

Chevelon Butte Wind Energy Project (Northwest of Heber, AZ)

Project Overview

Chevelon Butte wind farm under construction on the ranchlands of northern Arizona. The wind farm visible across Chevelon Creek northwest of the Heber North Campus is the **Chevelon Butte Wind Project**, a large utility-scale wind energy development in Navajo and Coconino Counties, Arizona ¹. Developed by **AES Corporation** (a global energy company), this project is set to become **Arizona's largest wind farm**, delivering up to **454 MW** of renewable power once fully online ¹ ². The site lies on the historic Chevelon Butte Ranch roughly 15–20 miles north of Heber-Overgaard, across the Chevelon Canyon, placing it in a sparsely populated high-desert area south of Winslow ¹ ³. The wind farm's location and scale make it a prominent new energy facility in the region, positioned **northwest of the ATB Heber Campus** launch site and separated from it by the Chevelon Creek canyon.

Developer, Ownership, and Partners

The Chevelon Butte Wind Project is **developed, owned, and operated by AES Corporation**, which invested approximately **\$680 million** in this venture ⁴. AES is executing the project in partnership with Arizona Public Service (**APS**), the state's largest electric utility. APS will **purchase the power** generated under a 20-year power purchase agreement, as the project was selected through APS's competitive resource procurement process ⁵. In effect, **APS is the offtaker** of the energy, using it to serve its customers with clean electricity. This public-private partnership was highlighted by regulators as a model: "The AES Corporation developed and owns the Chevelon Butte wind farm, and APS purchases the power generated through a 20-year PPA," noted APS's news release ⁵. The collaboration means APS ratepayers will receive the wind power benefits without bearing construction risk ⁶. No tribal or federal government entities are owners in the project; however, state and local authorities were key stakeholders in permitting and oversight.

Scope and Specifications of the Wind Farm

Project size and capacity: Chevelon Butte is a **105-turbine** wind farm with a total nameplate capacity of **454 MW** ¹ ⁷. It is being built in **two phases**: the first phase of 238 MW (already operational) and a second phase adding 216 MW ¹. At full output, the facility will generate enough electricity to power approximately **110,000 homes** annually ⁸ ⁹. This makes it the largest wind energy project in Arizona to date, more than doubling APS's existing wind energy portfolio once Phase 2 is complete ¹⁰.

Turbines and technology: The farm utilizes modern, high-capacity wind turbines (in fact, some of the **most advanced wind energy technology** deployed in Arizona) ⁷. AES has reported using Vestas turbines, including V150-4.5 MW models, which have rotor diameters of 150 m and tall hub heights, as well as a few smaller turbines for site-specific needs ¹¹ ¹². In total, the 105 turbines are spread across roughly **42,000**

acres of ranchland ⁷. Despite this large footprint, the actual land disturbance is limited to turbine pads, access roads, and facilities, leaving the majority of the acreage open for its traditional uses (cattle grazing and wildlife habitat).

On-site infrastructure: In addition to the turbines, the project includes an operations & maintenance building, an electrical substation and switchyard, internal **access roads**, and a **meteorological tower** for wind monitoring ¹³. A new high-voltage **transmission gen-tie line** links the wind farm's substation to the regional grid (tying into APS's 345 kV network near the Cholla/Pinnacle transmission corridor) ¹³. This gen-tie line and interconnection facilities were reviewed and approved by Arizona's Power Plant and Transmission Line Siting Committee, ensuring the project can deliver its power efficiently into the grid. The wind turbines themselves are equipped with advanced control systems and safety features, including FAA-compliant lighting as described below.

Timeline and Construction Status

Planning for the Chevelon Butte wind project began in the late 2010s. **Development, siting, and permitting** efforts took place roughly from **2019–2021** ¹⁴, including wind resource measurements, wildlife surveys, and securing land leases and permits. Construction commenced in **2022**, with Phase 1 (238 MW) completed and reaching **commercial operation by May 2023** ¹⁵ ¹⁶. According to the Arizona Corporation Commission, Phase 1 was online in time to help meet peak summer demand in 2023 ¹⁷. Phase 2 (216 MW) broke ground in mid-2023 and was **expected to be operational by late 2024**, bringing the project to its full 454 MW capacity ¹⁸ ¹⁰.

