



United Nations
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PLAYING FOR THE PLANET

HOW VIDEO GAMES CAN DELIVER FOR PEOPLE AND THE ENVIRONMENT



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17 Sustainable Development Goals (SDGs) were set by the UN General Assembly in 2015 and are used to structure targets and engagement.

PLAYING FOR THE PLANET

HOW VIDEO GAMES CAN DELIVER FOR PEOPLE AND THE ENVIRONMENT

How can the fastest growing media platform in the world be harnessed to deliver on the Sustainable Development Goals and the urgent global needs they represent? We've summarized recent relevant developments in the video games sector, perspectives from over 50 thought leaders from the industry, and extracted seven recommendations to provoke new thinking, new collaborations, new games and real-world impact. This assessment presents a vision of how the video game industry, gamers, parents, policymakers and UN Environment can together 'Play for the Planet'.

Executive summary

The video game industry is making a tidal shift towards sustainability. Led by 30 of the most globally influential Triple-A companies in the sector, together with smaller studios of immense creativity and dedication, they form the Playing for the Planet Alliance hosted by UN Environment and GRID-Arendal. Each of these companies are leading by example, having declared substantial, quantifiable, time-based commitments to reduce emissions and waste from operations and game play, and to help gamers make meaningful changes of their own.

Additionally, this group will amplify their influence across the industry, with agreements to collaborate with UN Environment and GRID-Arendal to develop a forthcoming reference guide. This resource pack will support game developers who wish to incorporate climate change and other environment issues into their games, or better understand and reduce the environmental impacts of gaming.

The Playing for the Planet Alliance aims to make visible, industry-relevant impact in two specific areas: goals for restoration of forests and reforestation, and ‘nudges’ that move companies and individuals towards more planet-friendly choices.

To support the video game industry in actions to help achieve the Sustainable Development Goals, we summarize seven recommendations, further elaborated in this report:

- 1) Include a ‘green nudge’ in every game
- 2) Create an annual impact season
- 3) Pledge for the planet
- 4) Cut e-waste and go 100% clean
- 5) Fiscal incentives for ‘serious’ sustainability games
- 6) Team up, reward, and make it famous
- 7) Help parents to engage with their children around gaming

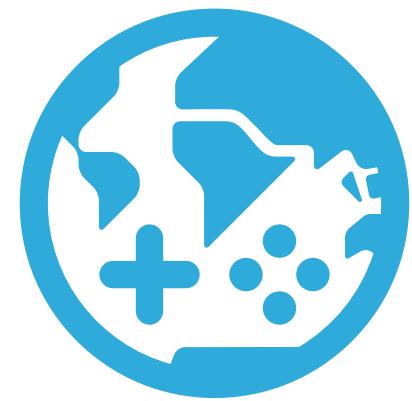
The Playing For The Planet Alliance welcomes your ideas, games, commitments and innovations. Peek inside the back cover for ideas, join us on the web, and let us know:

How will YOU ‘level up’ for the planet?





©Strange Loop Games



**PLAYING
FOR THE
PLANET**

Video gaming is global and growing

Worldwide, over 2.3 billion people play video games.¹ Global citizens spend nearly \$140 billion dollars on games annually, more than three times the amount they spend on cinema.²

Harnessing even a small portion of this activity – in terms of funds, time and problem-solving skills – can create tremendous impact in the real world.³ In the coming years, video games

will drive some of the biggest fundraising events; but this is only the tip of the iceberg. The opportunities that games offer have the potential to be truly transformative, fundamentally changing the way we think about engagement. Many future challenges will require new and innovative approaches that reach beyond the current discourse and beyond those that are currently in charge of decision-making.

A 2011 estimate placed global video game play at over 3 billion hours per week⁴ – over 156 billion hours per year.

Beyond active playing, video games are also an enormous spectator sport. In 2017, 666 million people watched other people play games on platforms such as Twitch and YouTube – more than the combined audience for ESPN, Netflix and HBO.⁵ Viewers spent 355 billion hours content on Twitch alone in 2017.⁶

In the ‘attention economy’, the influence of games is without match – at the box office either.

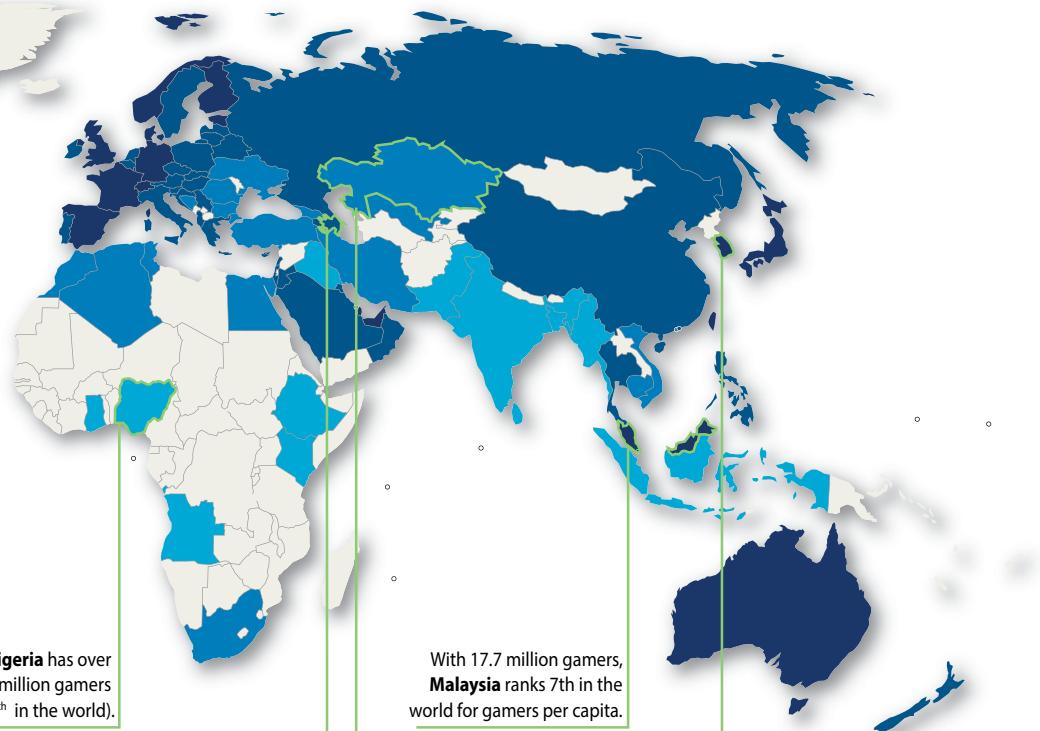
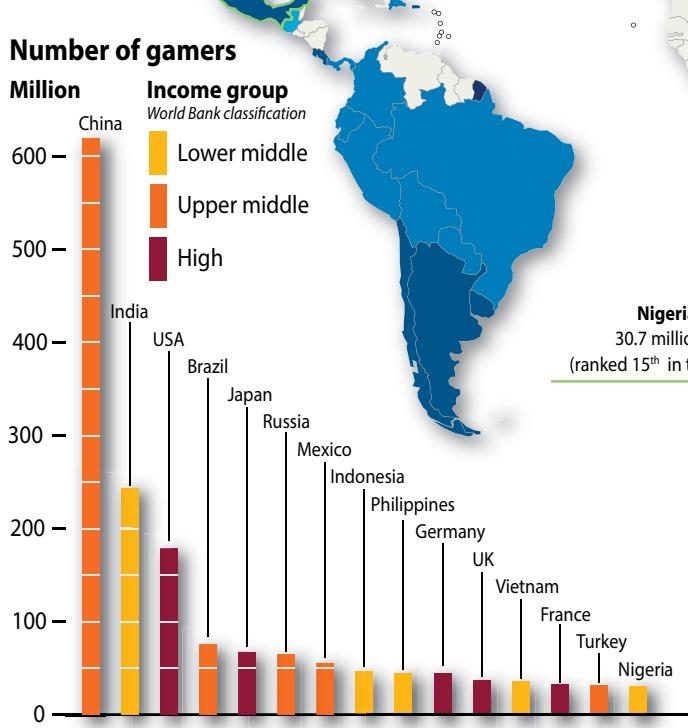
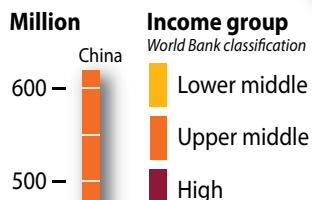
The revenue from video gaming is larger than that from Hollywood,⁷ Bollywood⁸ and worldwide recorded music sales⁹ combined.



Number of gamers as a proportion of total population



Number of gamers



Source: Newzoo Global Games Market Report, 2019.

LOPEZ, 2019

Video gaming has the potential to trigger huge directional shifts in thinking and in action



©iStock/DeepakSeethi

The gaming industry is projected for double digit annual percentage gains over the next five years.¹⁰ Millions of people will gain access to mobile phones, smart phones and other devices, providing them with more opportunities to play games. Given the scale of the challenges presented by the Sustainable Development Goals (SDGs) for all the planet's inhabitants, compelling, engaging and generationally relevant tools for learning, exploring and problem-solving are needed more than ever. Games are well placed to make an impact, yet have, so far, not been on the radar of the SDG community.

The reach, creativity and problem-solving ethos of the gaming industry constitutes an

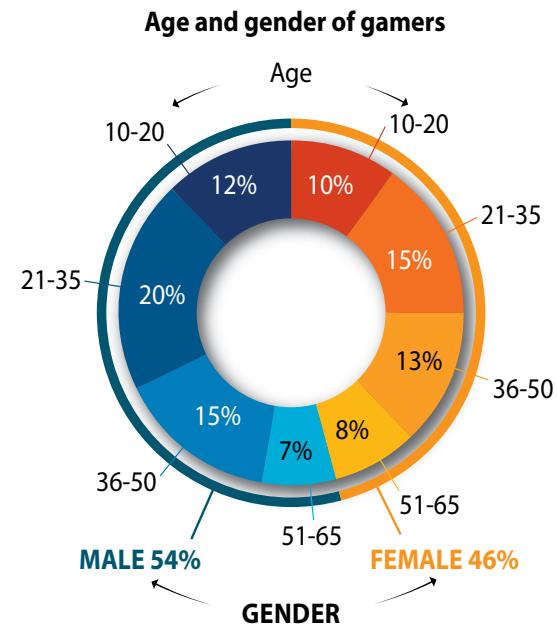
Gaming's ability to mobilize GEN Y and younger is very powerful if executed purposefully.

■ Al Gibb, CEO, Mighty Serious

untapped resource for encouraging engagement in environmental issues. We cannot let our screens distract us; the planet is undergoing unprecedented losses. In the past 40 years alone, world wildlife populations have decreased by 60 per cent.¹¹ Global insect biomass is decreasing at an estimated rate of 2.5 per cent per year.¹² Furthermore, youth are more worried about environmental issues than almost any other. A recent survey of millennials (30,000 individuals under the age of 30 from 186 countries) cite climate change and destruction of nature as the world's most critical issues.¹³ Audience interest in the environment and conservation is strong, and recent school strikes are evidence that students are more than ready to take matters into their own hands. Video games – if seen and approached as serious and transformative tools – could empower billions to contribute to urgently needed solutions.

