Submission to Senate Inquiry on Digital Currency

To:
Senate Standing Committees on Economics
PO Box 6100, Parliament House
Canberra ACT 2600
economics.sen@aph.gov.au

Re: Inquiry into Digital Currency

Dear Chairman Dastyari, Deputy Chairman Edwards and Members of the Committee,

BitAwareAustralia, a non-profit organisation for Bitcoin education and advocacy to the general public, has prepared this document to assist with your inquiry into digital currency. We hope this document provides sufficient information within its scope.

If you have any queries regarding the content of this submission, please address them to The President of BitAwareAustralia

Thank You,

President and Treasurer
Vice-President
Secretary
BitAwareAustralia, 27 November, 2014

Background

BitAwareAustralia is an unregistered not-for-profit organisation, founded in 2014 by two members of Western Australia's public service. BitAwareAustralia's mission is to educate and advocate Bitcoin and other digital currencies to the general public, making them aware of the practical advantages of digital currency.

BitAwareAustralia's founding members have several years of Bitcoin experience each.

The organisation recently operated a stall at the Cockburn Rotary Spring Fair in Perth to educate the general public of bitcoin's benefits.

Summary

In mid-2014 we spoke to Professor Yermack from New York University, who runs a financial course about Bitcoin. Although he was reasonably well-informed of Bitcoin's technology and financial principles, he had never owned any bitcoin currency and therefore did not have a good understanding of how bitcoin is used in everyday life. We would like to ensure that the Senate gets a practical understanding of Bitcoin as well as a theoretical understanding.

This submission takes a strictly pragmatic view of Bitcoin and the Bitcoin economy. It is intended to be a simple guide on how to obtain and use bitcoins in Australia, with one or two practical purposes for its use over other payment methods and other currencies. It does not describe the workings of the technology or its considerable promise in finance. We are aware of other submissions to this inquiry that better fulfil this role.

Finally, we state our position on bitcoin tourism and the taxation of the supply of bitcoins.

BitAwareAustralia has a website at www.bitawareaustralia.org, where members of the Senate can obtain more up-to-date information as time goes by.

How to use Bitcoin

In order to store or transact with bitcoins, you first need a piece of software called a "Bitcoin Wallet". There are several different types of wallet:

- PC wallet – This software runs on your PC. Two examples of these are Bitcoin Core (the official software) and Armory.

- Web-based wallet – This software runs on a web server and allows users to access their wallet from any internet-enabled device. Australian examples

include Coinjar or Cointree. These are based in Australia but can be accessed anywhere in the world. Other web-based wallets include Coinbase or Blockchain.info.

- Mobile wallet – This comes as an 'app' that runs on a smartphone, allowing access to the user's bitcoin balance from anywhere a mobile signal is present. Many mobile wallets actually access a user's web-based wallet – Coinjar and Blockchain.info do this. Some mobile wallets are completely stand-alone, like Mycelium. Mobile wallets are generally the most practical for ordinary use.

- Paper wallet – This is a piece of paper with the encryption keys printed on it. When the user wants to send money from the paper wallet, they must import the encryption key into a PC wallet. Paper wallets are used as safe "cold storage", and until the encryption keys are typed into a PC wallet they cannot be stolen by viruses or hackers. Of course, the physical piece of paper can be stolen by a traditional thief, so paper wallets are often stored in a physical security device such as a safe or lockbox.

For the purpose of this section, we will focus on two different wallet apps/providers: **Mycelium** and **Coinjar,** but most wallets are this simple to start.
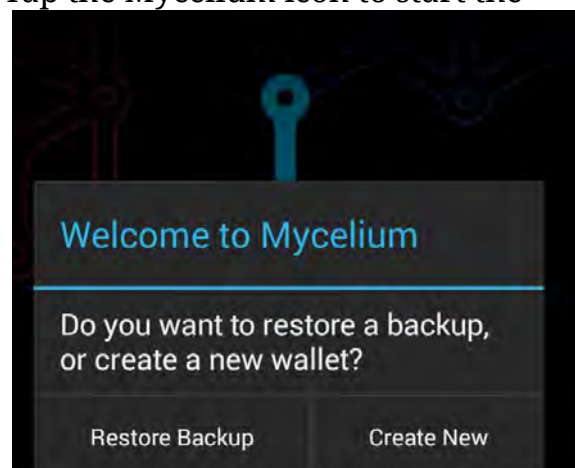
Mycelium