As of the latest reports (Q4 2023), **Phase 2 was on track for completion in 2024**, meaning that by now (late 2025) the entire wind farm is presumably fully operational or very close. During construction, the project provided a significant economic boost locally – at peak, around **250–300 workers** were on site, and AES estimates a total of **800 jobs (direct and indirect)** were involved in building the facility ¹⁹ ²⁰. The capital investment of ~\$680 million and subsequent **\$18 million in local tax revenue** over the project life have been noted by officials as a major benefit for Navajo and Coconino counties ⁴ ²¹. With construction largely finished and commissioning tests done, Chevelon Butte Wind Farm is entering long-term operations and maintenance – a 30-year project lifespan is projected ²².

Land Ownership and Site Characteristics

Location and land ownership: The wind farm is sited on the **Chevelon Butte Ranch**, a vast cattle ranch that spans the border of Navajo and Coconino counties. The ranch land is a mix of **private property and Arizona State Trust land** leased for grazing ²³. The O'Haco family, who have ranched there for generations, own significant portions of the land and lease additional acreage from the Arizona State Land Department. No federal BLM land is directly utilized by the project – *"the property will remain an operating cattle ranch... enabling the landowner family and Arizona State Land Department who own the land to continue the century-long tradition of raising livestock"* ²³. Because the site avoids federal land, it did not trigger a NEPA Environmental Impact Statement; instead, permitting was handled at the state and county levels.

Topography: The terrain is high-elevation plateau and rolling hills around Chevelon Butte and Chevelon Canyon. Turbines are primarily on broad mesas and plains at ~6,000–7,000 feet elevation, with the deep Chevelon Creek canyon forming a natural boundary to the east. The **Heber-Overgaard community lies to**

the southeast of the site, beyond the canyon. This separation by rugged terrain means the wind farm has little direct visibility from the Heber North Campus area except distant turbine profiles on the horizon. The remote location and large acreage helped in **minimizing impacts to residential areas and scenic resources** – AES notes the project *“will not impact public land, recreational opportunities, scenic resources, or city resources”* ²⁴ . In other words, it was sited to avoid interference with popular recreation spots or populated towns.

Land use and ranching: A key aspect of the project is that it **coexists with ongoing ranch operations**. Livestock grazing and even permitted hunting activities continue around the turbine towers ²⁵ . Apart from some permanent turbine pads and new gravel roads, the majority of the 42,000-acre ranch remains open range. This multi-use approach was important for landowner acceptance and was a condition of state trust land leasing – the State Land Department requires that its lands continue to be used in line with their trust purposes (in this case, generating revenue for state schools while allowing traditional uses) ²³ ²⁶ . By demonstrating that wind energy generation can share land with cattle grazing, the project set a precedent for compatible land use in the county.

Permitting and Environmental Compliance

Because the project is on private and state lands, **primary permitting authority rested with Navajo and Coconino counties and state agencies**. Both counties had to approve the wind farm via their planning and zoning processes. In Navajo County, a Special Use Permit for a utility-scale wind energy facility was granted (after public hearings and some community debate). In Coconino County, a Conditional Use Permit was similarly approved for the portion of the project extending west of the county line ²⁷ ²⁸ . These approvals came with stipulations for decommissioning plans, road use agreements, and environmental mitigations. The **Arizona State Land Department** separately had to approve land lease agreements for wind development on state trust sections, ensuring that environmental and cultural resource clearances were completed on those lands.

Environmental studies were conducted from the outset. **Wildlife and habitat surveys** (over two years of pre-construction monitoring) were done in consultation with the U.S. Fish & Wildlife Service and Arizona Game & Fish ²⁹ ³⁰ . The wind farm was designed following the *U.S. Fish & Wildlife Service Wind Energy Guidelines* and the *Eagle Conservation Plan Guidance*, taking steps to *“identify, avoid, minimize, and compensate for any potential adverse impacts to species”* ³¹ . Turbine layouts were adjusted to avoid sensitive areas, and specific **setbacks** were implemented from known raptor nests, water features, or cultural sites ³² ³¹ . AES has stated that the project was *“designed to avoid impacts to sensitive environmental and cultural resources and sited to minimize impacts to residential areas”* ³¹ . No critical habitat or threatened species are known to be in the immediate project area, but standard monitoring for bird and bat fatalities is required as part of the permit conditions. If golden eagles or other protected raptors are found to be significantly impacted, the operators may seek a federal eagle take permit and implement further conservation measures.