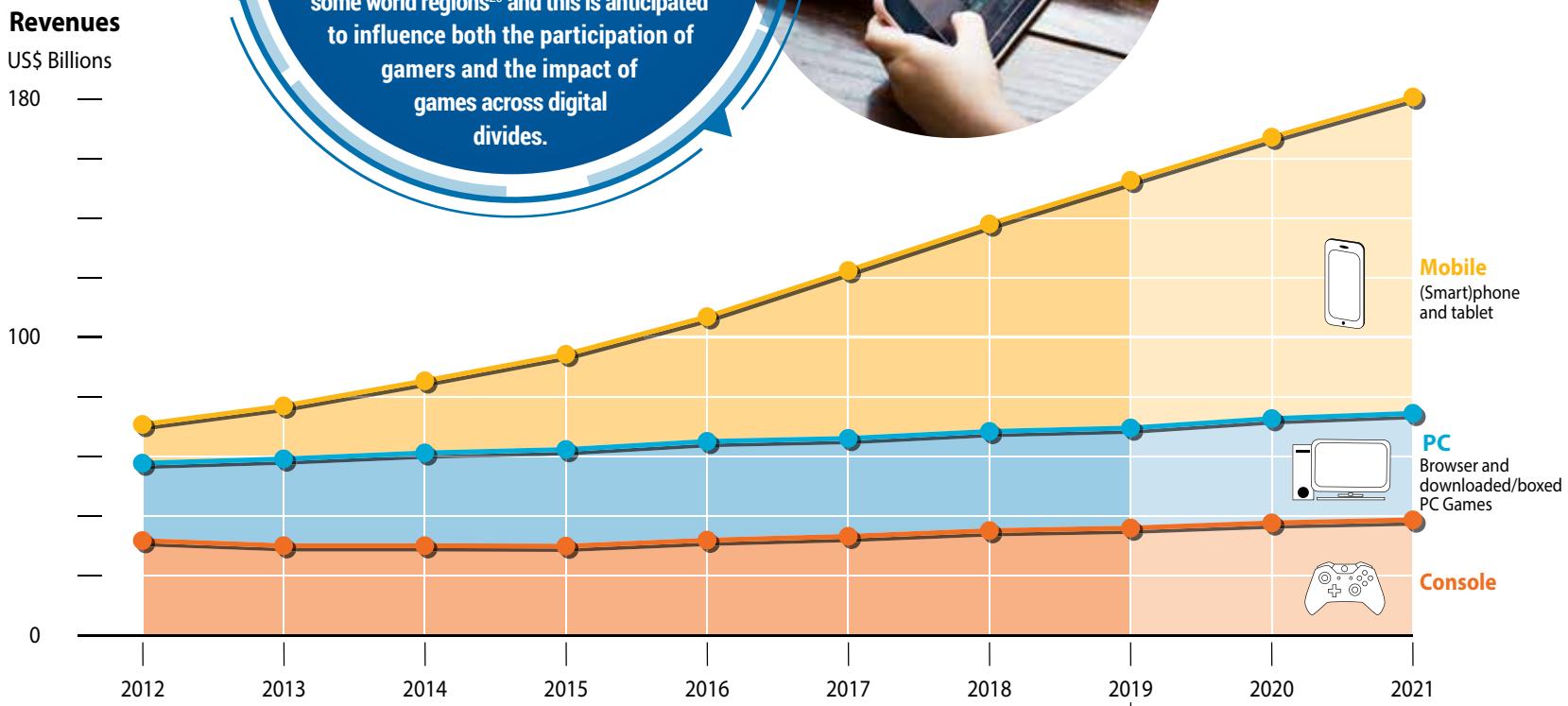
While 22 percent of gamers are under the age of 21,¹⁴ video games are no longer child's play. Video gaming's demographics, global reach and the technologies used to play games are all changing rapidly. Both the age and gender of gamers are

much more diverse than commonly thought. In fact, in most countries, around half of gamers are female.¹⁵ Gaming is not held back by geography, or limited to high-income countries. Of the 15 countries with the most gamers per capita, 5 are lower middle income¹⁶ (India, Indonesia, Philippines, Vietnam and Nigeria).¹⁷



Source: Newzoo Global Games Market Report, 2019.

LOPEZ, 2019



Source: Newzoo, 2018, 2012-2021 Global Games Market; Newzoo, 2019, Global Games Market Report.

©iStock/Rawpixel



Revenues from mobile phone games surpassed those of console games for the first time in 2015, and are estimated to reach \$91.2 billion by 2021.¹⁸ Brazil, India and China feature prominently.¹⁹ The growth of gaming in most of the world's regions is closely linked to available data speeds. Smartphone penetration is especially varied in some world regions²⁰ and this is anticipated to influence both the participation of gamers and the impact of games across digital divides.

LÓPEZ, 2019

Gaming can become the new public service media for the world

The notion of using video games as a means of engagement may seem controversial given that excessive screen time can distance people from nature and healthy activities. Nonetheless, the most effective way to engage youth in solutions will be to embrace the spaces and platforms they use, on their own terms. With gaming poised to be the dominant and most far-reaching media for the emerging generation, its impact and potential can no longer be ignored – it's a platform with unrivalled potential.

While individual projects involving video games have been supported across the UN,²¹ there has, as yet, not been a major attempt by UN Environment to explore how the gaming sector could specifically support the environmental/

SDG agenda.²² At UN Environment, the focus, until now, has been on engaging higher education institutions in support of the delivery of education for sustainable development.

But how does the gaming industry see its role relative to the Sustainable Development Goals, and specifically the environment? There are, in fact, large numbers of companies already active in this space, or conceptually on-board. Of the 53 video game industry leaders surveyed for the document, the majority agreed that video games can successfully raise awareness for a cause (96%), assist awareness and learning (87%) and drive positive behavioural change (74%). Indeed, 87 percent of respondents intend to run more campaigns and promote key environmental messages, underscoring the need for more

refined input from SDG sector experts to focus impacts and highlight successes. In terms of the thematic areas, respondents felt their companies and campaigns identified most with Sustainable Development Goals of education, gender equality, reducing inequality, health, and sustainable cities.

It is crucial that this engagement includes not only formal education sites (classrooms and campuses), but also everyday spaces, where people connect and, importantly, where they play. With a little re-tooling, or with the strategic placement of information, video games can effectively serve as a public service broadcast medium. Exploring examples where video games are already making an impact can help us reimagine its potential.





The game, *World Rescue*, was supported by UNESCO and the Mahatma Gandhi Institute of Education for Peace and Sustainable Development, and was inspired by, and helps teach about the SDGs. Game players help five young heroes tackle community solutions to global problems in fast-paced settings in Kenya, Norway, Brazil, India and China. Assisting game players to confront displacement, disease, deforestation, drought and pollution cultivates empathy in new audiences, and opens new dimensions to the concept of 'think global, act local'.



Video games are already making an impact

Games have already had positive social and environmental impacts. Many companies have used existing games with a mass audience to raise funds for particular causes via in-game purchases and donations. Pokemon Go, a mobile-augmented reality game, recently rewarded participants of 68 Earth Day clean up events in 19 countries with in-game rewards, a 'special release' Pokemon, and a \$250,000 donation to Mission Blue's new Hope Spot in Palau.

Animal Jam, an interactive animal library for kids has over 100 million registered users – 22 per cent of whom are from Latin America and the Philippines – and has donated over \$10 million to animal-related conservation and education initiatives since 2010.

Games can raise not only funds, but also awareness. Many companies release adapted versions of games, 'skins' or characters which support awareness and fundraising. Runescape, a multiplayer online role-playing game, gave players an in-game pet (26,000 digital 'Royal Rhinos') in exchange for answers to their conservation quiz – the most popular new Runescape content of the year.



©Animal Jam



©United for Wildlife/Jagex

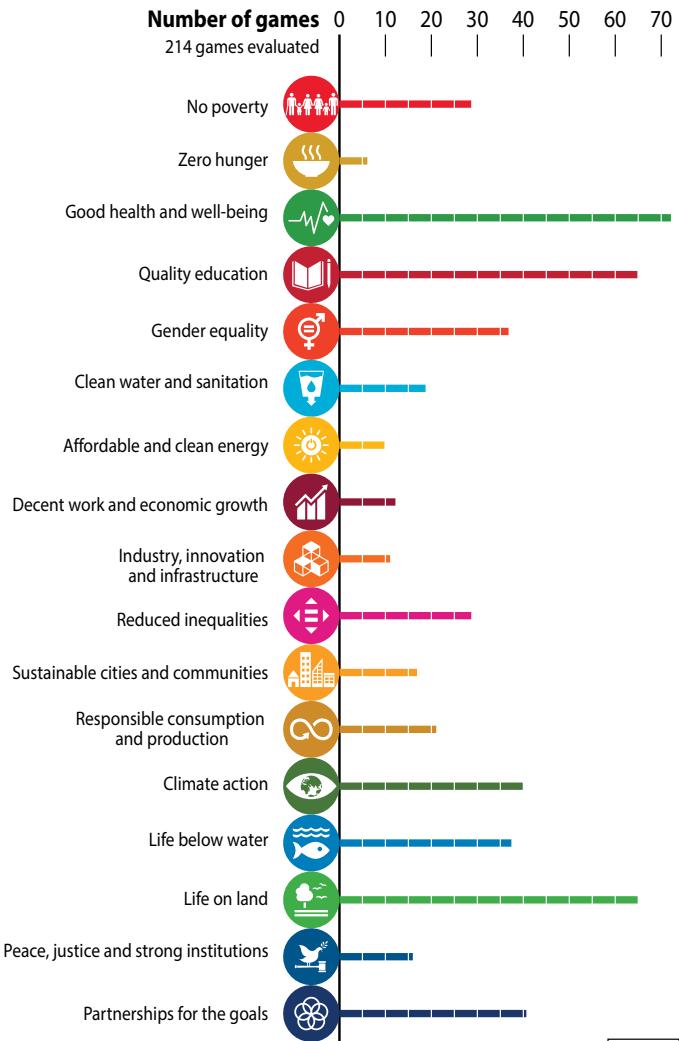


Most big conservation organizations are focused on pursuing big corporate donations and don't understand the reach of a property like Animal Jam. They need to understand that millions of kids every month would be engaging much more deeply with their work than they ever will through newsletters or school fundraisers. So far it's been difficult to get these organizations to partner with us unless there is an up-front six-figure donation attached.

 Animal Jam

Which Sustainable Development Goals are most represented in games or game initiatives?*

*Games evaluated not exhaustive, games can have multiple SDGs



Source: Playmob, 2019, unpublished data.

LOPEZ, 2019



©Block by Block



©Block by Block



©Block by Block

Minecraft, the blockbuster 'building block' game, was released as 'Minecraft–Climate Hope City' to help players envisage a zero emissions future. It also supported real-world public commentary in media articles on fossil fuel divestment debates. The funds raised by the game were used to plant 150,000 trees across East Africa.

However, focusing on gaming as simply an extractive opportunity for fundraising, ignores the huge collaborative opportunities it offers. The exponential growth in audience reach presents enormous potential for engagement.

Games are often self-explanatory and intuitive, features which can benefit environmental projects, especially in terms of accessibility and social inclusivity. The UN-Habitat sponsored project 'Block by Block: Making a difference with Minecraft', uses the simple building block game originally designed for children to create an exercise in interactive community-building, based around different SDG goals. Players, often from a demographic that has traditionally been excluded from decision-making processes, create their vision of a future home, city or community.²³



Eco made me realize that games are actually crucial for understanding our relationship to all kinds of natural and man-made systems. The thing that gives me [the] chills is that I think it is only in games that we can play with economic systems. And I walked away from my experience in Eco feeling like I [had] learned so much even though we had no instructor. No one was connecting the dots for us. We simply learned through play.

Jeffrey Grubb, GamesBeat PC, gaming editor²⁴

Microsoft via the Minecraft 'Build a Better World' initiative has engaged more than 20 million in-game actions to trigger donations to biodiversity, oceans and clean water.

Minecraft Earth, the latest Augmented Reality version, creates new potential for activations, collaboration and integration in the real world.

These, and many other examples, show how private and public sector groups can come together to create popular games with a real-life impact. Partially funded by the US Department of Education, Eco, an online multiplayer game uses ecosystem simulations to help the player think about the consequences of their resource consumption. It was ranked the number one game of 2018 by technology news site Venture Beat.





©Internet of Elephants

In addition to engaging users on specific themes, the gaming sector can work not just on the big issues, but also on micro-projects. Riot Games, hosts in-game fundraisers that specifically support local causes in various countries. The effort is based on the SDG's and allows players to participate in and support local outcomes.²⁵

Even small investments can have big impacts. Safari Central, developed by Internet of Elephants, a video game development company based in Nairobi, uses augmented reality to bring kids closer to wildlife as they place elephants, bears and pangolins in 3D locations. With minimal marketing, the game continues to see around 10,000 downloads a month.



