



# Solar Energy for Native Energy Sovereignty

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**Abstract.** Native Nations are sovereign Nations. Employing renewable energy on Indian reservations allows RCR to not only promote that, but live it. We are building new visions for tomorrow and for the 7th generation through solar application and education, solar advocacy, and solar warrior attitudes. Hear the story of how a Native-led renewable energy organization is supporting Mother Nature and bringing us back to harmony.

Native Nations have been in right relationship with Earth Mother since time immemorial. Through reciprocity and respect, they cultivate this wisdom and pass it to the next generation. Not taking more than they need, giving back what they take, avoiding extractive methods are part of Indigenous consciousness. The opposites of these, greed, selfishness, and extraction stem from white supremacy culture. White supremacy culture lives life for today, not tomorrow. Native Nations live life in deep contemplation of how each action will affect not just the next generation, but seven generations down the line. White supremacy takes from the land, often without building a relationship with her or return of those gains. Native Nations share, ask permission of the land before planting or harvesting, leave something behind for next year, and keep sacred seeds. White supremacy culture uses the power of the sun to generate electricity without giving back to Mother Earth while Native Nations honor the sun for its many gifts of renewable energy.

**Keywords:** Native Energy · Native American · Native Nations · Energy sovereignty · Indigenous · Indian Country · Pine Ridge Reservation · Solar energy · Solar training · Native training · Native leadership

## 1 Solar Energy Potential

The various applications of solar power are not being considered because white supremacy culture remains to be the face of what solar power looks like. It teaches solar electric. In Indian Country, there is a solar warrior movement, predicated on shifting intergenerational trauma, poverty, and addiction into stories that heal with the help of the sun. Solar water pumping, solar furnaces, solar blankets –these are the many faces of solar that the general public doesn't often see or hear about. With so many basic needs met off the reservation, it's no surprise that these innovations go unnoticed. In Indian Country, these types of solar applications are becoming the foundations upon which a sovereign nation is standing tall –under the protective cover of sunbeams, they rise and they shine.

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Despite having access to plenty of sunshine, 222 days on average, there are plenty of barriers that prevent forward momentum in solar energy independence on the Pine Ridge Indian Reservation. Average life expectancy on Pine Ridge is 66, the lowest in the United States.

According to the Pine Ridge hospital, life expectancy for men is 47 and for women, 55. Per capita income is \$7,773; average for all reservations is \$10,543 and the United States average is \$27,599. The officially reported poverty rate for American Indians living on Pine Ridge is 53.75%. The United States average is 15.6%. <https://www.olceri.org/vision>.

While solar training is taking hold in Indian Country, the factors that make it slow coming are great. Basic needs often go unmet, safety and security included. According to Maslow's hierarchy of needs an individual will not be able to cannot become a good person that serves their family and communities with their own unique skills, gifts and talents, without their basic needs being met first. There are many organizations on Pine Ridge that support basic needs, but the needs still remain, year after year.

It has been poverty of tangible things, not of spirit, that have placed Native Americans behind non-Natives. 16.7% of American Indian families earn less than \$15,000 each year, compared with only 5.9% of non-Native, in this case whites. Only about one in ten (11.1%) of white Americans live below the poverty threshold; in contrast, 26.4% of American Indians – including 33.3% of those under 18 years of age – live in poverty (Ibid) [1]. In fact, no major racial or ethnic group experiences a higher poverty rate than American Indians. The impoverished and (typically) rural living conditions of most American Indians combine to foster other associated problems as well. American Indians experience higher unemployment, lower phone coverage, lower broadband internet access, and lower home computer ownership than white Americans [2].

Statistics highlight the truth, that is their function. The disparaging living circumstances that white supremacy has left for Native Nations serve to tell the story that is often left untold or under-told. However, these same statistics can be used for good, as motivators. And that's exactly what Chief Henry Red Cloud is doing at Red Cloud Renewable.

## 2 Solar Energy Bridges the Divide

Chief Henry Red Cloud has been the touchstone for solar in Indian Country for the past decade while simultaneously advocating for Natives and non-Natives working together. The sordid past between Natives and non-Natives can no longer be ignored, there are too many stories heard for us to pretend under the guise of white supremacy that Native Americans have somehow disappeared or gone extinct. We know forced assimilation, direct and indirect genocide, and systemic racism are all too real. But today, at Red Cloud Renewable, with the sanctioned guidance of the sun, Natives and non-Natives are actively and daily writing history –retelling a story that favors people over profits, truth over lies, healing over harm.

