons** of CO₂.



Intensification of construction, use renewable energy and All-in-One solution for efficient deployment

xFusion has always insisted on continuously strengthening on building and promoting green computing power, exploring and participating in the construction of intensive computing power infrastructure, improving resource utilization, fully adapting to local conditions, and using wind, light, water and other energy sources. Also providing All-in-One solution integration of hardware and software systems, improving the efficiency of delivery and operation.

Intensive construction: xFusion has always insisted on continuously exploring the intensive construction of computing power. As eight national computing hubs are planned in China, intensive construction is the core method for data center constructions. xFusion launched All-in-One solution with maximum 4 times computing density and 3 times power density.

Use renewable energy: xFusion cooperates cooperate with leading energy partners in the industry to explore diversified power supply solutions including wind, light and water to achieve renewable green computing power.

All-in-One solution for efficient deployment: xFusion's All-in-One solution enables blind mating of components and 0 cables cabinet, 75% software deployment based on automatic tools, supports out band faults monitoring, prediction, diagnosis and self-healing. Deployment efficiency is increased by more than 10 times, operation automatically, achieve labor-free data center.

xFusion Supports Intensive Construction, Use Renewable Energy and All-in-One Solution for Efficient Deployment

- Diversified computing power integrated with x86, ARM and GPU
- Support cabinet and node level capacity expansion
- Actual running PUE is 1.1
- Diversified electric power sources including wind, light, water and fossil energy
- Full liquid cooling without air conditioner, increase 15% data center capacity density
- Max 33kW per cabinet, reduce 75% cabinets
- Allows blind mating of power, network, and liquid cooling buses, 0 cables inside cabinet

Save 20% cost for 5-year TCO



China Environmental Labeling



CQC Certification for Energy-efficient Products



CQC Certification for Energy-efficient Products



Expand Green Economy

Green Campuses: Building Environmentally-friendly Campuses

As well as leveraging innovative products and solutions to help other industries go green, xFusion also takes steps to make sure our own operations are green, low-carbon, and sustainable. Guided by the principle of "low consumption, low pollution, high efficiency", we have been striving to build green, sustainable company campuses.



ISO 14064-1:2018 Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals: xFusion's greenhouse gas emissions are comply with ISO 14064-1:2018

ISO 50001 Certified Energy Management Systems: xFusion's energy management systems are certified as ISO 50001 compliant.



Management of solid waste, wastewater, and waste gases on xFusion campuses

To create green campuses, we use as much renewable and clean energy as possible at the source, take technical and managerial measures to save energy during our operations, and properly dispose of hazardous waste and organize environmental awareness programs. These efforts have enabled us to reduce costs, and achieve more efficient, sustainable, low-carbon operations.

	Waste Classification	Example	Disposal
Solid Waste	Non-recyclable waste	Domestic waste	Designated suppliers regularly sort and remove the waste. Waste such as masks is transported to designated incineration areas for harmless disposal.
	Canteen waste	Leftovers and waste cooking oil and fats	Harmless disposal by designated certified suppliers.
	Recyclable waste	Packaging boxes and metal parts	Designated suppliers regularly sort and remove waste. Special processes apply for scrapped equipment and parts.
	Hazardous waste	Chemical containers	Centrally stored in a designated area and then processed by companies certified to carry out this kind of work.
	Construction waste (generated by construction companies)	Waste from refurbishments	Construction companies stack construction waste in a designated area, and later transport it to the municipal solid waste landfill.
	Canteen wastewater	Oily wastewater from canteens	After oil is removed through an oil separation tank, wastewater is discharged into the septic tank and then discharged into the municipal sewers if it meets the required standards.
Waste Water	Other domestic wastewater	Wastewater from bathrooms, office pantries, and sanitation	Discharged directly into the septic tank and then discharged into the municipal sewers if it meets the required standards.
	Industrial wastewater	Wastewater generated from the production process	Disposed of by an industrial wastewater treatment facility and discharged once it meets the required standards. 60% of wastewater is recycled for production.
Waste Gases	Kitchen waste gases	Cooking fumes from hobs	The gases are first purified by fume hood, and then by electrostatic purifiers. Once they meet the discharge standard, they are discharged at a steady rate.
	Industrial waste gases	Waste gases generated from the production process	The gases are centrally disposed of by the industrial waste gas treatment facility on the roof of the building in which the waste gases are produced and discharged once they meet the required standards.

