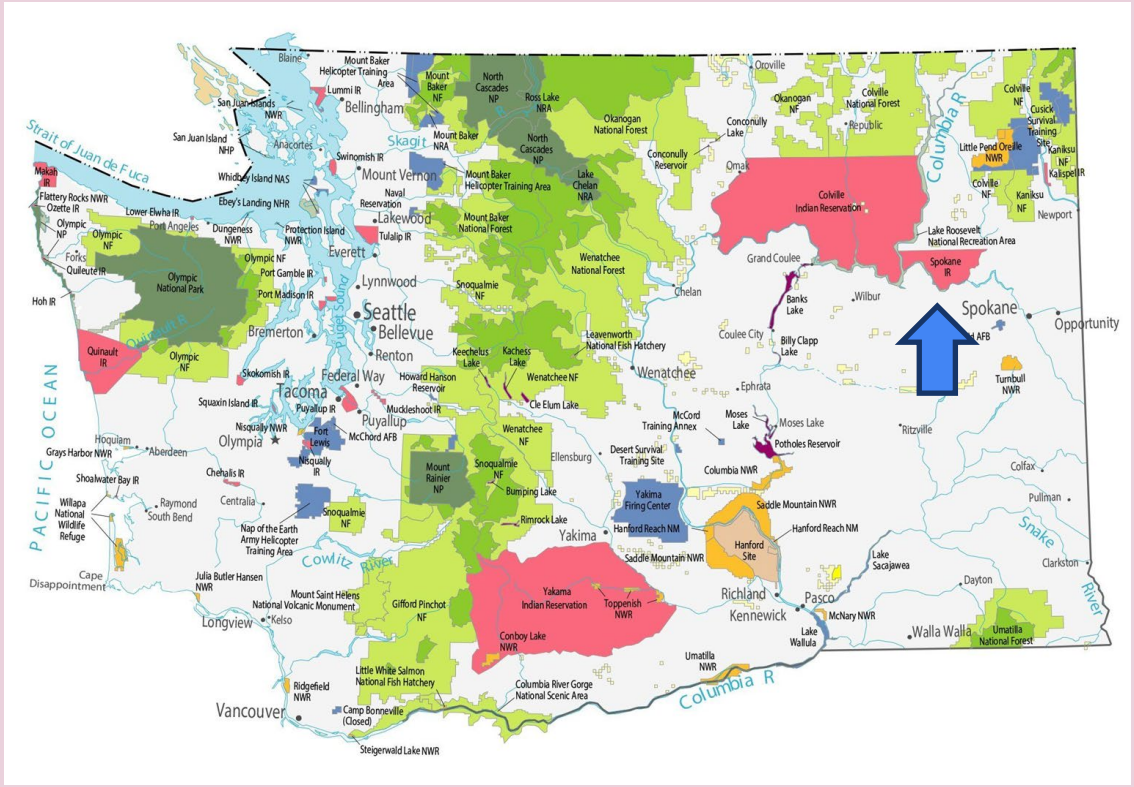
# Spokane Indian Housing Authority
# Solar Projects