Cultural resources: The project underwent cultural resource surveys since the area has Native American history and prehistoric sites on the Mogollon Rim lands. There was coordination with the State Historic Preservation Office, and local Indigenous groups were consulted – AES mentions it *“engaged with local Indigenous groups, recognizing those who have a distinct relationship to the land”* ³³ . Turbines were sited to avoid any archaeologically sensitive sites identified in surveys. Thus far, there have been no publicized cultural controversies, indicating compliance with preservation requirements.

State and federal oversight: While no federal lands were used, one aspect that did involve state-level environmental review was the power line. The **345 kV gen-tie transmission line** required a Certificate of Environmental Compatibility from the Arizona Corporation Commission's Power Plant and Line Siting Committee. This process, completed in 2019, considered the line's route and its potential effects (visual impact, birds, proximity to residences, etc.). The line was approved and constructed, running northward to interconnect with the existing **Canyon-Cholla 345 kV** transmission line in Navajo County ³⁴. Additionally, the project would have obtained an Arizona Department of Environmental Quality (AZDEQ) stormwater permit for construction (to manage runoff from soil disturbance) and any other minor environmental permits (e.g. dust control plans through the county or ADEQ since construction equipment emits dust). There is no indication of any major environmental hurdles; by mid-2020s the project had all necessary clearances and was moving forward, suggesting regulatory agencies were satisfied with its mitigation plans.

Power Offtake and Grid Interconnection

A crucial aspect of this wind farm is how it delivers power to the grid. **Arizona Public Service (APS)** is the contracted utility purchasing the energy under a long-term agreement ⁵. When Chevelon Butte's first phase came online in 2023, it became *"the first new large-scale wind facility built in Northern Arizona in a decade"* and immediately began supplying APS customers with nighttime renewable power ³⁵ ³⁶. APS has highlighted that the wind energy from Chevelon Butte is especially valuable because it **complements solar** – it tends to produce more power in the evening and overnight hours when solar plants are offline, thus improving grid reliability ³⁶. By 2024, once phase two is online, Chevelon Butte will more than double APS's wind energy supply, advancing the utility's goal of 100% clean energy by 2050 ¹⁰.

Interconnection infrastructure: The wind farm is tied into the high-voltage grid via a dedicated **generation tie-line**. This new line (345 kV) runs roughly northwest from the project site to hook into APS's transmission system near the Cholla Power Plant switchyard (in the Joseph City area). The interconnection point is on the **Cholla-Pinnacle West 345 kV line** (also referred to as Canyon-Cholla), a major trunk line in the region. By connecting here, Chevelon Butte can deliver its full output into APS's network which serves Arizona's central and northern regions. The on-site step-up substation increases the turbine output voltage to transmission level. All this infrastructure – substation, switchyard, and the high-voltage line – was built as part of the project ¹³, and its operation is coordinated with APS's grid operations. Notably, the **power does not directly serve the local Heber-Overgaard area** (which is actually served by Navopache Electric Cooperative), but rather it feeds into APS's statewide grid. However, indirectly, the clean energy contributes to Arizona's overall power mix that benefits many communities.

There is **no indication of a battery storage system** at Chevelon Butte; it is a pure wind generation project. Any balancing of its intermittent output is handled by APS's broader portfolio or grid services. The power purchase agreement presumably specifies the delivery of as-available energy, and APS will integrate that into its system operations. In summary, the wind farm's output is firmly committed via PPA and its interconnection is secured – thus, it is not competing for grid access with other local projects, having already locked in transmission capacity and rights.