©Rovio

Even the Angry Birds are being called in to help. The UN Secretary-General Ban Ki-moon named 'Red', a character in the Angry Birds Movie, as UN "Honorary Ambassador for Green" to urge people to act on climate change and its adverse effects.²⁶



©UN Web TV

Diverse game markets and game genres offer a variety of strengths to be tapped

All **game markets** can create SDG impact. As the examples above illustrate, pure **Entertainment games** can introduce new characters (e.g. adopted rhinos in Runescape), or support an in-game fund-raising campaign (e.g. Angry Birds with BirdLife International) or modify a whole platform (e.g. SimCityEdu) to reach enormous audiences. More **Serious games** can be designed to entertain while also conveying a message or support exploration of a landscape or concept (e.g. Eco). **Educational games** are most often designed with specific environmental learning goals in mind (e.g. i-Biome Ocean).

Many **game genres** excel at conveying concepts and perspectives of interest to SDG audiences, a few are mentioned here. **Simulation games** (e.g. Eco, Sim-Earth, Farming Simulator) often involve gameplay about building systems, where gamers can test scenarios, often zooming out to see a broader 'world'. They excel at helping people explore options, weigh trade-offs, consume virtual possessions and resources, and design potential future worlds (perhaps with far lower footprint than the present). **First-person games** can allow a gamer

to adopt a new perspective, and in some cases, build empathy.²⁷ **Multi-player games** excel at building/drawing off of social capital in a gaming community. Adventure games allow a gamer to learn while exploring or meeting a challenge (Neveralone, GetWater). **Online Multiplayer games** (WoW, Fortnite, Minecraft) allow for global game play and projects where players can collaborate and compete across the world. When strategically oriented, these platforms can unite global citizens toward shared and global goals like never before.



Neveralone features an Iñupiaq girl Nuna and her Arctic fox companion in challenges that feature traditional indigenous knowledge and experiences in the arctic ecosystem.



Video games can help us think differently – as individuals, communities, and as the world at large

Video games can deliver new information about a range of topics such as health, crops, markets and wildlife, putting new tools in the hands of youth living at the edge of the digital divide. They are increasingly using puzzles, problem-solving and simulations to draw attention to real and formerly intractable issues such as climate change, HIV and species conservation.

Gaming may either attract people who particularly enjoy puzzles and challenges, or it may be the case that the 'Internet/gaming generation' are fundamentally 'thinking differently' as pervasive use of the internet impacts on brain plasticity.²⁸ If cognitive styles

Given that the environment is itself wickedly complex, I think game-worlds have a huge potential for showing how change can ripple through systems; perhaps the first time in my life I truly grappled with the problem of industrial pollution was when I played the original SimCity and Civilization!

■ Tom Chatfield, Author, Fun INC

have shifted, changing the way we view the world and the way we learn and communicate, then efforts to harness or 'crowdsource' these abilities must similarly evolve. Deep and persistent social challenges, such as those presented by the Sustainable Development Goals, can and must be built into games and gamified formats.

Versions of SimCity, CityOne and Civilization have already been modified to explore ecological concepts and social development goals.²⁹ Games can also be used to raise awareness of the connections between everyday actions and their ecological impacts, to help people understand the trade offs and impacts that result from their day-to-day decisions.³⁰ However, to expand on this potential, academics and SDG practitioners need to elaborate on concepts and case studies that are well-suited to games and gaming's immersive storytelling, for easier uptake by the gaming industry.

After scientists and supercomputers failed to resolve the structure of an AIDS-like virus for over a decade, game designers focused gamers on the challenge. "Foldit"³¹ players, collaborating and competing to rotate 3-D chains of amino acids online, solved the enzyme structure in just 10 days.³²

Aqua Republica, co-funded by UNEP-DHI, is an online strategy game where players (alone or in groups) plan and develop a river basin, attempting to create prosperity while maintaining the environment. The game has been played by almost 10,000 people.



©Aqua Republica

Serious games that are well designed yield 'meaningful play', a condition very much like learning...[they] engage players... and educate them about complex relationships.

■ Aqua Republica³³

Video games can tip the balance towards sustainability

The potential of video games to bring about positive global change has yet to be tapped. Not only can the industry reach vast audiences, but it can engage on a whole new interactive level, in comparison to other forms of media. Games support a myriad of virtual communities, many of which can be used for good in the real world through the use of in-game problem-solving, collaboration, simulation and immersive educational experiences.

The New York Times front-page feature, "You Fix It: Can You Stay Within the World's Carbon Budget?" gave readers an interactive tool to explore 8,000 climate change solutions. Developed by Climate Interactive, the simulation model also supports the World Climate Simulation Game. Players adopt roles of different countries setting reductions commitments on greenhouse gases and negotiate to meet emissions goals. Studies documented improved awareness of complexity and negotiations following game play.³⁴

Two key strengths of digital games are their interactive nature and capacity for simulation. Our potential is to use games to engage, educate and involve the public in areas of social need. Most game developers don't realize they have the power to do this and the leverage to heal the world.

 Trip Hawkins, Founder Electronic Arts



Crucially the World Climate Game format increases the speed of the feedback between the players and an emissions graph of the net results of their "climate commitments" (an important feedback missing in real-world negotiations). As the 'scoreboard' changes over time, this feedback forms important motivation as players continue to represent their sector but unite to achieve the 'group goal'.



©Climate Interactive/flickr CC BY-NC-SA

Gaming technology and Virtual and Augmented Reality can be used in research and education

The sophistication of modern game engines and modelling tools are opening new avenues in research and education. 3D modelling packages such as Houdini³⁵ enable creation of highly photo-realistic physics-based models of the environment. New advances in drone technologies, on-phone 3D reconstruction and computer vision, enable semi-live, high resolution 3D scans of the environment for visually stunning games that incorporate both real world and visualization of environmental data.³⁶



©Ubisoft/Far Cry 5

Virtual and Augmented Reality (VR/AR) are powerful tools for delivering immersive, emotionally impactful educational experiences. **VR** gamers can explore remote real-world locations or experience rainforests, villages, or refugee camps. **AR** can bring hidden or otherwise unavailable data into the real world to show potential impacts of sea level rise, or can make nature or science more engaging. "**Gamification**" is a technique that integrates game attributes in non-game contexts. Zooniverse, the world's largest citizen science

platform, has enabled the research community to engage its 1.6 million users in everything from classifying galaxies to counting seals.³⁷ Gamification has also engaged citizens in topics from energy efficiency to recycling.

Combining the above approaches offers untapped opportunities to merge gaming and real world research to not only engage and educate gamers, but also conjure excitement and visions for global solutions.



A proposed VR/AR interface for enabling NextGen analysis of agricultural data and genomics.

©William Kezelle, Danforth Plant Sciences

Realistic environment
Far Cry 5.

The private and public sector must partner up to create impact

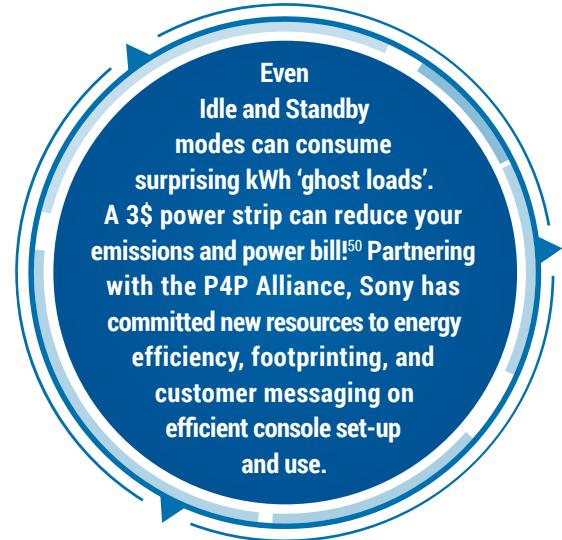
Public and private sectors and gamers must come together to reduce gaming's environmental footprint. Gaming's carbon footprint is large and growing rapidly. In 2016, worldwide online gaming traffic reached 915 petabytes per month and is the world's fastest growing sub-segment of data usage.³⁸ Projected to grow another 62 per cent (over 10,000 petabytes per month) by 2021, gaming Internet traffic will be greater than all web, e-mail

and data traffic in 2016.³⁹ This data flow creates a legacy of emissions that needs to be addressed. Game purchases have increasingly shifted from physical packaged games towards digital downloads. Between 2009 and 2017, US sales went from 20 to 79 percent digital.⁴⁰ Similar shifts worldwide have reduced the environmental footprint of software purchases, particularly where green energy and rapid Internet speeds are available.

Corporations that sell globally sometimes set the 'rest mode' on their consoles according to perceived regionalized 'habits' and consequent estimates of market demand. As a consequence, the default setting of a console sold in the US can consume 12.5 times the energy of the same console sold elsewhere in world. Corporations can commit to exporting components with energy efficiency settings as the default. Consumers can also take matters into their own hands: customizing rest-mode functions on consoles is one of the easiest ways to reduce energy consumption from gaming. Disabling the USB charging function of a PS4 reduces the 8.5 watt rest mode to 5.5 watts, and users can set consoles to disable USB charging completely after 3 hours.⁴⁹

Companies like Supercell, who are behind games such as Clash Royale, have recently made a commitment to go entirely carbon neutral and offset the CO₂ used by players when they charge their devices. As CEO, Ilkka Paananen, explains, *"The biggest challenge facing all of us, no matter what industry we're in, is climate change and so that's where we must try to make the biggest impact... there aren't any easy wins. That's why we decided this year to make Supercell entirely carbon neutral.... this is a small step in the big scheme of things, but we hope that it can be the beginning of something important if more and more studios do the same"*.

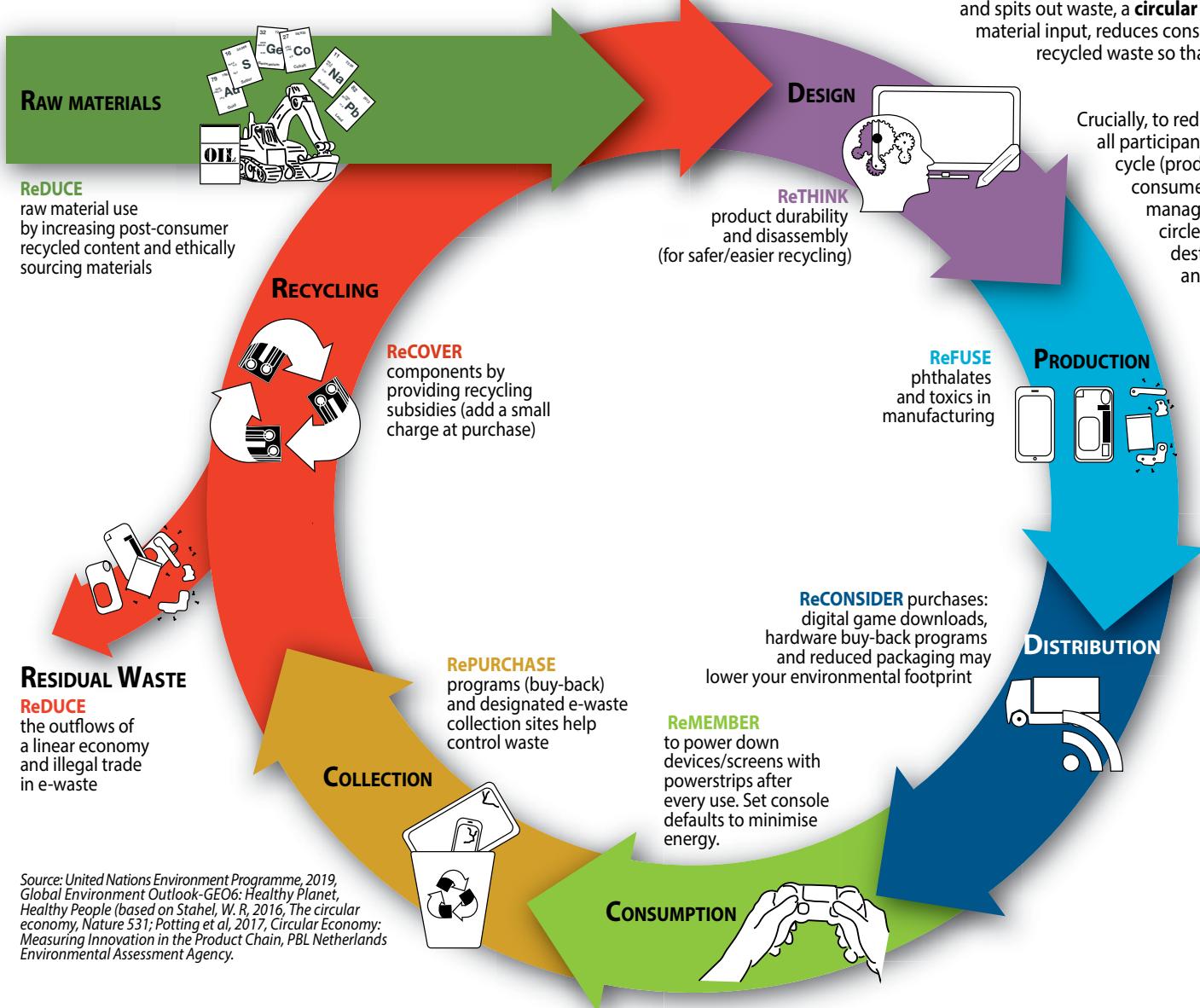
E-waste is increasing at an alarming rate (from 50 million tons today to a projected 120 million tons by 2050)⁴¹ and is a serious concern in terms of both local impact and as an unresolved issue in UN treaty forums. With most electronic equipment around the world averaging only five years in use,⁴² e-waste or electronic waste is one of the world's



fastest growing waste streams.⁴³ Globally, less than 20 per cent of e-waste is recycled.⁴⁴ A half of all e-waste is made up of personal devices such as computers, mobile phones, tablets and TVs, which are also used as gaming hardware.