# Tribes in the State of Washington



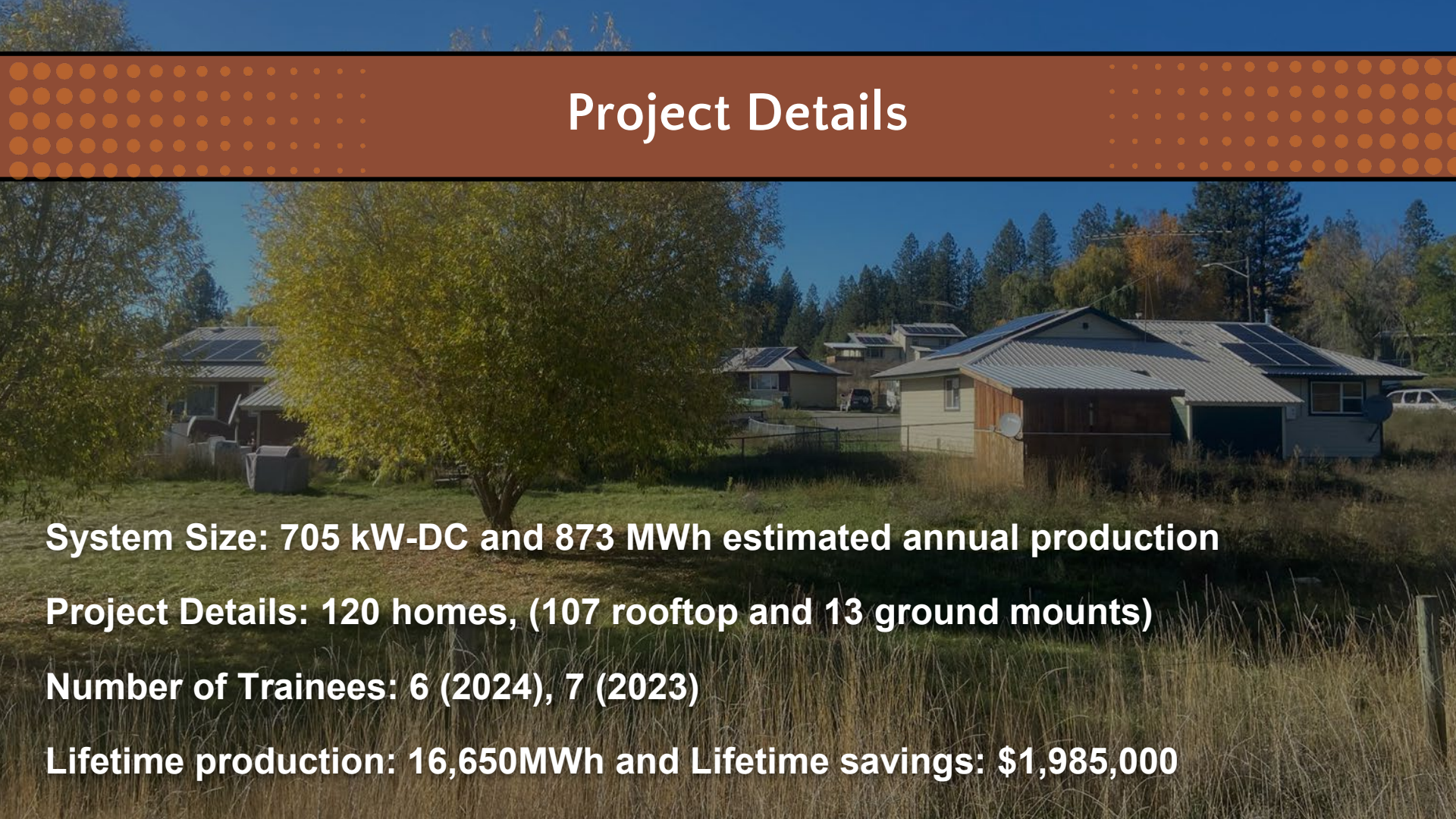
# Project Objectives COSSI-2.0

1) Design, build and operate approximately 699 kW of solar PV  serving 120 Tribal Residences.

1) Provide 6 local Tribal members with construction and operation and maintenance (O&M) training.

1) Create 2 permanent positions for administration and O&M.

# Project Details



**System Size: 705 kW-DC and 873 MWh estimated annual production**

**Project Details: 120 homes, (107 rooftop and 13 ground mounts)**

**Number of Trainees: 6 (2024), 7 (2023)**

**Lifetime production: 16,650MWh and Lifetime savings: $1,985,000**

# History COSSI-2.0

Prior to European colonization, the land we now call the United States was indigenized, it was influenced and actively managed by its original inhabitants Native Americans who were both the first farmers and the first land stewards. The indigenized systems that was in place developed over thousands of years, were discarded.


**1) Reduce Tribal and SIHA managed homes energy costs.**

**2) Work to achieve energy independence using clean energy technologies.**

**3) Provide beneficial training and jobs for Tribal members.**

**4) Increase the resiliency of the electrical grid on the Spokane Reservation.**

**5) Become a leader in reliable clean energy deployment and encourage other Tribal communities to do the same.**

# COSSI-2.0 Funding

- **Total DOE funds: $2,529,474: to be used for the project and for prepayment of PPA with the Tax Credit Investor ($2,521,242) also for travel ($8,232)**
- **Cost Share Reduction: $843,158**
- **SIHA Chose to use the FY22 ARP IHBG Abbreviated Indian Housing Plan instead of a Tax Credit Investor.**

# Project Specifics & Locations

The Project Consists of 120 homes in 4 communities on the Spokane Reservation.

- The Martha Boardman area also located on the East side of the Spokane Reservation, 64 Homes

# Project Specifics, & Locations


- The **New House Lane site** located on the East side of the Spokane Reservation, 25 Homes

# Project Specifics, & Locations


- The McCoy Lake site located on the West side of the Spokane Reservation, 24 Homes, 23-Roof Mounts and 1-Ground Mount Installed.

# Solar O&M Manager Plan

○The Sample O&M Plan was modeled after NREL sample plan. SIHA plans to use the SolarEdge and Enphase Dashboard Apps to monitor the systems needing immediate attention.