Airspace and FAA Considerations

Turbine height and FAA filings: The wind turbines at Chevelon Butte are very large structures – modern wind towers of this capacity typically stand **500+ feet tall** at the blade tip. Such heights require filing **FAA 7460-1 Notices** for obstruction evaluation. AES coordinated with the Federal Aviation Administration to ensure each turbine location and height was evaluated for aeronautical safety. The FAA in turn issued determinations of **“No Hazard”** for the turbines, with marking and lighting requirements. To satisfy FAA regulations (14 CFR Part 77), all turbines are equipped with **FAA-compliant red obstruction lights**. However, to address concerns about light pollution and preserve northern Arizona’s famed dark skies, the project is using a **radar-activated Aircraft Detection Lighting System (ADLS)** ³⁷. This system keeps the turbine lights **off by default at night**, and will automatically activate the flashing red lights only when an aircraft is detected flying at low altitude nearby. AES confirms it *“will incorporate a radar-activated lighting system that activates turbine lights only when low-flying aircraft are nearby, preserving Northern Arizona’s dark sky characteristics.”* ³⁷. The FAA approved this approach, which meets safety needs while greatly reducing nightly light impacts on surrounding communities (including any operations at the Heber “ATB” site that prefer dark skies for observational reasons).

Nearby airspace and launch considerations: The wind farm lies roughly 15–20 miles from the ATB Heber launch tower site, so direct airspace conflicts are minimal, but some coordination is prudent. The **airspace in this region is generally unrestricted Class G** at lower altitudes, with overlying controlled airspace starting higher up. Any rocket launch operations at the ATB site would likely obtain a **temporary flight restriction (TFR)** or NOTAM from the FAA covering a radius for safety. Given the distance, the Chevelon Butte turbines probably sit at the edge of any reasonable hazard exclusion zone for small launches. They do represent tall fixed objects that any rocket trajectories or recovery operations must account for. In practice, if a launch were to go north or west from the Heber site, controllers would include the wind farm’s coordinates in their safety calculations. The presence of turbines would discourage any low-level flight (helicopter or drone) in that direction during launch. Fortunately, the ADLS lighting means the turbines are dark most of the time, except when aircraft actually approach – so they won’t create unnecessary visual distractions or skyglow during night launch events (unless an aircraft triggers the lights).

Radar interference: One potential consideration is that large wind farms can cause clutter on radar systems. If the ATB launch operations use any radar for tracking vehicles or monitoring airspace, they might see reflections from the spinning turbine blades under some conditions. This is more of a concern for long-range air defense or weather radars; for localized launch telemetry radar, it’s unlikely to be significant at 15+ miles away. There have been cases at other sites where radar systems needed filtering software to ignore wind turbine returns. If needed, ATB could coordinate with the wind farm/FAA to ensure any radar issues are mitigated (the FAA itself has studied and generally accepted this wind farm’s layout, indicating no unacceptable interference with national airspace radars).

In summary, from an **airspace coordination** standpoint, the Chevelon Butte wind project has been fully vetted by the FAA and is marked on aeronautical charts as an obstacle area. Its existence would be a known factor in any flight or launch plans out of the Heber area. Given the distance and the lighting mitigation in place, the wind farm should not pose a serious impediment to rocket launch activities, but it will necessitate basic awareness and avoidance of that area for low-flying aircraft during such operations.

Proximity to ATB Launch Site – Implications and Synergies

Distance and relative location: The approximate ~15-mile separation between the Chevelon Butte turbines and the ATB Heber North Campus launch zone means there is **no immediate physical overlap** between the two facilities. The wind farm occupies a broad area west of Chevelon Creek, whereas the ATB site is to the east/southeast of the canyon. This distance provides a buffer; in the event of any anomaly at the launch site (for example, a wayward rocket), the wind farm's infrastructure is far enough away to be at very low risk. Likewise, any issues at the wind farm (such as a turbine maintenance shutdown or even a fire) would not directly affect the launch complex.