Corporations, gamers and policymakers can apply 'circular economy' principles to reduce gaming's environmental footprint. The gaming industry can commit to leading on e-waste prevention (integrated design), user education and recycling/buy-back programmes.⁴⁵ The private and public sector needs to work together to develop national policies that support a circular economy for e-waste – as in Japan.⁴⁶ Reclaiming and recycling e-waste materials is not only good for the environment, it can also generate large revenues. Today's discarded material is collectively worth around \$62.5 billion,⁴⁷ yet, on average, only about 20 per cent of this is recycled.⁴⁸

Circular Economy for Video Game Devices (e-waste considerations)



Recommendations

Video games are seen as a form of entertainment, and as such have been overlooked in environment and development circles. Rethinking the role of games, and gamers, is therefore as much a social and creative challenge as it is a technological one. It requires re-imagining and empowering a relatively untapped resource: a community and industry that is global, young, technologically savvy, playful and innovative.

There needs to be a shift in mindset among policymakers and environmental practitioners, to acknowledge and empower gamers as rapidly emerging global change agents. A similar shift may be needed in the gaming industry, where a more diverse range of attributes (that resonate with and reflect audience values) can help a new game attract attention, make headlines and stand out in a crowded market.

Engaging the whole of the gaming industry on this issue is critical for securing impact. Shifts in game content must be supported by promotional and marketing budgets that can help the game reach a mass audience. Scientific collaboration can identify real-world challenges that appeal, in a playful manner, to intelligent minds, and can help focus 'down time' on things that really matter. This can also help generate social capital, engagement, a more purposeful use of time and a sense of reward – many of the elements associated with gaming communities.

Insights from leading companies in the games sector can provide a vision – in the industry's own words – of how gaming could be harnessed to create a meaningful impact for people and the planet.

It is our hope that the examples featured here serve an additional purpose: to inspire educators, UN partners and environmental practitioners to develop more playful, engaging and immersive methods for encouraging collective action across the world.

To support action on the SDG agenda, seven recommendations have been compiled from the industry survey and in consultation with experts:

1) Include a 'green nudge' in every game

While the primary objective of games is to entertain and grab the attention of players, it also has the power to educate without disrupting the flow of the gaming experience. This could involve the use of nudges such as:

Power-off for the planet: Reminding players to switch off or reset console defaults so that they consume less power (in exchange for points) could be a quick-fire way to save energy.

Points for plants: In many games, such as Fortnite and Clash Royale, trees are destroyed as gamers march through the levels. Tweaking the experience so that points are awarded

for protecting the environment, rather than pulverizing it. Alternately, offering a badge for conserving resources, could encourage gamers to value nature.

Incentives for 'positive planetary play': Whether it is picking up plastic, choosing a non-meat dish in Cooking Fever or using game techniques to make electric cars 'desirable', targeted messages embedded in game 'media time' can influence offline behaviour.

2) Create an annual impact season

Organizing month-long campaigns, where the industry comes together to mobilize its community around a particular theme, could help transform the perception of the industry to one as a major agent of social change.

Individual initiatives – such as those organized by Niantic – already take place, but organizing a mega-event around an environmental theme would add significant value. Working with app stores to promote the games taking part in the season, and theming stores such as Apple have done with 'Red' and WWF, would help promote both the campaign and the participating games.

3) Pledge for the planet

The financial reach and influence of the gaming sector is enormous and huge sums of money are being raised. But if the gaming industry acted as a consortia to raise \$1 billion to

support specific Global Goals, the momentum would drive and sustain changes at a different systemic level entirely. Whether it was in the form of in-app purchases, donating a portion of profits or pro bono media space, there is huge fundraising potential in the industry. From large to small, established to emerging, platforms, companies, and studios have complimentary roles to play. Some game distribution platforms disallow commercial app publishers to openly raise funds for nonprofits through in-app purchases (apps must be free and collect funds outside the app via Safari or SMS). More platforms could emulate popular sites like Humble Bundle, a digital storefront for video games, which offers collections of games for a set price with a portion donated to charity. Industry aggregation initiatives have amplified impact in other sectors. A model of note is OnePercentForThePlanet.org which raised over \$175 million USD since 2002 by securing commitments from outdoor companies.

4) Cut e-waste and go 100% clean

Well written gaming narratives have the power to change perceptions – turning obstacles into challenges to be defeated. Gaming contributes unnecessarily to emissions and e-waste, both of which harm real people in present day. Yet there is too little traction for action – in great part because it is difficult to conceptualize where e-waste goes, once disposed. Examples in this document cover how different types of games

can be used to engage gamers in taking on this challenge. In addition, the gaming industry can also directly reduce costs, emissions, and footprints through circular economy. But the company that helps its consumers align purchase and playing decisions with stories, games and situations they feel good about, brings the story full circle with customer and employee loyalty that also supports the bottom lines.

5) Fiscal incentives for 'serious' sustainability games

While the gaming industry excels at engaging and holding attention and driving audiences, serious games are often starved of investment. Fiscal incentives, such as subsidies for 'serious' sustainability games could assist. Well-designed government initiatives can promote outcomes that lower costs borne by society, and seed early desired development. By way of illustration, in 2014 the UK launched a Video Game Tax Relief program for games that support UK cultural relevance, funding 480 games since then. In a similar vein, games that link to environmental messages could be supported in order to encourage more game developers to integrate green messages, raise awareness and inspire action among gamers. Because user acquisition is often a daunting challenge and expense for developers, governments could also offer tax breaks for marketing socially desirable games (i.e. beyond just the start-up phase) so games reach the largest audiences possible.

6) Team up, reward and make it famous

Team up: Gaming is probably the one of the most collaborative and global experiences today. The benefits of working with other gaming companies to share successes and tackle challenges builds social capital, creativity and critical thinking for companies far beyond the philanthropic goals they may share. Teaming up would have particular value if it crossed disciplines (ie. Scientist/game developer/teacher) and focused on a major challenge facing the world.

Reward: Games reward players, but the industry rarely rewards itself. An industry advisory board, a game developers' philanthropic survey, and an annual award for 'best environmental game', 'best new SDG game' or 'gamer's footprint award' could help raise the profile of small start-up companies – which is particularly important during the crucial early stages of their game release.

Make it famous: Working with gaming stars who have a massive reach and influence on young people was suggested by a number of respondents to the industry survey. Their role in supporting 'climate-smart' behaviour (reducing energy use or sustainable lifestyle choices) would ripple out far and wide. But it doesn't just have to be the gaming stars. Developing the green credentials of popular game characters – Sonic, Mario or Lara Croft, for example – could inspire gamers to 'do their bit'.

7) Help parents to engage with their children around gaming

Parents are crucial advocates in creating the next generation of aware digital consumers, helping children to seek out, and even create the good content and the change they want to see in the world. While every generation has its concerns about the type and time spent by the next generation on technology, the pervasiveness of screens, and the addictive nature of games, can be particularly daunting for parents. Yet many parents who monitor their children's television consumption closely, often do not monitor, discuss or engage with their children on video game content to the same degree. Parents can be encouraged to play video games with their children, both for 'fun' and to explore, discover, discuss, and seek out enriching content together. Interaction is crucial to establishing links between games and the change they can create, and help children see challenges and the world around them with new eyes, and empowered minds. Video games can help leave the planet on a better trajectory than the one its been on for generations, particularly if (outdoors and in) we play together with our children.



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Levelling up: This is an industry uniquely game to create change

Leaders of video game companies in the Playing for the Planet Alliance agree: climate change is one of the most important issues of our time. Actions that help cut back on carbon emissions – such as switching to renewable energy, building energy efficiency into platforms, and designing for a circular-economy – can not only translate into enormous cost savings, but also inspire employees and game communities alike.

UN Environment and GRID-Arendal are partnering with game companies to develop a forthcoming Game Developer Guidance Resource with practical advice to the industry for reducing carbon footprints and taking an EAST (Easy, Attractive, Social and Timely) approach to 'nudges'. Topics under development

A carbon footprint is a measure of the amount of greenhouse gases (GHG) produced by an entity or organization.

The IPCC-endorsed Greenhouse Gas Protocol (GHGP) provides accounting and reporting tools and standards for the private and public sectors, but there is currently no established, specific guidance for measuring the footprint of the game industry and no system for assessing the energy used in video gaming.

include shifts to renewable energy, footprinting business operations, data centers, game distribution and updates, and activating game communities to reduce energy costs, wastes and emissions.

For a video game company, the main categories of a carbon footprint will likely include: business travel; employee commuting; electricity for office operations, heating and cooling; goods made by or purchased by the company (including design, extraction, production, transport, distribution and disposal); capital goods acquired by the company; disposal and treatment of waste; and power for servers and data centers. Most video game companies also estimate emissions from their gamers charging or powering game devices (mobile, PC, screens and consoles). Importantly, actions to reduce a game company's environmental impact can also encompass 'green nudges' embedded in games, equipment settings, user manuals, and customer support and game community facilitation.

The games industry has always been led by future-forward, inventive, agile and imaginative problem-solvers who relish challenges and opportunities. Similarly, the companies that set and meet clear, ambitious climate goals will be best-positioned to serve the consumers of the future and change the world through play.

10 steps for a video game company to become 'carbon neutral'

- 1) Think big!
- 2) Define the scope of accounting (in activity, product, geography, time)
- 3) Gather data about your carbon footprint
- 4) Declare an ambitious commitment for cutting emissions, for one year and beyond
- 5) Empower your workforce (top to bottom) to propose/implement solutions
- 6) Where emissions can't yet be cut, purchase offsets
- 7) Engage a third-party organization to verify your cuts
- 8) Report your progress publicly
- 9) Share your strategies and successes with other companies
- 10) Revise, ramp up, and repeat

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How will YOU 'level up' for the planet?

Ahead of the UN Climate Action Summit, the world's leading game companies have come together to declare their substantive, ambitious, and new commitments as the Playing For The Planet Alliance. We feature here a brief sampling from company commitment letters that document the scale and diversity of change underway. So inspired, we invite you to join the P4P Alliance in your own actions, company, online, and at a forthcoming game event near you. Together, we Play For The Planet.



We are offsetting our office travel, data centers and gamers' footprints



We are funding offsets to prevent deforestation and reforest degraded landscapes



We have a solar powered studio



We are featuring our high-profile gamers who care about this issue



We create new character animations to promote our climate action commitments



We estimate our commitments to energy efficiency in our game console will result in several million tonnes of avoided carbon emissions by 2030



We commit to footprinting all our gaming services and reporting on energy efficiency measures



We will offer game creation challenges on environment themes



We source from eco-certified factories



We optimize energy consumption and annually raise the percentage of renewables



We will plant a new tree for every new subscription



We have an active investment philosophy for SDG goals



We are working with UN Environment, industry and climate experts on a reference/resource pack for game developers



We calculate the lifecycle emissions associated with our product, including game play



We are sending our consumers new updates on equipment settings and energy efficiency



We have created an in-game challenge that gamers plant trees, rather than slay them



How can the fastest growing media platform in the world be harnessed to deliver on the Sustainable Development Goals and the urgent global needs they represent? We've summarized recent relevant developments in the video games sector, perspectives from over 50 thought leaders from the industry, and extracted seven recommendations to provoke new thinking, new collaborations, new games and real-world impact. This assessment presents a vision of how the video game industry, gamers, parents, policymakers and UN Environment can together

'Play for the Planet'.