**Solar Operation & Maintenance Plan Example**

| Scheduled Task | As Required | Monthly | Semiannual |
|---|---|---|---|
| Check Saftey concerns on systems prior to maintenance | √ | √ | √ |
| View Solar App, to check for inconsistiancies | √ | √ | √ |
| Inspect modules for damage | √ | | √ |
| Address array shading issues | √ | | √ |
| Remove debris around mounting & array | √ | | √ |
| Inspect racking & mounting system | √ | √ | |
| Check inverter for correct settings | √ | | √ |
| Check controls for correct settings | √ | | √ |
| Have Electrician inspect systems | √ | | √ |
| | | | |
| | | | |

# Continue the Maintenance in a Rural setting.

- We are currently using Solar Edge and Enphase components: Inverters and microinverters
- Where there is an internet connection, we can use Wi-Fi to monitor the systems.
- SIHA's contract states Grid Alternatives will provide the training for the installation and the maintenance of the systems.
- SIHA has the funding for maintenance for the first 5-years, and we are developing a plan to fund product and personnel for future maintenance when are warranties expire.

# Enphase Enlighten Monitoring

| Status | System ID | Name |
|---|---|---|
| All | System ID | Spokane |
| Normal | 4549830 | Spokane MB-14 |
| Normal | 4628507 | Spokane NHL-32 |
| Normal | 4673996 | Spokane MB-42 |
| Normal | 4686203 | Spokane MB-34 |
| Normal | 4547233 | Spokane MB-13 |
| Normal | 4549255 | Spokane MB-16 |
| Normal | 4549510 | Spokane MB-10 |
| Normal | 4549513 | Spokane MB-08 |
| Normal | 4549625 | Spokane MB-15 |
| Normal | 4549639 | Spokane MB-11L |
| Normal | 4549678 | Spokane MB-27 |
| Normal | 4549690 | Spokane MB-11R |
| Normal | 4549730 | Spokane MB-12 |
| Normal | 4549732 | Spokane MB-28 |
| Normal | | |
| Normal | | |
| Normal | 4566444 | Spokane MB-37 |
| Normal | 4566569 | Spokane MB-38 |
| Normal | 4570163 | Spokane MB-09 |
| Normal | 4570498 | Spokane MB-18 |
| Normal | 4573525 | Spokane MB-20 |
| Normal | 4584602 | Spokane MB-19 |
| Normal | 4591973 | Spokane NHL-35 |
| Normal | 4596699 | Spokane MB-36 |
| Normal | 4616555 | Spokane NHL-26 |
| Normal | 4616579 | Spokane NHL-27 |
| Normal | 4616648 | Spokane NHL-31 |
| Normal | 4616698 | Spokane NHL-36 |
| Normal | 4621013 | Spokane NHL-38 |
| Normal | 4621055 | Spokane NHL-39 |
| Normal | 4621129 | Spokane NHL-41 |
| Normal | 4621208 | Spokane NHL-42 |
| Normal | 4621237 | Spokane NHL-44 |
| Normal | 4624778 | Spokane NHL-21 |
| Normal | 4624839 | Spokane NHL-23 |
| Normal | 4624960 | Spokane NHL-25 |
| Normal | 4628358 | Spokane NHL-29 |
| Normal | 4628433 | Spokane NHL-30 |
| Normal | 4628618 | Spokane NHL-37 |
| Normal | 4628697 | Spokane NHL-48 |
| Normal | 4636349 | Spokane Sockeye-22 |
| Normal | 4649540 | Spokane MB-B #33 |
| Normal | 4650541 | Spokane Sockeye-24 |
| Normal | 4654328 | Spokane Sockeye-26 |
| Normal | 4654400 | Spokane Sockeye-27 |

# Enphase Enlighten Monitoring

| | | |
|---|---|---|
| Normal | 4674080 | Spokane MB-43 |
| Normal | 4674299 | Spokane MB-44 |
| Normal | 4686243 | Spokane MB-32 |
| Normal | 4730940 | Spokane MB-45 |
| Normal | 4730986 | Spokane MB-47 |
| Normal | 4731022 | Spokane MB-53 |
| Normal | 4731498 | Spokane MB-55 |
| Normal | 4731504 | Spokane MB-56 |
| Normal | 4731511 | Spokane MB-57 |
| Normal | 4731553 | Spokane MB-54 |
| Normal | 4732096 | Spokane MB-35 |
| Normal | 4734544 | Spokane MB-30 |
| Normal | 4734652 | Spokane MB-41R |
| Normal | 4735012 | Spokane MB-41L |
| Normal | 4815443 | Spokane MB 46 |
| Normal | 4815485 | Spokane MB-48L |

| | | |
|---|---|---|
| Normal | | |
| Normal | | |
| Normal | 4857721 | Spokane MB-50 |
| Normal | 4887195 | Spokane MB-51 |
| Normal | 5252023 | Spokane KM-17 |
| Normal | 5252289 | Spokane KM-16 |
| Normal | 5252343 | Spokane KM-12 |
| Normal | 5255251 | Spokane KM-3 |
| Normal | 5255314 | Spokane KM-2 |
| Normal | 5255325 | Spokane KM-6 |
| Normal | 5255355 | Spokane KM-7 |
| Normal | 5309307 | Spokane SA-39L |
| Gateway Not Reporting | 4588421 | Spokane MB-17 |
| Gateway Not Reporting | 4616622 | Spokane NHL-28 |