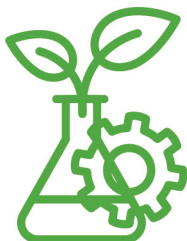
Green Manufacturing: Recycle Materials and Reduce the Consumption of Resources

In a linear economy, we acquire materials from natural resources and bury or incinerate them when they are no longer needed. Under this model, we are consuming resources that are already very limited, and burdening our environment. xFusion is committed to exploring how to contribute more to the circular economy, reducing our reliance on natural resources, and providing customers with more eco-friendly products. To reduce the pressure on our environment, xFusion continues to improve its product designs, reduce the weight and size of product packaging, and use fiber-based packaging instead of plastic packaging, so that the packaging materials can be more easily disposed of. We have also established a global recycling program to extract residual value from electronic waste, which will help us reduce our consumption of resources, and contribute to the circular economy.



More Eco-friendly Materials

One of the key ways to protect the environment and promote the circular economy is to use renewable and more eco-friendly materials and to take less from nature. At xFusion, we continue to source renewable materials for use in our manufacturing. We are also exploring the possibility of encouraging our suppliers to use more high-quality renewable materials, to increase our own use of renewables and reduce our reliance on the mining of minerals. We want to leave a more sustainable, better world for future generations.



More Durable Products

One of the most effective ways to conserve resources is to make high-quality, durable products. xFusion always puts quality first and aims to succeed through quality. We stick to this strategy throughout the entire product lifecycle. In the design stage, we select high-quality raw materials and pay premium prices to high-performing suppliers for better quality. In the manufacturing stage, we conduct strict reliability tests against international standards to ensure our products function normally, even in severe conditions. We also continue to provide users with system updates, as well as convenient and affordable repair services, to extend the service life of our products as much as possible. These practices have helped slash product costs over the lifecycle, and reduce the consumption of natural resources. These are part of our efforts to promote a circular economy.

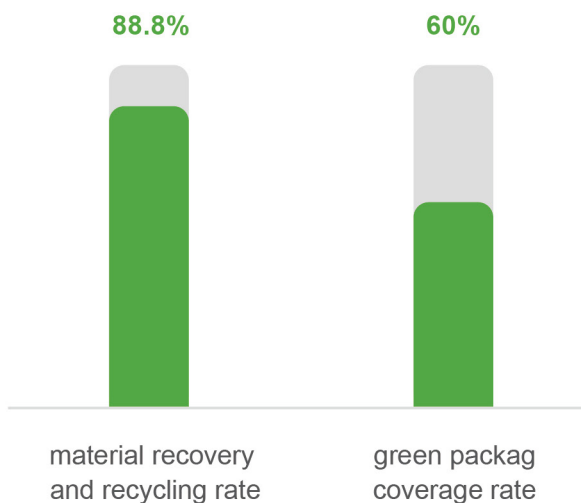


Greener Packaging

xFusion adopts a green packaging strategy known as "6R1D": Right Packaging (the core), Reduce, Returnable, Reuse, Recycle, Recovery, and Degradable.

- Right & Reduce: Developing better and more efficient packaging designs to reduce the use of packaging material and cut packaging and logistics costs ;
- Returnable & Reuse: Enabling packaging materials to be used for longer through recycling and reuse ;
- Degradable: Reducing or eliminating the impact of packaging waste on the environment by using biodegradable materials ;
- Recycle & Recovery: Reusing resources and energy by using eco-friendly and renewable materials as much as possible ;

In 2021, xFusion achieved **60%** of green packag coverage and **88.8%** of average material recovery and recycling rate.



Less Waste

According to the UN's Global E-waste Monitor 2020, e-waste has become the world's fastest-growing domestic waste stream. xFusion is a global provider of IT infrastructure, it's an important part of xFusion's social responsibility to reduce e-waste, recycle as much as possible, and reduce landfill.

In close collaboration with leading recycling service providers, xFusion classifies our waste and disposes of each category separately. Much of our waste is recycled for raw materials or incinerated and used to produce thermal energy. xFusion and our recycling service providers have also identified materials that may be harmful to the environment, and developed targeted disposal plans that minimize our environmental impact.

Green Partners: Encouraging Top 10 Suppliers to Set Emission Reduction Targets and Building a Greener Supply Chain

xFusion has incorporated environmental requirements into our procurement strategy and processes. Environmental factors are considered during supplier qualification, selection, review, performance management, and in selection of materials. In addition to complying with all applicable environmental laws and regulations ourselves, we are also building a competitive and green supply chain by offering proper incentives to suppliers.

In 2022, we will encourage our top 10 suppliers to set environmental protection targets, including material environmental compliance, pollution prevention compliance and proper carbon emission reduction target, to build a comprehensive green supply chain.



Fusion X, Digital Infinity

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