

Exploring Safe and Sustainable Alternatives to Fireworks: A Comprehensive Report

Introduction:

Fireworks have been an integral part of celebrations and cultural events for centuries. However, the negative impacts of fireworks on society and the environment cannot be ignored. The loud and flashy displays can cause physical and psychological harm to humans and animals alike. The pollution caused by burnt chemicals and smoke also poses a threat to the environment. Additionally, the large-scale use of fireworks can be a financial burden for cities and individuals. In addition to physical harm, fireworks can also have significant psychological impacts, especially on individuals who have experienced trauma or have a sensitivity to loud noises. The loud and sudden explosions can trigger anxiety, fear, and panic, which can lead to symptoms of Post-Traumatic Stress Disorder (PTSD). Veterans, victims of domestic violence, and individuals with Autism Spectrum Disorder are especially vulnerable to these effects. The use of fireworks in residential areas can be particularly distressing for individuals who are trying to cope with or recover from trauma.

With this being said, the impact of fireworks on mental health should not be overlooked, and alternatives to traditional fireworks should be considered to ensure that everyone can enjoy celebrations without suffering from psychological distress. As a result, alternatives such as light shows, drone displays, and sound and laser shows have been suggested as safer and eco-friendly alternatives to traditional fireworks. It is important for individuals and communities to recognize the impacts of fireworks and consider alternatives that can create a memorable and enjoyable celebration without causing harm.

Impacts of fireworks:

- 1) **Noise pollution:** Fireworks create loud noises that can be disturbing for animals, children, and people with anxiety or PTSD.
- 2) **Air pollution:** Fireworks release chemicals that can harm the environment and cause air pollution. The smoke and debris from fireworks can also cause respiratory issues for people with breathing difficulties.
- 3) **Waste:** Fireworks generate a lot of trash in the form of debris, ash, and packaging materials.
- 4) **Safety:** Fireworks can cause accidents and injuries, especially when misused. They can also cause fires, which can be dangerous for people and animals.
- 5) **Disturbance of wildlife:** Animals are sensitive to loud noises and can be startled and frightened by fireworks. This can cause them to flee their habitats or become injured.
- 6) **Economic impact:** Large-scale fireworks displays can be expensive to produce and

can be a burden on local governments or private organizers. Additionally, some people may choose to avoid areas with high levels of fireworks activity, which can impact local businesses and tourism.

- 7) **Social impacts:** Fireworks, especially loud and sudden explosions, can have a traumatic effect on individuals who have experienced conflict or are from war-torn countries. The loud explosions can trigger anxiety, panic attacks, and flashbacks of traumatic events. For refugees or individuals who have experienced displacement due to war, the noise of fireworks can be reminiscent of the sounds of war or gunfire, leading to further distress. It's important to be mindful of the potential impact of large-scale fireworks on individuals who have experienced conflict or have PTSD. Efforts can be made to provide information and warnings about the timing and location of fireworks displays, as well as to offer resources and support for individuals who may experience distress. Additionally, alternative celebratory activities that are less loud or sudden, such as light shows or music events, could be considered as alternatives to fireworks displays in areas with large refugee populations or individuals with PTSD.

Alternatives:

It is imperative to find alternative options for fireworks due to their harmful impacts on the environment, human health, and animals. Discovering safer, sustainable and less disruptive alternatives can reduce accidents, and noise pollution, and be more inclusive for people with sensory sensitivity or PTSD, while also being more cost-effective. There are many alternatives to large-scale fireworks that can be just as visually stunning and enjoyable without the negative impacts. Here are a few examples:

1. **Light Shows:** An alternative to fireworks is a laser and light show, which can provide a visually stunning display without creating loud noises or pollution.
2. **Projection Mapping:** This technology allows projected images to be mapped and displayed on buildings. When used creatively, it can create an impressive visual display and is more environmentally friendly.
3. **Glow-in-the-Dark Parties:** A party with glow-in-the-dark items like neon or fluorescent lights creates a colourful and vibrant atmosphere without creating loud noises or pollution.
4. **Lantern Releases:** Another alternative to fireworks is a lantern release ceremony, which involves releasing small paper lanterns into the sky. This is a great option for quieter celebrations and is less harmful to the environment.
5. **Drone Shows:** Shows featuring a synchronized display of multiple drones of different colours and shapes and lights can create a visually stunning display in the sky.

These alternatives can serve as environmentally friendly and safer options and should be

considered, especially in locations with sensitive ecosystems or areas with vulnerable populations like refugees, children, or people with PTSD.

Canadian Precedent:

November 6, 2020: North Star Drone Shows was hired by Desjardins Insurance to feature in an advertising campaign! We flew several shows in Montreal and Shawinigan, Quebec, back in September 2020... keeping it a secret was hard, but now that the commercials have been released, we can definitely say the wait was well worth it!

December 18, 2020: North Star was hired by Derooted Agency and Billups to fly a show in front of the CN Tower, right in downtown Toronto, ON. This was for the launch of Forza Nocta, a new collaboration between recording artist Drake, and Nike.

September 6, 2021: In Muskoka Woods, ON during the Labour Day weekend, crowds got to witness Canada's first-ever fireworks and drone show combination!

August 11, 2021: In Mississauga, ON North Star Fireworks and Drone Shows conducted a fantastic drone show for one of Canada's premier condo developers Camrost Felcorp to present their newest residential condominium at Exchange District 3. Create positive buzz for your organization by utilizing our custom drone shows for your event or gathering!

Target Market/demographic:

1. **Festive enthusiasts:** People who love to celebrate special events, such as New Year's Eve, July 4th, Diwali, or New Year's Eve, with elaborate fireworks displays.
2. **Pyrotechnics:** People who are passionate about the art of creating and setting off fascinating fireworks displays. These people may include professional fireworks designers and technicians who design and operate large-scale displays for events.
3. **Adrenaline Junkies:** People who are thrill-seekers and enjoy the explosive energy and excitement of fireworks.
4. **Hobbyists:** People who take pride in collecting rare or unique fireworks and may experiment with creating their displays at home.
5. **Curious Spectators:** People who enjoy watching fireworks displays without necessarily being passionate about the art itself.
6. **Cultural Enthusiasts:** People who incorporate fireworks into their cultural or religious celebrations and ceremonies. Examples include Chinese New Year, Indian Diwali, and Japanese Omatsuri festivals.

Unanswered questions:

-What is Burlington's budget regarding firework celebrations and attractions?

-How much do alternative showings cost and if they expand over the costs of fireworks, how much is the city willing to allocate towards these celebrations?