| | | |
|---|---|---|
| Reporting | | |
| Microinverters Not Reporting | 4616467 | Spokane NHL-22 |
| Microinverters Not Reporting | 5310929 | Spokane SA-28-1A |
| Microinverters Not Reporting | 5310939 | Spokane SA-28-2B |
| Microinverters Not Reporting | 5309056 | Spokane SA-39R |
| Microinverters Not Reporting | 5310967 | Spokane SA-28-4D |

74/120 Systems on and reporting

9/120 Systems need service visit

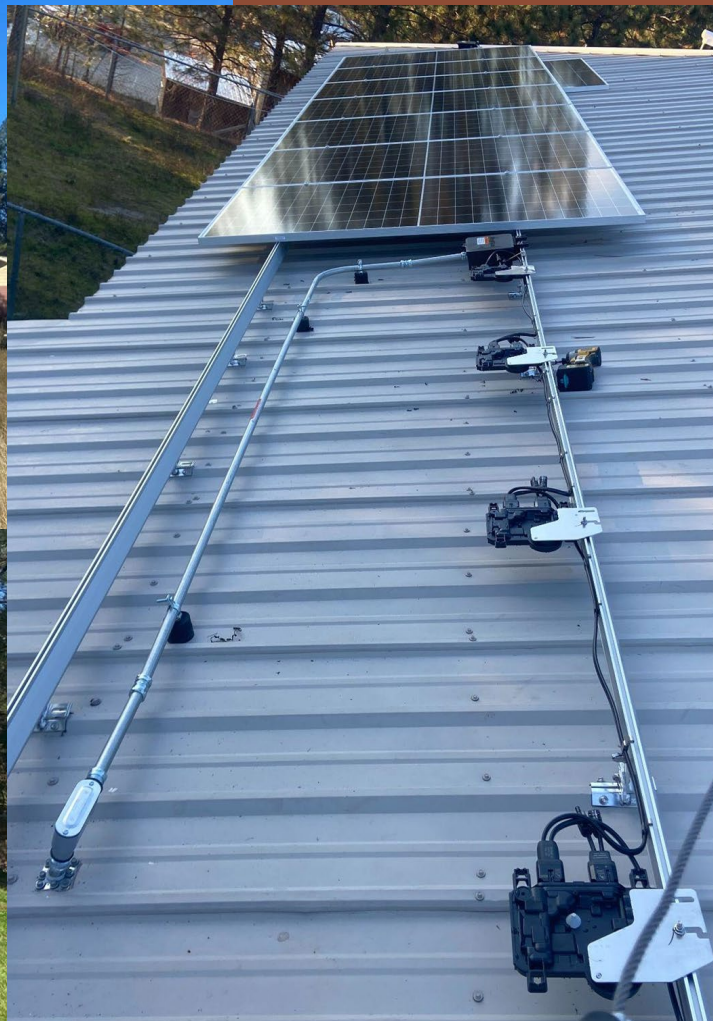
37/120 Systems to be commissioned

# MB On Site Training for the Local crew

# MB On Site Training for the Local crew


51

# Site Training, Ground Mount System



# Our Team

**Spokane Indian Housing Authority:**
Clyde Abrahamson
Stephen Tsoodle

**Electricians:**
Patti Deuel
Ed Nicodemus

**Trainees:**
Jadon Severson
Isaac Hoskie
Uriah Tonasket
Ezric Green
Eugene Tonasket Michael Gaze-Lavadure

**Install Team:**
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Justin Brandom
Trenton McCrea
Dayne Goodheart
Jordan Zaldivar
Cassandra Valandra
Zikiah Montoya
Johnathan Montoya
Blake Harkness

**Design & Project Management:**
Thelma Wall
Simon Wood
Laura Lilienkamp

# Moving forward, SIHA and their stake holders feel good about the project.

The Spokane Indian Housing Authority had the opportunities and circumstance to make these past projects a reality due to the funding opportunities and from assistance of professional partners that belong to organizations like DOE office of Indian Energy who are willing to assist those who need direction to move forward with energy projects that will reduce the energy burden and preserve our planet for our youth.

1) We want to thank DOE, Office of Indian Energy.
2) Godfrey and Kahn Attorneys.
3) Grid Alternatives, Tribal Program.

# Questions & Answers

Invite questions from the perceptive audience.

Contact:
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# Drone Video

https://vimeo.com/1031741735/9fd477286a?share=copy