Grid infrastructure and power access: One notable implication of the wind project is improved regional grid infrastructure, which could be a **synergy for the ATB site**. The wind farm's new **345 kV transmission line** and substation increase the transmission capacity in the area. If the ATB launch campus ever requires substantial electric power (for example, for testing facilities, data centers, or future expansion that draws significant load), it might be easier now to tap into the grid via the infrastructure built for Chevelon Butte. The presence of high-voltage lines nearby could allow a new substation or a distribution line to feed the Heber area with more power, if needed. In essence, the wind farm has "opened up" that part of Navajo County for high-capacity grid connection. There is **no direct competition for grid capacity** because the wind farm's output is contracted and uses its dedicated line. However, any future generation project or large load in the vicinity (including possibly the ATB site if it were to host its own power generation) would have to coordinate with APS and the regional transmission operator to ensure there's room on the lines. The wind farm has set a precedent by securing a corridor; another project might either share upgrades or need to construct its own. From a **competition standpoint**, the wind farm and any spaceport-related development serve very different purposes, so they are not rivals – in fact, ATB could potentially purchase renewable energy credits or power from the wind farm indirectly, marketing its operations as being powered by green energy from next door.

Public perception and permitting precedent: The successful permitting of the Chevelon Butte wind project offers **insight into local public attitudes** toward large projects. Initially, some residents and groups voiced concerns (common issues included visual impacts, noise, and effects on wildlife). Navajo County held public hearings, and the fact that the project was approved indicates that either opposition was limited or concerns were adequately addressed. Community outreach by APS and AES was credited with easing local concerns – *"APS ... engaged with the local communities up in Navajo and Coconino counties"* during project development ³⁸. The economic benefits (jobs, tax base boost, and royalties to the state land trust benefiting schools) were likely persuasive in gaining support ³⁹ ²¹. Now that the turbines are up, many locals see the project as contributing to Arizona's clean energy future and supporting the rural economy rather than as an eyesore. This relatively positive reception could bode well for the ATB launch site's public perception: the community is becoming accustomed to high-profile projects and may be **receptive to further high-tech or infrastructure developments**, especially if they bring jobs or recognition to the area.

However, there is also a flipside to consider. Those who were opposed to the wind farm might feel that one large project is enough, and could push back on another project like a rocket launch complex, citing cumulative impacts. In fact, Navajo County has seen a surge of renewable project proposals (a **total of five wind projects** have been discussed in the area ⁴⁰, including Chevelon Butte and a proposed Papermill Wind Project northeast of Heber). The County has been updating its ordinances to manage these ("the Board of Supervisors has directed staff to hold listening sessions to develop renewable energy ordinance updates" ⁴¹). This suggests the local government is actively developing frameworks to balance

development with public interest. Any new project such as the ATB launch campus will likely undergo similar scrutiny – requiring public meetings, impact studies, and alignment with any zoning/ordinance requirements (just as the wind farm did under the wind energy facility ordinance). The **precedent set by Chevelon Butte's approval** is generally positive: it shows that Navajo County is open to innovative projects on its ranchlands, provided due process is followed. It also provides a case study in successful mitigation: ATB project planners could point to the wind farm's dark-sky lighting solution, wildlife monitoring program, and community engagement as examples or even partners in demonstrating responsible development.

Airspace coordination and safety: From a safety and regulatory standpoint, having a rocket launch site and a wind farm in proximity will require some **coordination in airspace management**, as discussed. The precedent here is that the FAA was willing to accommodate the wind turbines with conditions (like ADLS). Similarly, the ATB site would need FAA waivers for launches; the existence of tall turbines nearby will be one factor in those discussions, but not a show-stopper. In fact, the presence of ADLS at the wind farm might make it easier to maintain dark skies and safe night launch conditions (no constant blinking lights to distract or confuse pilots or tracking systems). Both the wind farm and the launch site will be stakeholders in any regional airspace planning (for example, if a temporary restricted area is established for launches, the wind farm operators should be notified to ensure any maintenance flights or crane activities are clear of the area). Since the wind farm is static and well-charted, it is a simpler factor to account for compared to moving aircraft. The launch site could coordinate with the wind farm to possibly even use their radar feeds from the ADLS system as an additional safety measure to track low-flying aircraft during launch windows.

Overall assessment: The wind farm and the ATB Heber Campus can likely **coexist with minimal interference**. The wind project has primarily local and regional significance in energy supply and economic terms, whereas the ATB launch site would have a very different purpose (aerospace testing/launch). If anything, each project's presence reinforces that this part of Navajo County is embracing new industries – one in renewable energy, one in aerospace. Public perception may view both as progress: one brings green energy and jobs, the other could bring high-tech investment and jobs. Regulatory bodies will treat them separately, but lessons learned in permitting Chevelon Butte (on environmental study rigor, engaging stakeholders like ranchers and tribes, and securing multi-agency approvals) will be invaluable for ATB's developers. In permitting hearings, for example, proponents of the launch site could point out that a large-scale project (the wind farm) was permitted and built with successful mitigation, setting a **permitting precedent** that big projects can be done responsibly in the Heber region.