<https://playing4theplanet.org>



United Nations
Environment Programme



A Centre collaborating with
UN Environment



• youth &
education
alliance



PLAYING FOR THE PLANET ANNUAL IMPACT REPORT 2020



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01 INTRODUCTION

A Message by Sam Barratt

Playing for the Planet Alliance Objectives



Sam Barratt, Chief of Education, Youth and Advocacy at UNEP and Co-Founder of the Playing for the Planet Alliance

The Playing for the Planet Alliance is the first of its kind. A partnership entered into by a group of video gaming companies who have made voluntary, specific, time-based and increasingly ambitious commitments for both people and planet.

Despite their reach and depth of audience, video games are still often seen outside the cadre of media-that-matters. The games industry is now the biggest entertainment medium of our time and it deserves a seat at the top table.

Not only does gaming have the potential to reach 1 in 3 people on the planet, but the facets of levelling up, going faster, scoring higher and taking on the impossible, are all critical ingredients we need to gather from gameplay and direct into the greatest multiplayer challenge of our time: climate change.

2020 raised the curtain on what could lie ahead if we don't act. This COVID-19 pandemic continues to have a tremendous impact on the world and our lives. It also offers a moment for us to reset our relationship with carbon while at the same time urging us to reconnect, revalue and reinvest in nature.

If the pandemic wasn't keeping us up at night, then it might have been the wildfires ripping across Australia and California, ice shelves collapsing

in the Arctic, or the running down of our biodiversity balance sheet.

Of course, there is hope. The EU has committed to slash its carbon emissions, major Asian economies are pulling out of coal, and in the boardrooms of large corporations, there have been promising signs of a new net-zero reset. Is it enough? Not yet. Is it a promising shift? Definitely.

So where does Playing for the Planet fit in? An idea that came together in discussions between UNEP, GRID-Arendal and Playmob in 2019, has in 12 months led to 29 companies signing up on a shared mission to harness the power of this sector to explore the power of gameplay and to begin to rewrite the industry away from carbon.

Already, two-thirds of Alliance members have committed to decarbonize their platforms. With new tools, partnerships, and a major climate summit looming in Glasgow this year, this will only grow, along with commitments to restoring and protecting the forests of the world.

The 2020 Green Game Jam, led by Space Ape and Sybo, was a great big petri-dish for exploring how to leverage gameplay for the environmental agenda.

Not only has it reached more than 100 million people but it has also led to the planting of thousands of trees, raised funds for wildlife conservation, and secured commitments from players to change the way they light their homes.

Inside the Alliance there is a humanity and kinship among members that is what I think matters most. In 2019, one senior member of the Alliance went out of his way to secure the support of "their mortal enemy" to join. It's this spirit of collaboration and shared interest - not competition - that will yield the greatest returns for all of us to learn and replicate.

The facets of levelling up, going faster, scoring higher and taking on the impossible, are all critical ingredients we need to gather from gameplay and direct into the greatest multiplayer challenge of our time: climate change.

We have all the right tools close to hand: urgency, creativity and inspiration pour out of the gaming industry. In 2021 we intend to show how we can deploy all of these in harmony so that together we can support the industry to play for the planet. To our Alliance members, thank you for all your work and efforts in the first year of this initiative. And to everyone else in the industry, come and join our mission!



The Playing For The Planet Alliance was created to support the video gaming industry to achieve four core objectives:

- 01 To rally the industry to reduce its carbon footprint so that it has the tools to measure, reduce and set targets to decarbonise.
- 02 To inspire environmental action through green activations in games.
- 03 To share the learnings of the initiative so that others within the industry can follow suit.
- 04 To explore new strategies for the future around new games and approaches to storytelling.

With the support of GRID-Arendal and Playmob the United Nations Environment Programme (UNEP) facilitated the launch of the Alliance in September 2019 when 21 of the biggest companies in the video gaming industry formally committed to harness the power of their platforms to take action on the climate crisis. Since then, the Alliance has grown to include 29 major gaming companies with more set to join this year. UNEP's role has been to co-create, convene and provide strategic guidance to the Alliance with members leading workstreams and making in-kind contributions to this initiative.

This first-ever impact report explores the following three aspects:



COLLECTIVE IMPACT
Report on the progress that the Alliance has made as a collective in meeting its Annual Objectives.



LEARNING FOR OUR SECOND YEAR
Extract the wisdom from 2020 to take it forward into 2021.



INDIVIDUAL ACTION
Track the progress the Alliance members have made in the last 12 months.

We hope that this report will serve not only as a useful accountability mechanism for current Alliance members but to also attract other companies to join the initiative and benefit from the chance to learn, develop and evolve their businesses on this agenda.

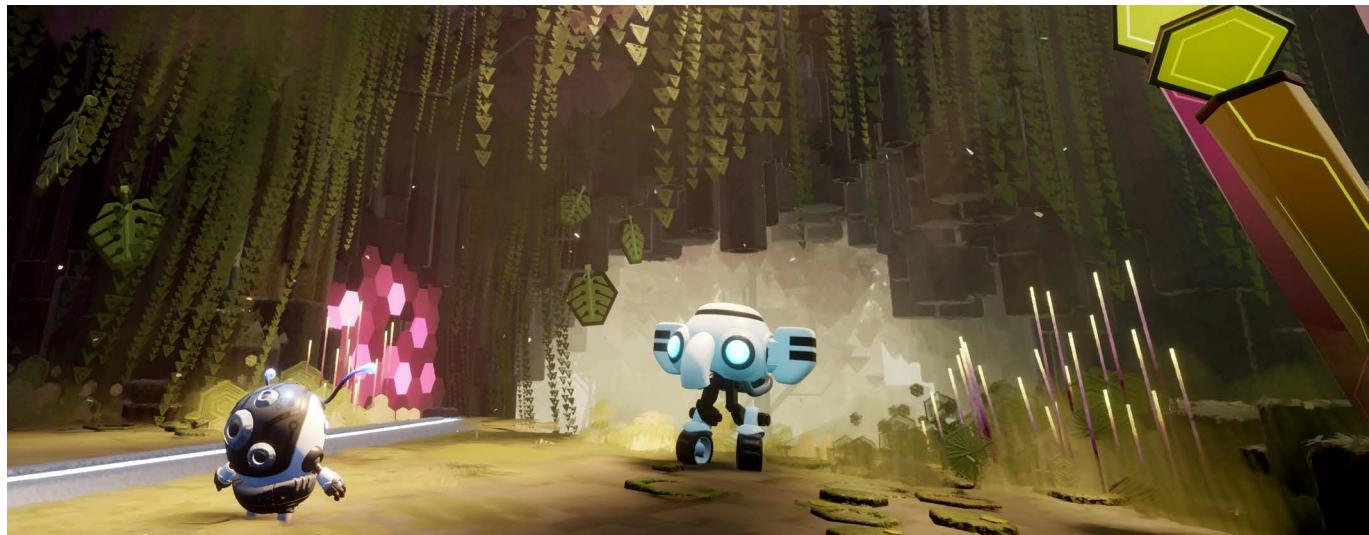


02 WHAT DID WE ACHIEVE TOGETHER? 🌱

Key Objectives and Progress
Green Game Jam 2020 Overview

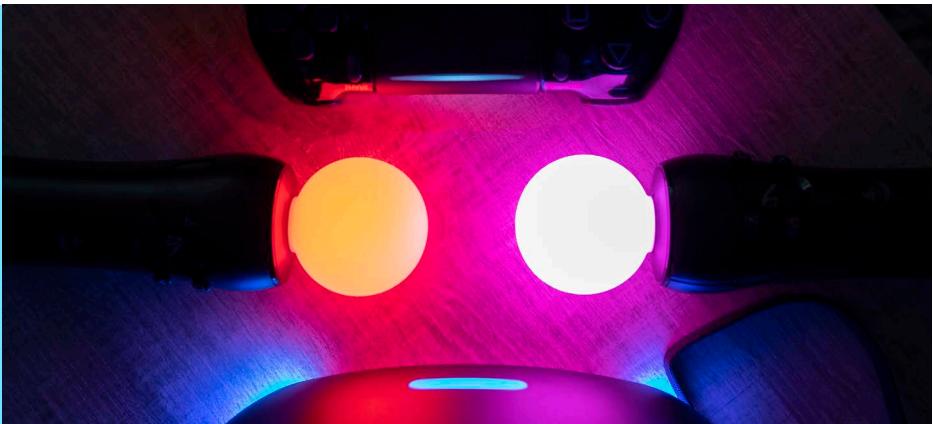
These are the key objectives for the Alliance in 2020

- Reduce carbon footprint
- Integrate green activations
- Focus on environmental agenda
- Grow Alliance active user base
- Set the Alliance foundations
- Foster a spirit of collaboration



Support gaming companies to reduce their carbon footprint

► ON TRACK



- ◆ Five new companies joined the Alliance with commitments made to decarbonise their businesses.
- ◆ A new toolkit containing guidance for companies on how to decarbonise (for Scope One and Two emissions) was shared with the Alliance members, with plans for Scope Three underway for 2021.
- ◆ For the launch of PlayStation®5, Sony Interactive Entertainment (SIE) has been able to create energy efficiencies in the device that mean that power consumption in rest, media and home screen modes is lower than PS4 was at launch.



To inspire companies to integrate authentic green activations in games

► SURPASSED

- ◆ Under the leadership of Space Ape and Sybo, the 2020 Green Game Jam was held with 11 companies that led to activations being placed in live games.
- ◆ Activations have already reached more than 110 million players and the games that were involved in 2020 were promoted on the Google Play Store.
- ◆ For 2021, 15 major studios have already agreed to participate in the Green Game Jam including Sony and Microsoft first party studios, Ubisoft, Niantic, Supercell, Sybo and Rovio.

Encourage companies to make commitments on the environmental agenda, with a focus on the themes of nature and restoration

► UNDERWAY



- ◆ A working group of 10 companies have come together to collaborate on a new initiative around the protection and restoration of tropical forests. The aim of this group will be to aggregate commitments to achieve climate neutrality as a part of a new Green Gigaton Challenge for 2021.

Grow the Alliance to reach a total Monthly Active User base of 2 billion

► NOT MET

- ◆ Eight new gaming companies agreed to join the Alliance and made the following commitments:
 - ◆ **Unity:** will run an inventory carbon emissions associated with its cloud operations, and will create a framework to measure the environmental impact of the Made with Unity experiences. The company will also support P4P Alliance efforts, including research and the Green Game Jam.
 - ◆ **MAG Interactive:** has agreed to integrate green events and notifications in games, work on reforestation through game play and to have a zero carbon footprint.
 - ◆ **Bornholm Game Days:** has agreed to develop an online climate handbook for game companies.
 - ◆ **Tigertron:** has agreed to uphold green practices in game development and to donate a percentage of its net profits to environmental organizations.
 - ◆ **Future Games of London:** has agreed to design and launch environmental in-game content and to complete a carbon footprint assessment.
- ◆ Engagement with trade bodies is underway with discussions with The Association for UK Interactive Entertainment (UKIE) and Interactive Software Federation of Europe (ISFE) now taking place for trade bodies to support the initiative with their members.
- ◆ Combined, these new members mean the Alliance now has a combined reach of 1.2 billion.

Set the Foundations of the Alliance with a new website and member support materials

► ON TRACK

- ◆ Playing for the Planet was represented at a range of events including:
 - ◊ [Gamescom](#)
 - ◊ [GDC](#)
 - ◊ [Unity for Humanity](#)
 - ◊ [Pocket Gamer](#)
- ◆ The Alliance was covered in media including **BBC**, **Business Insider** and **GamesIndustry.Biz**, in relation to the work that has been undertaken.
- ◆ Playing for the Planet was shortlisted for the **2020 Women in Games Global Games Advocacy Awards**. Women in Games is a not-for-profit looking for equity and parity for all women and girls in the video games industry and esports.
- ◆ The Playing for the Planet website was updated with a new homepage and landing page for the Green Game Jam.
- ◆ A Welcome Kit for new members was created and shared to help onboard and support members joining the initiative.