On your Android smartphone, tap the Play Store icon. Tap the Search icon and type "Mycelium" and tap Ok.
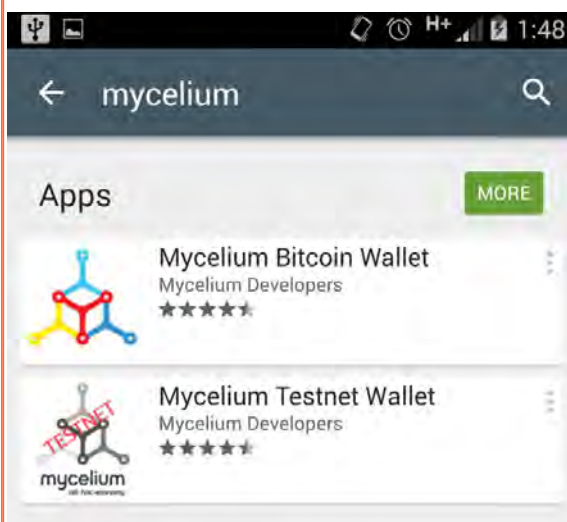
Mycelium Bitcoin Wallet is the first result in the list. Tap the three little dots to the right-hand side of the entry and tap Install. Tap Accept to begin the installation, and this only takes a couple of seconds to download and install.

Exit the Play Store and go into your Applications drawer. The Mycelium icon will appear. Tap the Mycelium icon to start the app.

Mycelium will ask you if you want to import an existing wallet or create a new wallet. Choose "Create New".
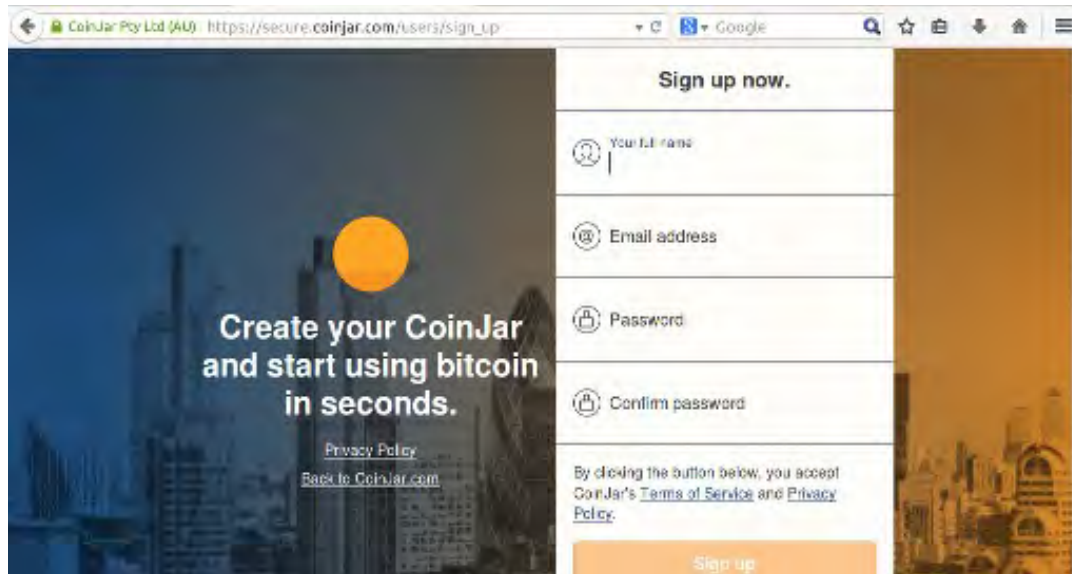
Congratulations, you've just started a Bitcoin

wallet! The whole process from start to finish takes less than a minute, and you can start receiving payments immediately.

CoinJar

Visit www.coinjar.com.au in your web browser.
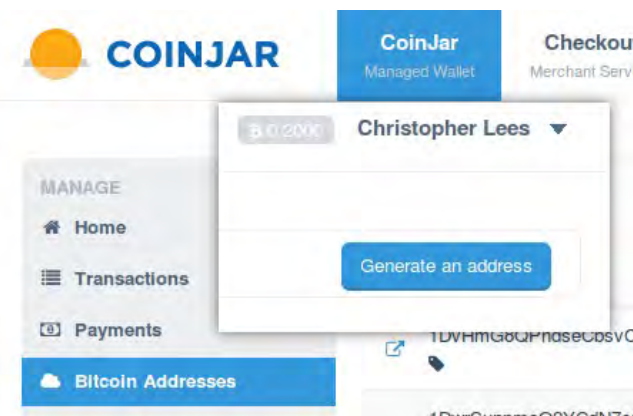
Click "Sign Up".