Summary of Key Facts

- **Name and Location:** The wind farm northwest of the Heber North Campus is the **Chevelon Butte Wind Project**, located on Chevelon Butte Ranch in Navajo/Coconino County, AZ (approximately 15–20 miles NW of Heber, across Chevelon Creek) ¹.
- **Developer/Owner:** **AES Corporation** (global energy company) – they developed, own, and operate the project ³⁵ ⁵.
- **Utility Partner:** **APS (Arizona Public Service)** – purchases the energy under a 20-year PPA ⁵, integrating the power into its grid to serve Arizona customers.
- **Project Scope:** **105 wind turbines, 454 MW capacity** at full build-out, making it the largest wind farm in Arizona ⁸ ¹. Turbines are spread over **~42,000 acres** of ranch land, with on-site O&M facilities, a substation, and a 345 kV transmission tie-line ⁷ ¹³.
- **Timeline & Status:** Phase 1 (238 MW) is operational as of May 2023, and Phase 2 (216 MW) was under construction in 2023 with completion in 2024 ¹⁸ ¹⁰. By late 2025 the full project is expected

to be online, delivering power to APS. Construction created ~300 peak jobs and significant local economic impact ¹⁹ ²⁰ .

- **Land Ownership:** Combination of **private ranch land (O'Haco family)** and **Arizona State Trust land** ²³ . No federal or tribal land is involved on-site (thus no BLM or reservation land). The state land is leased for wind development, with revenues benefiting state trust beneficiaries (e.g. public schools) ²⁶ .
- **Power Interconnection:** The project includes a new **345 kV gen-tie line** connecting to APS's transmission grid (near the Cholla junction). This was approved by state regulators and allows delivery of wind power to APS's system ¹³ . APS's 20-year PPA ensures a fixed buyer for the energy, aligning with APS's clean energy goals ⁵ ¹⁰ .
- **Associated Infrastructure:** In addition to turbines, built facilities include an on-site **substation & switchyard, operations building**, maintenance roads, and a **meteorological tower** ¹³ . No large new public transmission beyond the gen-tie was needed, as interconnection tapped existing lines. The farm uses **radar-activated turbine lighting** to mitigate night light impacts ³⁷ and has measures in place for wildlife and range management.
- **Environmental/Permitting:** Secured Special Use Permits in Navajo County (and CUP in Coconino) for a wind energy facility ²⁷ . Conducted extensive environmental studies per USFWS guidelines (wildlife, avian, cultural) ³¹ . Implemented mitigations like turbine micro-siting to avoid sensitive areas, and an **ADLS FAA lighting system** to protect dark skies ³⁷ . No major environmental legal challenges are noted; the project was generally well-received for its low emissions and ranch co-use. FAA obstruction evaluations were completed for all turbines, with required lighting integrated (now minimized by ADLS) ³⁷ .
- **Airspace and FAA:** Turbines (~500–600 ft tall) are charted obstacles; FAA approved the use of radar-based lighting to keep them dark unless aircraft approach ³⁷ . The wind farm's presence means any aircraft or rocket launches in the vicinity must account for these structures, but the ~15–20 mile separation from the ATB launch site provides a substantial buffer. Coordination via NOTAM/TFR for launches will ensure no conflicts in the shared airspace.
- **Distance to ATB Launch Zone:** Approximately **15 miles** northwest of the ATB Heber launch tower site (with Chevelon Canyon in between). At this distance, there is minimal direct interaction, though both facilities are within the same general region of Navajo County.
- **Implications for ATB Heber Operations:**
 - *Airspace Coordination:* Required but manageable – the wind farm is a fixed feature known to FAA, and its adaptive lighting reduces night-time conflict. Launch trajectories can be planned to avoid low passes near the farm; TFRs will cover the area as needed for safety.
 - *Grid Access:* Potential synergy – the wind project's transmission line could indirectly facilitate improved grid connectivity near Heber. The launch site could benefit from the strengthened electrical infrastructure if it needs power, and possibly tout that some power comes from local renewables. No direct competition for interconnection since the wind farm has its dedicated capacity, but any new major power usage or generation will go through APS's interconnect process as well.
 - *Public Perception & Precedent:* Chevelon Butte's successful approval and operation set a precedent that large projects can be developed in the Heber vicinity with community support and proper mitigations. The wind farm's positive economic impact and low ongoing disturbance may make the public more open to other high-tech projects (like a space launch facility), especially if they bring jobs and investment. That said, cumulative impact concerns could be raised, so ATB should proactively engage stakeholders as AES did. In regulatory terms, the county has experience now with big project permitting, which could streamline or inform the process for the launch site proposal.