Green Game Jam 2020 Overview

The Green Mobile Game Jam was born off the back of the video game industry's commitments at the UN Climate Summit in September 2019. Playing for the Planet Alliance members gathered in London to find ways to leverage the power of the medium for greater impact.

What were the goals of the Jam:

- Act as first responders within the new Alliance.
- Activate 1 billion gamers towards climate action.
- Prove or disprove the concept so it could be rolled out more broadly in 2021.

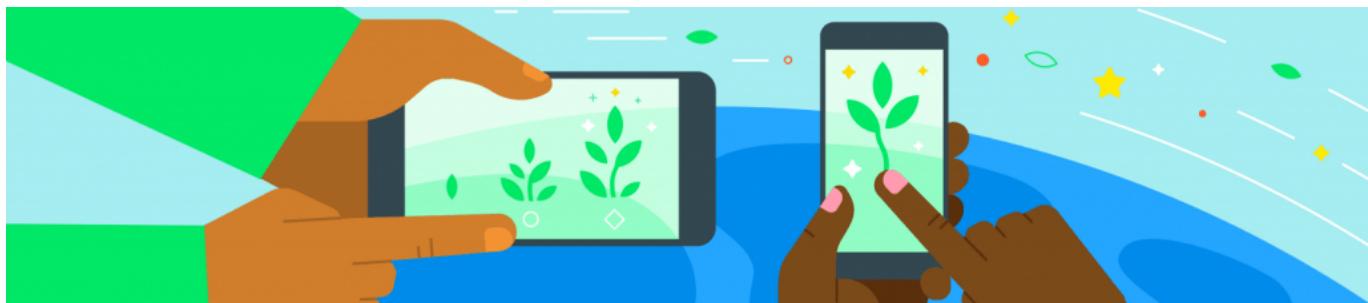
Why did we focus on mobile:

- The group of members organising the Jam run mobile studios and have an expertise in that particular platform.
- Iterating for mobile games is faster and more agile, and also allows ideas to be tested with players quickly due to shorter development cycles.

What were the objectives of the Jam:

The Alliance worked hand in hand with UNEP to create the following objectives for the Jam:

- 01 What **individual commitments** can be catalyzed to combat climate change through gameplay?
- 02 How can we activate players around the theme of **reforestation** and restoring nature through gameplay?
- 03 How can we educate people about **renewable energy** in our games?
- 04 Sandbox Mode: A wild card to allow teams the freedom to explore impactful ideas not captured in the above objectives.



Who participated in the Jam:

- Creative Mobile (Zoocraft: Animal Family)
- FGOL (Hungry Shark World)
- Fingersoft (Hill Climb Racing/2)
- GameDuell (Belote.com)
- MAG Interactive (WordBrain/2)
- Pixelberry (Choices)
- Playdemic (Golf Clash)
- Rovio (Angry Birds/2)
- Space Ape Games (Transformers: Earth Wars)
- Sybo (Subway Surfers)
- Wildworks (Animal Jam)

What was the outcome of the Jam:

The Alliance managed to bring together some of the biggest names in mobile gaming to deliver implementable pitches for in-game activations to 250 million players.

Studios settled on some common themes:

- Pooling players and resources to make a greater impact on reforestation (MAG + TreesPlease, Rovio).
- Making renewable energy more accessible. (Sybo, Space Ape, Wildworks).
- Broaching this potentially contentious subject matter with certain audiences. (Playdemic, Pixelberry, Fingersoft, GameDuell).
- Land/sea-life conservation (Creative Mobile, FGOL).

For descriptions of each studio's activation and more in-depth results, please see the Appendix.

Implementation and Early Results Snapshot

STUDIO	IMPLEMENTATION DATE OF ACTIVATION:	EARLY RESULTS OF THE ACTIVATION:	HAVE THEY COMMITTED TO GGJ 2021?
Creative Mobile	May/October 2020	Reach: 156K unique players 1,500 players raised \$14,410 for Wolf Conservation Trust within first 2 weeks of event	
FGOL	April 2021	TBA	
Fingersoft	-	-	TBA
GameDuell	August/October 2020	Reach: 800K players have seen the mini-game overlay	
MAG Interactive	October 2020	Reach: 111K players Planting 5,000 trees via players so far	
Pixelberry	October 2020	Reach: 145K players have played the first chapter so far	TBA
Playdemic	TBA	TBA	TBA
Rovio	October 2020	Reach: 4.1M players participated in the in-game event	
Space Ape	October 2020	Reach: 200K active players with new campaign Received 16K+ renewable energy surveys	
SYBO	September 2020	Reach: 98M players played the Subway Surfers Bali content / 2B Total Daily Green Nudges	
Wildworks	June/October 2020	Reach: More than 6.6M players have engaged with the new ecosystem so far	

Combined reach = **110,001,000**

03 LEARNINGS/REFLECTIONS





MOTIVATION

Within the first year of the Playing for the Planet Alliance, we have seen that the gaming industry is motivated to act for the environmental agenda.



COLLABORATION

The Alliance has brought together companies who normally compete to collaborate for a common cause. Through the Alliance, the companies are finding creative ways of working together to address some of our biggest environmental challenges.



SHARING

Being a member of the Alliance means that you get the opportunity to learn from others and share experiences and best practices with your peers to maximise your environmental impact.



COLLECTIVE ACTION

Combined, the members of the Alliance have the ability to reach over 1.2 billion people every month. If you have a reach of millions of monthly active users, you are in position to have an impact far beyond just reducing your own environmental footprint.



04 WHAT LIES IN STORE FOR 2021

2021 Deliverables

01 Insight and research

The Playing for the Planet Alliance will seek to deliver the following outcomes in 2021:

02 Integrating authentic green activations in games

03 Thematic focus

04 Communications and Community

- ◆ A new working group within the Alliance will be set up to build out research and insight for the Alliance.
- ◆ Building on the success of the 2020 Green Game Jam, the aim for 2021 is to reach 1 billion monthly active users with environmental messaging and focus on restoration as the core theme.
- ◆ Decarbonisation: Guidance on decarbonisation was issued in 2020 with a Scope 1 and 2 measurement tool. For 2021, the aim will be to add Scope 3 to the tool for Alliance members to use.
- ◆ Restoration: The Green Game Jam will coalesce around restoration, working groups on offsets, restoration investments (on land and under ocean) to be taken forward.
- ◆ Support current Alliance Members to meet their objectives and scale through others. 8 new members joined the Alliance in 2020. For 2021, the objectives are:
 - ◆ Provide adequate member support by setting up an online member area and quarterly check-ins.
 - ◆ Focus on stronger communications for the Alliance.
 - ◆ Showcase the work of the Alliance at least in 4 events and meet twice a year.
 - ◆ Set up working groups for key areas.
 - ◆ Federate through new membership categories such as trade bodies.
 - ◆ To explore a multi-year funding solution to support the initiative.
 - ◆ To extend the reach of the Alliance with up to 10 new members joining.



05 HOW DID INDIVIDUAL MEMBERS DO? 🌎

Summary of Actions

Individual Alliance Member Progress



Companies joining the Alliance must make specific and measurable commitments to act for the environment and report on progress each year. Outlined below is an overview of the commitments that were made in 2019, a status update on their completion and whether new outcomes were added.

Out of all the 21 Alliance Members, 19 have shared the progress that they have made, with only 2 still to respond. These Alliance Members will be given 6 months to update on their activities and make new commitments, or they will be asked to reconsider their role within the Alliance.

Ensuring women are well represented in leadership roles in the gaming industry is an on-going challenge. While the Alliance didn't pursue this as a core objective in 2020 - as there are a number of other gaming initiatives that are dedicated to this work - there is a strong baseline to build from given the Alliance's work in 2020. Nearly a third of the representatives in the Alliance are women, 45% of the Green Game Jam leads were women and two-story lines from Alliance members had female protagonists. For the 2021 Impact Report, the Alliance will be reporting on the gender balance in their companies, their policies on zero-tolerance for sexism and exploring how they are representing all elements of society through game play.



Member Objectives



DECARBONIZATION



GAME ACTIVATIONS



RESTORATION

Summary of Actions

19

companies
reported back

45+

actions were
undertaken

8

companies have
agreed to explore
how they will
reduce their carbon emissions
as a commitment for 2021

Together, these Alliance
members have the ability
to reach

1.2 billion people.

Creative Mobile



What did they say they would do?

Promote environmentally conscious choices across its gaming products by using climate related themes for game updates and live events, explaining the reasons behind an ecological disaster in a game set in its aftermath and encouraging play mechanics that model eco-conscious behavior.

Did they do it?

Yes.

Did they do anything else?

Creative Mobile participated in the Green Game Jam and implemented the activations.

What will their new commitments for 2021 include?

- Creative Mobile is committed to become carbon neutral by 2022.
- Creative Mobile will be expanding their environmentally focused in-game live events and is committed to participate in the Green Game Jam 2021.
- Creative Mobile will support and promote ideas and actions around climate change and biodiversity. Creative Mobile is also exploring how to connect their leading automobile racing game to the Green Gigatonne messaging.

E-Line



What did they say they would do?

Share best practices for aligning environmental themes with game projects, explore how video game franchises can raise awareness around environmental themes, explore how to leverage youth game-making platforms to offer game creation challenges around environmental themes and to explore how gaming technology can present visions of sustainable futures.

Did they do it?

Yes. E-Line has been sharing best practices in the gaming industry for aligning environmental themes with game projects by appearing on multiple gaming panel discussions. E-Line is also pursuing a potential slate of games that gives urgency to more diverse voices, environmental sustainability and exploration of conservation as a theme. The company also co-developed and launched a global youth video game competition with XPrize and the Endless Nework featuring grand prizes around the environment, exploration and equity. In addition, E-Line has continued working with leading ocean scientists and research groups on Beyond Blue's gameplay.

Did they do anything else?

Beyond Blue was launched during World's Oceans week on PC, bBox, PlayStation and Apple Arcade. Virtual events that highlighted the role of science in the design of the game and the importance of our ocean's health were organized.

What will their new commitments for 2021 include?

- E-Line is actively exploring how to better integrate ocean-themed activations into the core game loops and to inspire a generation of marine and citizen scientists as the company works on extending the franchise on to new platforms and with new updates.
- E-line is exploring the potential of a slate of commercial social impact games designed to bring diverse voices to the medium and to explore critical challenges facing the planet through compelling gameplay.



Google Stadia



What did they say they would do?

Craft a sustainable game development guide, fund a study on the science of inspiring behavioral change through video games and advocate for it to the games industry, alongside continued use of Google Cloud, which uses 100% renewable energy.

Did they do it?

Google Stadia is crafting a sustainable game development guide in collaboration with the IGDA Climate SIG and is working on a study on the science of inspiring behavioral change through video games. Stadia is powered by Google Cloud, which uses 100% renewable energy.

What will their new commitments for 2021 include?

- Google Stadia will commit to delivering insights and outcomes from the seminal study exploring the inter-relationship between online play and offline behaviour change, due late Summer 2021.

Green Man Gaming



What did they say they would do?

Start a restoration programme to raise funds to plant trees to absorb 324,000 tonnes of CO2 by 2030.

Did they do it?

Green Man Gaming engaged with restoration but the plans were delayed due to the impact of COVID-19. Their plan for a carbon neutral accreditation for the office was on track prior to lockdown, and will be reconsidered in 2021.

What will their new commitments for 2021 include?

- Green Man Gaming will continue to implement their Carbon Neutral plan to future workspaces.
- Green Man Gaming will continue to progress their restoration program, implanting plans delayed by COVID in 2020.
- Green Man Gaming will join the restoration working group to share learnings and progress as well as support initiatives.
- Green Man Gaming will support the Alliance with communications and PR assistance.

Internet of Elephants



What did they say they would do?

Contribute with their learnings from the use of world-scale AR, explore and share scientific foundation as part of the game design and to explore how gaming products can help increasingly urbanized populations maintain a connection with the natural world.

