



powering tomorrow



As the world seeks to head off the worst impacts of climate change, there is an urgent need for carbon-free energy that can meet the burgeoning demand for affordable electricity.

At Moltex, we can help meet this need with our Stable Salt Reactor (SSR) technology.

We invite you to be part of our story.

Rory O'Sullivan

Chief Executive Officer, North America

roryosullivan@moltexenergy.com

www.moltexenergy.com

contents

powering the future	4
about moltex	6
versatile	8
safe	10
cost-effective	12
clean	14
a fuel source	16
a brighter future	18

powering the future

for the good of people and the planet



The value of clean energy is not measured in joules or megawatts; it is measured in the difference it makes in people's lives.

For Moltex and the countries, provinces and utilities it partners with, electricity generation is about people.

It is about well-paid, highly-skilled jobs. It is about empowering communities and growing economies. And it is about providing access to clean air and ample safe, reliable and affordable electricity.

Moltex is working to make the world a better place for the people who inhabit it.



learn more at
www.moltexenergy.com

about moltex

a new technology company for a new generation of clean power





**A leader in the field of
advanced nuclear
technologies**

Moltex has emerged as a nuclear technology leader.

With its innovative Stable Salt Reactor (SSR) design, Moltex provides a carbon-free electricity generation technology that combines low upfront costs with reliable, large-scale power (300-500 MW per reactor unit). It couples this with inherently safe design features that make it suitable for siting in any community.

Moltex's design has caught the attention of governments, utilities and individuals worldwide. For example:

- Moltex is developing an advanced reactor with a Canadian utility partner – NB Power – which could be built at the existing Point Lepreau Generating Station site;
- the United Kingdom government is collaborating with Canada with a particular focus on nuclear waste minimization;
- Moltex has been supported with funding from the United States Department of Energy's Advanced Research Projects Agency (ARPA); and
- Moltex investors include the international engineering design company IDOM, plus many individuals who recognize the urgent need for low-cost, flexible, carbon-free electricity.

versatile
without any carbon emissions



Future electricity demand requires a multi-faceted supply solution that can power cities, agriculture and industry.

Fossil fuels were once a preferred choice because they flexed to follow demand. Unfortunately, they came with a cost: carbon emissions that affect the health of people and the planet.

In many countries, conventional nuclear plants provide clean baseload power but do not scale up and down to follow the electricity demand flow. Renewables like wind and solar provide carbon-free electricity but are intermittent and unpredictable producers due to the nature of their fuels – the sun and the wind.

Every grid needs a flexible and reliable source of electricity. The Moltex Stable Salt Reactor (SSR) can deliver on these needs. With Moltex's GridReserve® technology, a collection of tanks that store thermal energy, a 300 MW plant can drive 900 MW of steam turbines for eight hours a day, operating when power is needed most.

This provides the ideal back-up for a diverse electricity supply that includes less-predictable intermittent sources like renewables, without the harmful emissions of fossil sources.



**Capable of providing
back-up power for
renewable energy
sources**

safe

by avoiding hazards, not controlling them





Passive safety systems
for safer, simpler
and less expensive
power

Technological advances have accelerated the pace of change and opened up new possibilities. The Moltex Stable Salt Reactor (SSR) design uses passive safety systems and inherently safe features that are new to the nuclear industry.

The conventional concept of nuclear power is a big industrial complex with thousands of parts and hundreds of people. Nuclear plants have operated safely for decades based on preventative systems and robust emergency preparedness. Today, though, new approaches to design and material selection are changing the paradigm of reactor safety, making it simpler and less costly.

The Moltex design ensures control of reactivity, heat removal and containment through passive safety systems and materials. For example:

- the most dangerous fission products that create a heat reaction are locked in the fuel as salts that cannot emit into the air;
- because the reaction that creates heat takes place at regular atmospheric pressure, no buildup is ever created; and
- the fission reaction slows down as the temperature rises, so the system is self-controlling.