Overall, the Chevelon Butte wind farm represents a major new asset in the region – **a renewable energy project on ranchlands that balances modern infrastructure with traditional land use** ²⁵. Its development across Chevelon Creek from the Heber North Campus provides both a case study and a contextual backdrop for any activities at the ATB launch site. With careful coordination, the wind farm and the launch facility should be able to operate in tandem, each contributing to the region's economy in its own sphere (one in clean energy, the other in aerospace innovation) without impeding one another's missions.

Sources: Arizona PBS ⁸ ⁴ ; AES Corp. Project Profile ¹ ⁷ ; Arizona Public Service (APS) Newsroom ⁵ ¹⁰ ; AES Corp. Press (Procore) ² ; BluEarth Renewables (Papermill Project for context) ⁴² ⁴³ ; Navajo County records ²⁷ ; FAA/Industry Guidance ³⁷ .

¹ ⁷ ⁹ ¹³ ¹⁴ ¹⁷ ¹⁸ ²⁰ ²¹ ²² ²³ ²⁴ ²⁶ ³¹ ³³ ³⁷ Chevelon Butte Wind Farm | AES

<https://www.aes.com/energy-projects/chevelon-butte-wind-farm>

² Chevelon Butte Wind Farm | Procore

<https://www.procore.com/projects/chevelon-butte-wind-farm>

³ Chevelon Canyon Ranch - Navajo County - Arizona

<https://www.headquarterswest.com/hqwweb5/brochure.php?ID=94>

⁴ ⁶ ⁸ ¹⁹ ²⁵ ³⁸ ³⁹ New Chevelon Butte wind farm to operate in Northern Arizona - Arizona PBS

<https://azpbs.org/horizon/2023/08/new-chevelon-butte-wind-farm-to-operate-in-northern-arizona/>

⁵ ¹⁰ ¹⁵ ¹⁶ ³⁵ ³⁶ aps – Arizona Public Service Electric

<https://www.aps.com/en/About/Our-Company/Newsroom/Articles/Chevelon-Butte-Wind-Farm>

¹¹ ¹² Chevelon Butte (USA) - Wind farms - Online access - The Wind Power

https://www.thewindpower.net/windfarm_en_38741_chevelon-butte.php

²⁷ [PDF] Here is a little about Jason Whiting who's Retreat and all the wildlife ...

<https://stopchevelonbuttewind.com/jason-whiting-navajo-county-board-of-supervisors-region-3.pdf>

²⁸ ³⁴ [PDF] before the arizona power plant - and transmission line siting committee

https://www.azcc.gov/docs/default-source/arizona-power-plant-files/siting-hearing-calendar/9-17-19-l-s-noticeofhrng59095a2562184490abea8edc616d2f27.pdf?sfvrsn=3981a041_2

²⁹ ³⁰ ³² ⁴² ⁴³ Papermill Wind Project | Projects | BluEarth Renewables

<https://blueearthrenewables.com/projects/papermill-wind-project/>

⁴⁰ Can anyone give me an update on the wind turbines ... - Facebook

<https://www.facebook.com/groups/391852678757096/posts/1249753672966988/>

⁴¹ Renewable Energy Ordinance Updates | Navajo County, AZ

<https://www.navajocountyaz.gov/754/Renewable-Energy-Ordinance-Updates>