Did they do it?

Yes. Internet of Elephants (IE) has conducted multiple talks and articles and published a wildlife focused mobile game called Wildeverse.

Did they do anything else?

Internet of Elephants launched “Run Wild 2020” in partnership with Adidas to engage urban runners with animals in the wild. The campaign reached over one million runners and was presented at the UN General Assembly.

What will their new commitments for 2021 include?

- IE will connect players to organisations through in-app messages, inviting players to join local conservation activities.
- IE will donate a percentage of the profits to their conservation partners.
- IE will publish their next game, Unseen Empire, a gamified data visualization about camera trapping, in January and will conduct a formal study on the conservation benefits of Wildeverse.

Microsoft



What did they say they would do?

Reduce their carbon emissions across scopes of activity to become carbon negative by 2030, reduce emissions by 55 percent by 2030 and to continue engaging gamers in sustainability efforts in real life through game narratives produced by Microsoft Studios, such as through the Minecraft 'Build a Better World' initiative.

Did they do it?

With the goal of reducing their carbon emissions across scopes of activity to become carbon negative by 2030, for Xbox, the goal is still to accurately track their CO₂ footprint. Microsoft published new carbon reporting/reduction requirements in its Supplier Code of Conduct and expanded its internal carbon fee to include all of Scope 3 emissions.

What will their new commitments for 2021 include?

- For Xbox, the goal is still to accurately track their CO₂ footprint and then deliver on the company-wide goal of being carbon neutral by 2030.
- The programme in Microsoft Studios continues to seek sustainability projects.
- Microsoft will continue to drive activation of initiatives in Xbox and align with overall Microsoft opportunities to use gaming as an influencer on the topic of Sustainability. As they make progress, they will continue to feed their learnings back into the Alliance.

Niantic



What did they say they would do?

Engage 100,000 players to partake in sustainability efforts.

Did they do it?

Unfortunately Niantic was forced to cancel a massive annual campaign because of COVID-19. Their aim is to reorganize the campaign in 2021.

What will their new commitments for 2021 include?

- Niantic will commit to create a plan outlining how they could become net zero.
- Niantic will join the Green Game Jam 2021.
- Niantic will also engage 100,000 players in sustainability efforts and create guiding principles for the Niantic business unit.



Pixelberry



What did they say they would do?

Launch an interactive book designed to mobilize players to get more involved with environmental activism in 2020.

Did they do it?

Yes.

Did they do anything else?

Pixelberry also participated in the Green Game Jam and implemented its activations in October.

What will their new commitments for 2021 include?

- Pixelberry will explore going carbon neutral for studio activities with the hope of being carbon neutral in 2021.
- Pixelberry will commit to lead a working group on educating other companies on how to offset carbon emissions. In addition, Pixelberry will create directions that make it easy for smaller game and technology companies to evaluate their carbon footprint.

Playmob



What did they say they would do?

Activate an audience of 1 billion people to take climate action by 2030 and achieve carbon neutrality as a business by 2025.

Did they do it?

Yes. Playmob reached more than 10 million people who took action to vote on climate action.

Did they do anything else?

Playmob also committed to fully offset all corporate travel from 2020 onwards.

What will their new commitments for 2021 include?

- Playmob will roll out Mission 1.5 across the games industry in order to gather votes on climate action and share with world leaders.
- Playmob will reach the mainstream and hard to reach communities, to give context and a voice to climate action.

Rovio



What did they say they would do?

Offset the carbon emissions generated by Rovio games' daily active users each charging one top-end mobile device once per day. They will also share best practices with other gaming companies.

Did they do it?

Yes.

Did they do anything else?

Rovio participated in the Green Game Jam, and shared the activities with the players in October 2020.

What will their new commitments for 2021 include?

- Rovio will continue to offset the carbon emissions generated by their games' daily active users and commit to adding server-side carbon footprint to the total offsetting.
- Rovio will continue to share best practices with other gaming companies.
- Rovio is evaluating the possibility to join the Green Gigaton Challenge.

Reliance



RELIANCE GAMES

What did they say they would do?

Raise awareness on environment-related initiatives, calculate and make reasonable attempts to reduce their carbon footprint and integrate soft nudges in games.

Did they do it?

Reliance ran multiple awareness messages in a few games. COVID-19 caused significant challenges to studios in India. Activities to calculate and reduce the carbon footprint will take place in 2021.

What will their new commitments for 2021 include?

- Reliance will support the outreach to studios to join the Alliance within India.

Sony Interactive Entertainment



What did they say they would do?

- Committed to PlayStation®4 energy efficiency measures that will result in around 30 million tonnes of avoided carbon equivalent emissions by 2030.
- Complete a carbon footprint assessment of their different gaming services.
- Prepare advice for consumers on efficient console setup and use.
- Committed to support the industry, experts, and the UN to develop a resource pack for game developers to understand climate change issues.
- Investigate the use of VR to raise awareness of climate change.

Did they do it?

Yes. Sony Interactive Entertainment (SIE) is on track to achieve this commitment with estimated 17.5 million tonnes emissions avoided since the launch of PS4. In line with their commitment, PlayStation®5 includes the possibility to suspend gameplay with lower power consumption. SIE also completed a comprehensive carbon footprint of the life cycle of PlayStation®4 gaming.

Did they do anything else?

SIE collaborated with UNEP to produce a VR360 educational video, developed using Dreams on PlayStation®4, and additionally SIE co-created a game about cleaning beach litter with Sustainable Coastlines New Zealand. SIE also substantially reduced plastics used for PS5 packaging, and launched a new environmental website to better inform users on the environmental impacts of gaming.

What will their new commitments for 2021 include?

- SIE commits to achieving a zero environmental footprint throughout the lifecycle of their products and business activities by 2050.
- SIE will continue its commitment to energy efficiency for PS4, avoiding an estimated 30 million tonnes of CO₂ equivalent emissions by 2030 for PS4. As for PS5, SIE has targeted to introduce further new energy efficient technology, avoiding around 32,300 and 39,000 tonnes CO₂ equivalent every year for every million consoles sold.
- SIE will develop and launch a specific VR application, to raise awareness of climate change, available free of charge to their consumers.
- SIE will participate in the Green Game Jam 2021.
- SIE will further develop a carbon footprinting tool.

Space Ape



What did they say they would do?

Offset 200% of their studio's carbon footprint, as well as the footprint generated by playing their games. They also committed to reducing their carbon footprint by 10% in 2020.

Did they do it?

Yes.

Did they do anything else?

Yes. In addition, Space Ape co-ran and took part in the Green Game Jam in April 2020. Space Ape also implemented their green activations in September 2020.

What will their new commitments for 2021 include?

- For 2021, Space Ape will continue to offset 200% of their studio's carbon footprint as well as offsetting the footprint generated by playing their games.
- Space Ape will also design a green-themed activation in one of their newly launched titles in 2021.
- Space Ape commits to be carbon negative from 2020 through participation in the Green Gigaton challenge and from 2021 through additional investments in carbon removal projects.



Sports Interactive



What did they say they would do?

Change packaging for the Football Manager series to be using less plastic, more recycled material and to reduce their carbon footprint.

Did they do it?

Yes. Football Manager 2020 was launched with new packaging, featuring recycled board, and fully recyclable. Twenty-five tonnes of CO₂ equivalent was reduced, alongside 13 tonnes of plastic and a 5.2% fuel saving in the first 6 months. SEGA, the games publisher, has decided to move all of its PC packaging to this new format, meaning more savings.

What will their new commitments for 2021 include?

- Sports Interactive will continue to push the rest of the PC games industry to move away from unnecessary packaging.
- Sports Interactive will start a project to reduce the carbon footprint of their products.
- Sports Interactive will invest in a restoration project in West Africa that will lead to economic dividends for the local community.

Strangeloop



What did they say they would do?

Create experiences that better equip players to face global challenges, commit to going carbon neutral by 2022 and to use a significant percent of profit to plant trees.

Did they do it?

Yes.

What will their new commitments for 2021 include?

- Will continue to pursue carbon neutrality and work on the theme of restoration.

Supercell



What did they say they would do?

Became carbon negative by September 2019, offset 200% of their direct carbon footprint, offset 100% of carbon emissions generated by players and to pledge to open sourcing offsetting process and data for other gaming companies.

Did they do it?

Yes. Supercell achieved carbon negativity in September 2019. The company calculated their carbon footprint and offsetted their emissions including those coming from their players' devices as they run their games.

Did they do anything else?

- Supercell developed a tool together with SouthPole for mobile game companies to calculate their carbon footprint and to help other companies become carbon negative by open-sourcing their offsetting process and data.
- Supercell also supported outreach to companies who have since joined the Alliance.

What will their new commitments for 2021 include?

- Supercell will keep offsetting their carbon emissions.
- Supercell will continue to support the recruitment of more members.
- Supercell will join the Green Game Jam in 2021.

Sybo



What did they say they would do?

Organize an impact Game Jam, continue to offset more than double their office carbon footprint and continue their impact investment philosophy.

Did they do it?

Yes.

Did they do anything else?

Sybo co-ran and took part in the Green Game Jam in April 2020. Sybo implemented their green activations from August to October.

What will their new commitments for 2021 include?

- Sybo's Subway Surfers will continue to add green nudging and will explore additional activations. Through Subway Surfers, Subo will explore engaging with themes of renewable energy and restoration of nature.
- Sybo will participate in and support the organization of the Green Gigatonne Challenge and will support Playing for the Planet Alliance in different communication efforts.

Ubisoft



What did they say they would do?

Create games to inspire players to take environmental action, continue the digital transformation of their business, select partners based on rigorous environmental criteria and optimize their energy consumption.

Did they do it?

Yes. "Future Games of London," a Ubisoft Studio, participated in the Green Game Jam 2020. In addition, by March 2020, 77% of Ubisoft's electricity will come from renewable sources.

What will their new commitments for 2021 include?

- Ubisoft commits to accelerating their progress toward net zero.
- Ubisoft commits to actively participating in the joint effort to improve the calculation of the industry's carbon footprint.
- Ubisoft commits to encouraging their teams to participate in the Green Game Jam 2021.

WildWorks



What did they say they would do?

WildWorks committed to planting a tree for every new Animal Jam subscription, offset the carbon footprint of charging the devices used to play their games, launch an in-game campaign to educate their players on climate science and to work with other companies to develop guidelines to reduce the carbon footprint of the industry.

Did they do it?

WildWorks has cooperated with WeForest to plant 16k trees in Zambia. For Earth Day, WildWorks re-decorated an entire world in one of their games highlighting tree planting in game. In addition, WildWorks launched a restoration themed in-game feature.

Did they do anything else?

WildWorks participated in the Green Game Jam and implemented the activations in July and August 2020.



What will their new commitments for 2021 include?

- WildWorks will be completing an internal carbon impact study by December 2020.
- Wildwork will commit to their operations being at net-zero emissions by 2024.
- WildWorks is expanding their “green energy” themes and gameplay in Animal Jam.
- WildWorks will participate in the Green Game Jam in 2021.
- WildWorks will be organising in-game events with new educational content related to reforestation and the carbon crisis.
- WildWorks will also make art assets available to the Alliance.

Any questions?

Contact us at siiiri.maekelae@un.org 

This Annual Report design was created on behalf of the Playing of the Planet Alliance by Sony Interactive Entertainment and Off Base Productions. UNEP wishes to thank them for their efforts and ongoing support of the Playing of the Planet Alliance.

APPENDIX

APPENDIX - GREEN GAME JAM ACTIVATIONS BY STUDIO

Creative Mobile

Creative Mobile devised a special event and fundraiser for the Wolf Conservation Trust. The center teaches people about wolves, their relationship to the environment, and the human role in protecting their future.

FGOL

Future Games of London, a Ubisoft Studio highlighted melting polar ice with an update to Hungry Shark World called Extinction Arctic. The update shows the effects of climate change and actively informs players about the impact of pollution on polar marine environments. As they explore a radically changed Arctic level, players compete to eat various fish species and swim large distances. Players will be able to fight off the corrupt humans invading their under-water world. To drive engagement players earn pearls and access new content, including a new shark character. The Extinction Arctic update and its marketing campaign aims to expand players' knowledge of the polar pollution problem and empower them to make a difference.

