Slava Kozlovskii

EVEE
I can’t afford an EV
How can I afford an EV?
Tesla Model S

Per day: $240
Total price: $812 for 3 days

Save $79

Save $135
I rented a Model S previously from Thrifty and I can honestly say Evee is the better option. When I rented the P85 from Chris he took the time to run me through all the features of the car and answered all of the questions I had. – Rowan Stenhouse
evee.
World’s unique electric car sharing

Turn travel time into time travel

WHERE

Anywhere

WHEN

7 Jun, 10 AM - 10 Jun, 10 AM

Find cars
HRDS Technologies is a green technology company that produces hybrid and electric powertrains for commercial vehicles. e.g. buses, trucks, boats and railcars.

HRDS is a local company with our head office at Goonellabah (Lismore NSW)

Introduction

Back in 2007, we built the world's biggest, road-going, electric hybrid truck, which was a 90 ton road train

The Argosy Hybrid
HRDS Technologies are the architects of, “Green Triangle Initiative”.

The GTI is a high-frequency and sustainable bus service that produces Zero Emissions.

GTI Description

Green

ZERO Emissions public transport

Triangle

Roads that link Lismore, Ballina & Byron Bay

Initiative

Deployment of electric buses in regional areas

The GTI project has three components

1. The Green Triangle route
2. Australian made electric buses
3. Automated roadside charging stations
The Green Triangle Initiative has two options, which could be introduced as stages 1 & 2 of the proposed project.

**Option 1**
“Three bus fleet” is a return trip for each side of the Green Triangle. E-Buses depart, Lismore, Byron Bay and Ballina every two hours 24/7.

**Option 2**
“Six bus fleet” is the preferred option. Three electric buses travel clockwise and three anticlockwise. Each bus completes a full circuit of the triangle, so passengers don’t change buses to reach their final destination.

This is a bidirectional bus service that departs, Lismore, Byron Bay and Ballina, “every hour, on the hour”.

**GT Bus Stops**
- **Byron to Lismore**
  - Ewingsdale
  - Bangalow
  - Clunes
  - Bexhill
  - Richmond Hill

- **Lismore to Ballina**
  - Goonellabah
  - Wollongbar
  - Alstonville
  - West Ballina

- **Ballina to Byron Bay**
  (coast road)
  - East Ballina
  - Skennars Head
  - Lennox Head
  - Broken Head
  - Suffolk Park

**GTI Automated Charging Stations at 3 Bus Terminals**
- Byron Bay
- Lismore
- Ballina.
HRDS Technologies offer a range of Australian made, purpose built electric buses, which have two power options.

**Battery Electric Vehicle (BEV)**
The E-Bus, E-Coach & E-Shuttle feature rapid charging Ultra-capacitors, which are 30% more efficient than batteries. Recharging takes just 5 to 10 minutes.

**Hydrogen (H2) Fuel Cell**
The H2 E-Bus & E-Coach are fuelled by hydrogen gas. Refuelling takes 7 to 10 minutes. Operating range is approx. 450 kilometres (300 miles).

**Zero Emissions Buses**
The Regenodrive E-Bus & E-Coach are full electric buses that feature the HRDS, proprietary electro-hydraulic powertrain.

**E-Shuttle** is a 20 seat minibus that's suitable for special needs and community services. It uses the same GTI charging-socket and charge stations as its big brothers.

Electric shuttle buses can support, a “car-free town-centre” and Out-of-Town car parking stations.

Disclaimer: Proposed project & presentation contains forward looking statements. Figures are indicative only and details may change without notice.
The GTI project, features 3 “fully automated” roadside charging stations.
The opportunity charging strategy, produces an unlimited driving range for the Electric-Bus and a 24/7 service capability.

The GTI Smart Charging Stations may be the first step, in standardising a “roadside rapid charging system” for NSW. The charging socket can be retrofitted onto existing or other brands of new electric buses.

The E-Bus receives a rapid-charge, while passengers board at the Lismore, Ballina and Byron Bay bus stops.

The modest structure is a simple yet functional design, which blends into the road-scape.
GTI Smart Charging Station, can accommodate electric cars and bicycles, via charge points in the adjacent carparks.
GTI charging stations are not limited to just serving the Green Triangle route buses. A single **Smart Electric Charging Station**, can accommodate a fleet of Electric Vehicles.

Local route buses can reach the four corners of a town or city, using a single charging station. As illustrated in the cloverleaf image.

**Proposed Sites for GTI Charging Stations**

*Note: adjoining carparks can accommodate charge points, for electric cars & electric bicycles.*
Future Expansion
Lismore is the hub for the staged expansion of the Green Triangle Initiative.

**Northerns Rivers, NSW.**

**Lismore’s Six Triangles**

Murwillumbah in the north region and Grafton in the south region are the hubs for ongoing GTI projects.
The proposed site for Tweed Heads charging station is near the Library, Council Office and the Marina. Electric cars and bicycles can also use the Tweed charging station.

Air-Link is an extension of the Green Triangle. The route starts at Casino and ends at the Gold Coast International Airport.

E-Coach receives a quick charge at Tweed Heads’ GTI charging station, before heading south, on its return trip to the Green Triangle and Casino.
The Tweed Triangle is a high frequency zero emissions bus route from Tweed Heads, Murwillumbah Bogangar and back to Tweed Heads.

A pair of E-Bus traveling in opposite directions, which forms an endless loop that creates a 24/7 bidirectional bus serve.

Electric buses receive a rapid charge at Tweed Heads charging station, with each lap of the circuit.

GTI charging station serves both local and nearby communities
The proposed Mullumbimby Triangle, is another example of how a single charging station can serve the host town and nearby towns and villages.

Double Decker E-Bus, would be the ideal choice, to serve both tourist and commuters. The outcome is a high frequency public transport system that produces Zero Emissions.
### Questions | Answers

| Who will operate the bus services | Existing bus operators will have first option |
| Who will build the GTI project & components | The GTI Architects, HRDS Technologies |
| Where are the charging stations manufactured | Australia. Goonellabah (Lismore NSW) |
| Where are the electric buses manufactured | Australia. North Coast NSW (E-Shuttle Bus. Japan) |
| Who will fund the project | We expect a combination of State and Federal Governments |
| When would the project be fully operational. | Subject to funding and approvals, within three years |
| Who would benefit from the service | The majority of the Northern Rivers population plus tourists |
| Environmental impact | Less road noise, reduced road congestion and **Zero Emissions Transport** |
| Who would own the assets of the GTI project | We suggest, Northern Rivers Joint Organisation (NRJO) |
| Where does the electricity come from | The grid, but renewable energy contracts are an option |

### The Way Forward

Designing and developing the “Green Triangle Initiative” was the easy part. The hard work is soliciting funding and support for the Green Triangle project, which is why I am representing our Company HRDS Technologies here today. Feedback from this presentation will assist me in presenting a compelling case to launch this innovative project.

We have already started the process by lobbying politicians and others, but the recent State and Federal Elections have delayed our efforts. Resubmission of our projects has commenced since the Elections.
Conclusion

HRDS Technologies share the vision of the Northern Rivers Joint Organisation (NRJO).

Which is “A unified region of well connected & integrated communities”

NRJO are the six Local Government Areas of Ballina, Byron, Lismore, Richmond Valley, Kyogle and Tweed

The Green Triangle Initiative, produces a sustainable transport system, which contributes to the Northern Rivers “carbon neutral aspiration”.

Please consider, a car-free society is a care-free society. Take the bus and leave the car behind.

Thank you for your attention