At Red Cloud Renewable on the Pine Ridge Indian Reservation, the gift of the sun traces far back to the roots of the Lakota Peoples. *Anpetu Wi*, first light, is the source of all life, it is the sole purpose for the Sundance, the sacred ceremony with Father Sun.

Lakota Tribes are the people of the sun. Chief Henry Red Cloud awakens the spirit of the solar warrior in all of us, Native and non-Native alike.

Supplying Native Nations with an epicenter for solar training, practice, and experiences, Red Cloud Renewable doesn't just build dreams, it fosters and imbues them with the energies of the sun. In an otherwise dark and hopeless world, RCR is a beacon transmitting more than light alone, it offers change, possibility, and community!

### 3 Solar Energy Education

The four pillars of RCR, like the four directions, are what give the organization its foundation and shape; 1) housing as human right through alternative building materials (like foam crete, compressed earth blocks, and straw bale), 2) food systems and sovereignty through education and garden experiences, 3) land care through tree planting, and 4) solar energy advocacy through awareness building and training. The solar energy sector of RCR is the core of the organization, lighting the path forward towards a new world, ripe with sustainability and heavy in regenerative practices. RCR knows the future is solar power through education. All good things start with education.

Solar education is RCR's foundation and, like many things on the reservation, a challenge. Educational attainment is correspondingly low among the South Dakota's Native American population, only 11.6% of Native Americans hold a bachelor's degree or higher, compared with 26.4% of the state's white population (US Census Bureau, 2010b). Drop-out rate is over 70%; 28.7% of the native population of Pine Ridge Reservation reports having attained a high school diploma, GED or alternative; 10.7% of the native population report having a bachelor's degree or higher [4]. Native American students are often excluded from postsecondary data and research due to their small sample size; and are more likely to need and receive grant aid assistance than other students, but less likely to take out student loans [3]. These statistics only make RCR more determined to follow the path of the sun and re-write history. This is why RCR offers all solar courses to all Native students free of charge, funded by donor scholarships and taught by Native trainers.

Energy transformation depends on drivers and innovation as motivators. Under Native leadership, RCR provides onsite solar training, taught by Natives for Natives to ensure cultural practices, like prayers and language, are integral to their solar warrior pathway, supporting their coursework. Motivated by training, yes. But also by innovation. Students get hands-on experiences with solar builds and installs, in real time, with Chief Henry Red Cloud and his Native trainers. The key to adoption of any kind is giving folks the chance to put their hands on something, to see and feel it, to experience it. In order to move us into a renewable energy reality, we must increase solar energy adoption. RCR provides onsite in real time experiences to give Native Americans the opportunity to vision a future for themselves in solar, to see its potential isn't something of the future, but something of today.

The RCR 10-acre campus has truly stepped into the solar field supplying folks, far and wide, displays and examples to facilitate solar knowledge, experience, and adoption. Projects on-site include the following:

An integrated Solar System Lab currently being developed will be very similar to the 20 kW system RCR built for the Kili Radio Station on the Pine Ridge Reservation.

A 22.5 kW solar array provides electricity for the Red Cloud Renewable Energy Center, while serving as a significant training lab for Native students.

“Mock Roof” solar training lab provides a realistic rooftop experience with the maximum safety for teachers and students.

A stand alone “Pole Mount” solar array is still under construction and will give students a battery based system to learn on and work from.

Two styles of mobile solar power station labs —a pull behind trailer that can power camp radios and/or construction sites and a highly mobile “Handcart” version used to power computers, phones, and drones.

Water pumping station for Farm and Gardens Lab which provides water for our 1,000 gallon water tank and our farm dipline system.

RCR has installed over 1,000 solar furnaces on Pine Ridge and trained over 1,000 students from over 70 different Tribes across the United States. When driving around Pine Ridge, solar panels dot some of the landscapes, reminders that the dream at RCR is growing. Slowly but surely, folks are being awakened from their slumber. There is a shift from dependence on fossil fuels to energy sovereignty and it’s happening before our very eyes. This is the prayer being walked forward, prophesied by Chief Red Cloud and being fulfilled by his 5th generation descendant, Henry Red Cloud. Chief Red Cloud foresaw that in the 7th generation there would be harmony between Natives and non-Natives, humans the Earth mother. At Red Cloud Renewable, that prayer is held close and cultivated daily, it is not just part of the work we do, it is reason we do the work that we do.

## References

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