Fingersoft

In Hill Climb Racing 2, Fingersoft explored adding a new electric/hybrid vehicle tune—for super acceleration—and a recharge station with solar panels for the events.

GameDuell

To inform active players about the main climate change issues and convince them to take action, GameDuell introduced a daily trivia quiz into Belote.com - Free Belote Game with two to three questions about environmental topics. To keep the participants motivated, incentivize participation, and keep it on a personal level, the quiz is concise rather than abstract. The quiz answers might surprise people and therefore encourage them to reflect on their own situation and on changing their behavior, and, hopefully, go on to share their learnings with others.

MAG Interactive

MAG used the TreesPlease API to enable players to make donations to tree planting and reforestation charities. They added the API to Wordbrain—then devised events to highlight environmental issues and encourage players to support tree planting.

Pixelberry

In Choices: Rising Tides, Pixelberry created a storyline around a family fishing business affected by a major fish die-off. As the player, you and your activist-minded sister try to raise awareness about climate change and end up going toe to toe with a large corporation whose practices are damaging the environment—you find yourself unintentionally cast as the face of an eco-activist movement.

Playdemic

Playdemic is looking to develop game agnostic technology that enables them to deliver incentivised content on the topic of climate change and sustainability. By segmenting the audience through an initial survey, the technology delivers content to players based on their stance on climate change.

Rovio

Rovio formulated two events for Angry Birds 2. In the community event players work together to “pop pigs” and donate trees for planting.

Space Ape

Space Ape added a campaign to Transformers: Earth Wars to encourage players to think about renewable and green energy. The campaign drew parallels between the fate of the Transformers’ home planet, Cybertron, and planet Earth. Cybertron was ravaged by the unsustainable harvesting of Energon. The campaign presents players with key messaging about renewable energy, while they work together to find the Helio-Harvester, a new solar-powered building that boosts Energon production. At the end of the campaign, in collaboration with renewable energy organization REN21, players are encouraged to fill out a survey that will help build a more accurate picture of the renewable energy options in different parts of the world. Finally, players we asked to pledge to switch from incandescent to LED bulbs, saving roughly 4kWh energy per day per player.

SYBO

SYBO chose renewable energy as their theme and looked to normalize positive green-thinking in the Subway Surfers community. They did this with additions to the game’s 3D environments that celebrate natural wonders, renewable energy, and increased urban reforestation. As part of this plan, Subway Surfers introduced new environmental assets that saw players running past wind turbines and surfing through a recycling station during a recent game event based in Bali (released at the end of summer 2020). Players were also rewarded for picking up plastic bottles during their run. SYBO supported this activation with a social media campaign that encouraged educational discussion around green topics.

Wildworks

Wildworks updated Animal Jam so players earned Eco-Credits for creating energy efficient Dens using wind turbines, solar panels, and other renewable energy items. Eco-Credits are then used to power an entirely new class of items within Animal Jam. Also, when engaging with the Ecosystem, players receive educational facts about energy conservation, sustainability of the environment, and a variety of different ways they can have an impact in the real world.



IGDA CLIMATE SIG

2021 PLANNING SESSIONS RECAP

Facilitator: Paula Escudra
Image Credit: Craig Seagreen (2019)

[Working Session Slides](#)

Session 1 Video, Transcript -
Coming Soon!

Session 2 Video, Transcript -
Coming Soon!

OCTOBER 2020

THE TRIPLE BOTTOM LINE (TL;DR)

The IGDA Climate SIG completed 2 working sessions to synthesize community feedback articulating visions for a climate positive and resilient future for the industry; blockers to progress; and potential solutions. As next steps, we are:

- **Scheduling monthly community chats** the first and second week of every month (2 time zones)
- **Gathering feedback on next steps** (please feel free to comment directly in this doc!)
- **Identifying interested contributors and leads/co-leads** for each SIG workstream in 2021+

WHAT IS THE IGDA CLIMATE SIG?

The International Game Developers Association **Climate Special Interest Group (SIG)** serves to **unlock grassroots climate action, enable climate councils on every major game company, and amplify the UN Environment's message** about youth advocacy, the power of video games, the climate crisis, and what games can do.

CORE PILLARS

- **Raise awareness.** Build industry knowledge of and community engagement around the impact of video games on the environment.
- **Promote efficiency.** Develop and advocate for power-saving software design patterns for video games and entertainment.
- **Enable great content.** Develop and advocate for creative design guidelines and best practices that support climate-positive elements in games.
- **Unlock behavioral transference.** Support player and developer understanding of how gameplay experiences can translate into real world outcomes.

CONTEXT

To define focus for 2021, the Climate SIG, in partnership with Game Devs for the Future, gathered feedback and guidance from **17 game developers, game writers, game**

financiers, games and media researchers, climate scientists, teachers, higher ed professors, marketers, and video game enthusiasts via online survey. These wonderful humans provided their vision for a climate positive and resilient future for the industry; the challenges blocking progress towards that future; and potential solutions that may enable us to get there. 2 working sessions, conducted in different time zones, were facilitated to synthesize said feedback and define a path forward.

"I believe in our ability as game designers to empower people, by reducing the sense of helplessness that they have about climate issues.

All games teach - By using games to summarize complex data, meeting players where they are about acting effectively, and presenting hopeful mechanics-based visions of the sustainable future that can be interacted with, we can help people worldwide to pursue cultural and systemic changes.

We also can and should use games to return nature to its place in our culture, because if people cannot interact with something, they cannot perceive it as important."

- Jackson, Game Designer and Programmer

WHAT IS YOUR VISION FOR A CLIMATE RESILIENT FUTURE IN GAMES?

When prompted for their hopes regarding the video game industry's future, members of the community surfaced the following key themes:

DEVELOPERS LEAD THE WAY. Climate change is not a problem too big to tackle. Developers are leaders inspiring players to save the world *in real life!* Games are used as immersive tools revealing clear paths players can take to engage in climate action together.

WHAT IS BLOCKING PROGRESS?

- Burnout. Lack of interest in the climate crisis because it is "too big of a problem".
- Developers can be unaware of the power they have to create behavioral change.
- High cultural barrier to entry for developers new to climate action. It's hard to know where to get started.
- Absence of management training and funding for climate action in game studios.
- Lack of accessible resources and methods that can be used to connect game design to regenerative projects that can build action and resilience.

PLAYERS ARE SAVING THE WORLD. Through amazing content that merges interesting mechanics with climate positive messaging, players build a deep connection to their environment and actively want to protect it.

WHAT IS BLOCKING PROGRESS?

- Burnout. Lack of interest in the climate crisis because

[There exists] blind faith in technology, fueling climate complacency. Still widespread beliefs among both devs and gamers that art & entertainment should stay away from real-world issues, or indeed act as a tool for people to actively ignore them. Long-standing culture of escalating fidelity at larger and larger ecological and social cost (and rapidly diminishing creative gain).

- Hugo, Game Designer

“AAA games are quickly becoming a large fraction of world emissions. Greenwashing is the biggest barrier. [We] need real commitments, not offsets.”

- Dargan, Climate Scientist

“My company is actually pretty committed in this area. I think the barriers for the largest orgs include a lack of pressure politically and from the public to change their processes. I think they’re more likely to adopt pro environment policies when

it is “too big of a problem”.

- Popular culture expects “fun” to only exist through escapism from reality.
- Consumers are incentivized to favor extended play at high intensity, rather than focused time well spent.

GAMEPLAY RULES, NOT GRAPHICS. The console wars are a thing of the past. The industry promotes and celebrates great experiences that are accessible, compelling, and have lower energy usage.

WHAT IS BLOCKING PROGRESS?

- Popular culture is driven to value and glorify the computational arms race.
- Dependence on and/or bias towards physical consoles and box copies.
- Limited funding and/or marketing resources towards indie content.

TRANSPARENT SUPPLY CHAINS. Hardware manufacturers actively conduct life cycle analyses (LCA) and minimize waste. There is verified, accessible documentation on how materials are sourced and used. Hardware and software are radically energy efficient.

WHAT IS BLOCKING PROGRESS?

- Belief that climate work is “financially unsustainable” and “against business objectives”.
- Sustainability is not the default mode of operations.
- Absence of clear metrics and proven impact.
- Lack of industry standard in the video game industry regarding carbon impact calculations.
- Lack of incentives for energy efficiency.
- Absence of global unified carbon price.

PLAYERS HAVE MORE OPTIONS FOR HOW THEY WANT TO MAINTAIN THEIR DEVICES. Right-to-repair laws are opened up to give consumers more autonomy in how they want to repair and/or modify their devices. Devices are delivered with easy-to-use manuals and non-proprietary parts - increasing product lifespans.

WHAT IS BLOCKING PROGRESS?

not doing so threatens their standing in the market, frankly. Smaller companies probably just aren't aware of what they can be doing to make a difference."

- Cat, Games Writer

- Popular culture is geared to incentivize and profit from the rapid consumption of new hardware.
- Consumers are not incentivized to learn and value the practice of repair and/or modification.

GAME DESIGN AND SOFTWARE PATTERNS THAT WORK.

There is an industry-wide climate standard in creative game and platform design - promoting climate science and action in ways that are compelling, actionable, and profitable.

WHAT IS BLOCKING PROGRESS?

- Popular belief that art and entertainment should be separate from real world issues.
- Business decisions often ignore opportunities for behavioral change (ex. Auto opt-in to power saving features, as opposed to manual opt-in).
- Absence of peer support in the video game industry. Climate action can currently feel isolating because there aren't communities willing to take a systematic approach to working together.

"The two biggest challenges my studio has faced so far are offsetting the carbon emissions from our air travel (prior to the pandemic) and reliably sourcing electrical and gas energy produced by renewable sources."

- CJ, Studio Head

DEVELOPERS HAVE MORE WORK FLEXIBILITY. A shift towards game studio culture that is more personally sustainable - with more flexibility around work schedules, less travel, and decreased dependence on in-person trade shows. This, we hope, has potential to free up time and resources for more focused work at a lower carbon cost.

WHAT IS BLOCKING PROGRESS?

- Work and conference cultures are built around the idea of physical spaces, rather than digital spaces.
- Fear of retaliation or absence of psychological safety may prevent employees from advocating for change.

VIDEO GAME INDUSTRY LEADS THE REST OF TECH. As our industry heads toward a more climate active and resilient future, there is a measurable ripple effect across the entire tech sector.

INTERESTED IN LEARNING MORE AND/OR GETTING INVOLVED?

We're starting up regular community calls the second week of each month!

Send a note to climate-sig@igda.org and/or join our community Discord channel: <https://discord.gg/RJ6pTx>, where most of our workstream conversations are happening. We'd love to have your voice help our industry move forward!

HOW DO WE GET STARTED IN 2021?

To pave a path forward that would enable us as a community to overcome the challenges identified, we conducted an initial brainstorm of potential solutions and grouped them into key themes. Both working sessions were prompted to think about quick wins, as well as long-term strategic initiatives. These helped us identify **potential work streams** based on intended outcome(s).

The discussions regarding potential solutions were also conducted with the idea that developers, publishers, and players can exist anywhere along the continuum between lack of awareness to full engagement.

Below are the resulting 2021 workstreams, ready for feedback (from you!).

#1. DEVELOPER RESOURCES. To enable developer awareness, we first need to start documenting the current landscape. Examples of potential resources include:

- A 101 guide, contextualizing the impacts of climate change on the video game industry
- A single source of truth database listing the work that's already happening: published games and game design patterns, seed funding; and vetted scientists and organizations who can inform/collaborate
- A database of raw industry data on energy usage

CLIMATE COUNCIL TRAINING AND MENTORSHIP. To enable developer agency, we can start with building advocacy skills - mentorship, c-suite support, community organization. A potential next step is to concretely define the existing paths to advocacy, with the intention to build clear cases with business, public policy, and social justice lenses that are easy to use and adopt.

INDUSTRY BENCHMARKING. To build a path towards concrete industry standards and metrics, we can start by aggregating best practices. Examples of potential outputs include the convening of sustainability leaders and practitioners to share best practices, which could then be shared with game developers.

COMMUNITY SUPPORT. As the above workstreams kick off, we need to cultivate an encouraging space that can enable ongoing peer support, additional brainstorming, and excitement. Strong validation for the Climate SIG and communities like Game Devs for the Future!