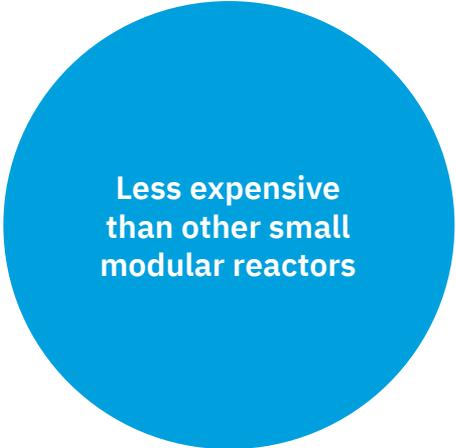
cost-effective
making powerful energy affordable



By reducing the size of the Moltex Stable Salt Reactor (SSR) to a 20th of the size of a conventional nuclear reactor and simplifying systems and operational requirements, the SSR delivers a low-cost solution that packs a lot of power.

History has shown that unless nuclear energy can be produced at a lower cost than fossil fuels, the world will continue burning fossil fuels. Many countries cannot afford to pay a premium for clean energy, so it is the job of industry to find ways of reducing clean energy costs.

With its small and simple design, the SSR indeed costs less than coal or gas plants of the same power output. For the same reason, it is also less expensive than other small modular reactors under development.



**Less expensive
than other small
modular reactors**

clean
on its own as part of a clean energy mix



The Moltex Stable Salt Reactor (SSR) is the only technology needed to power a carbon-free economy. But it plays well with others, too.

With its on-grid power strength and load-following capability, the SSR is an ideal complement to conventional baseload nuclear and renewables such as wind and solar. On its own or as part of an energy mix, it can produce the power needed for a clean electricity system.

Municipalities can leverage a powerful grid to electrify other infrastructure like transit and heating systems that would otherwise rely on fossil fuels, further reducing the effects that contribute to climate change and smog.

Additional environmental advantages of the SSR are that it requires half the cooling water of conventional designs of the same output and has a minimal effluent impact on the surrounding land and water.



**Produces
zero carbon emissions
during generation**

a fuel source
using existing nuclear waste





**Reduces current
waste stockpiles and
future burdens**

For countries that have already successfully employed nuclear, the Moltex Stable Salt Reactor (SSR) offers a key additional benefit to meet environmental stewardship goals, reduce costs and strengthen public confidence of nuclear technology: waste minimization.

There are three variants of the SSR. In locations with existing inventory of used nuclear fuel, one of these variants, the Stable Salt Reactor – Wasteburner (SSR-W) can consume the radioactive waste from current reactors, significantly reducing the total waste volume.

The SSR-W operates using the used fuel from existing and retired operations, reducing current stockpiles and avoiding future inventory. Additional fuel recycling occurs throughout the reactor's lifetime for further minimization.

The SSR-W therefore offers strong environmental stewardship, lower waste management costs and more public acceptance of nuclear technology.

The SSR-W is actively in development for possible siting at the Point Lepreau nuclear site in New Brunswick, Canada.

A monarch butterfly with orange and black wings is perched on a yellow flower. The background is a soft, out-of-focus green. The text is overlaid on the left side of the image.

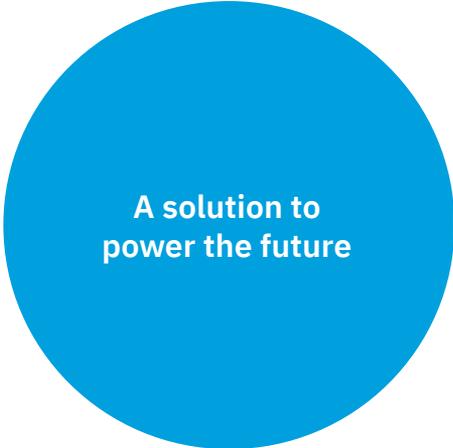
a brighter future
powered by safe, cost-effective electricity

When envisioning a better world for the next generation, it is a place where the planet is thriving and the power needed for well-being and prosperity is safe, reliable and affordable.

The world's energy demand is expected to grow by one third by 2040. There is a race to keep up with this demand as billions of people strive to improve their quality of life through increased access to essential services, nearly all of which require electricity.

Simultaneously, the world grapples with the challenge of climate change and how to improve air quality. There is no denying the increasingly erratic weather and other carbon-related impacts.

The world is going to need abundant quantities of safe, carbon-free energy to power the things that matter most.



**A solution to
power the future**



Moltex Energy North America | 75 Prince William Street | Unit 302 | Saint John | New Brunswick | Canada | E2L 2B2

+1 506 214 8551 | info@moltexenergy.com | www.moltexenergy.com