Input your first name, surname, e-mail address, and a password to use.

Click "Sign Up".

An e-mail is sent to your e-mail address. Open it, and click the link in it.

You can then log into your new Coinjar. You cannot receive payments yet, you need to generate a new Bitcoin address (similar to a bank account number) as Coinjar doesn't automatically do this for you.

Click "Bitcoin Addresses".

Click "Generate an address".

You can now receive Bitcoin payments immediately at your new bitcoin address.

Coinjar also makes a mobile wallet app for the iPhone, that allows you to easily access your Coinjar account.

Bitcoin is not some system that requires vast technical knowledge to operate. It's extremely easy to set up.

Basic Sending & Receiving

This section will focus on the Mycelium mobile wallet, but once again the process is very similar on other wallets.

Open Mycelium from your app drawer. The main screen will appear.
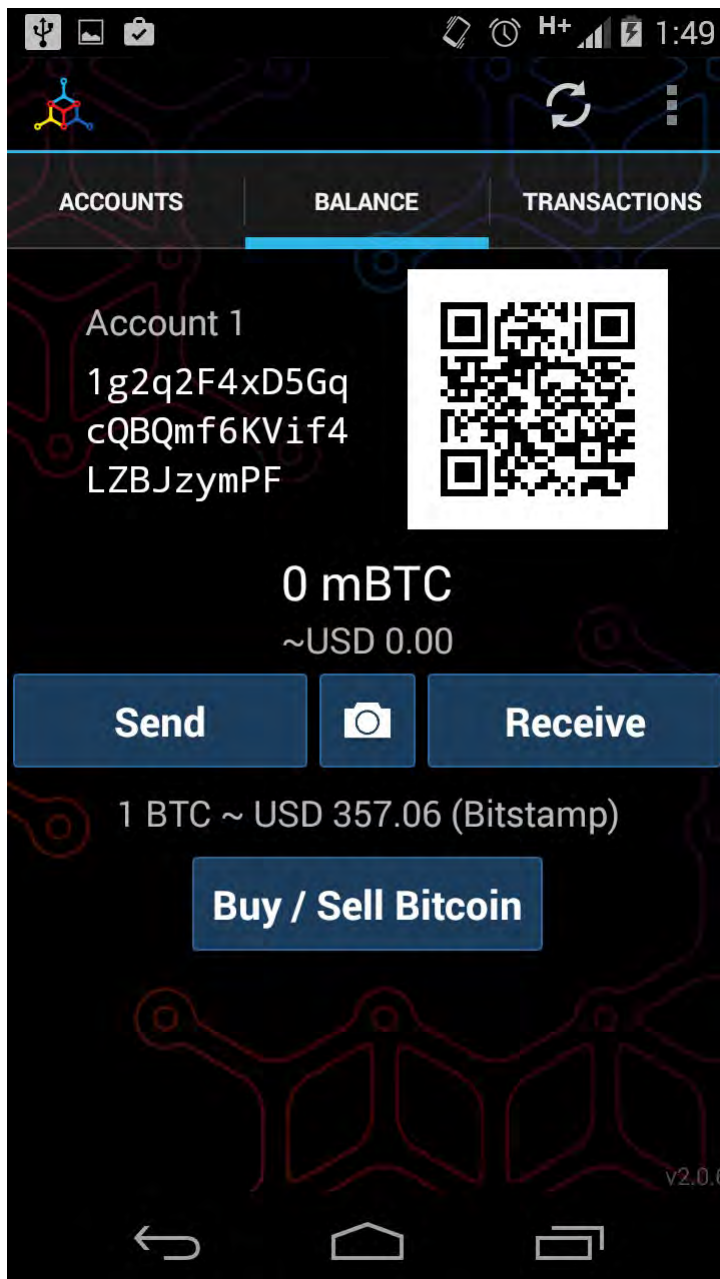
The text below the words 'Account 1' is your bitcoin address. With your bitcoin address, anybody can send you bitcoins. The symbol in the white square is also your bitcoin address, but represented as a QR code.

Because this wallet has just been set up, it currently has a balance of zero. The units displayed are "mBTC" or "millibitcoins" - one thousandth of a bitcoin. The market value of your bitcoins is displayed underneath in US dollars.

To receive bitcoins from somebody, all we need to do is tell them the bitcoin address to send them to. Alternatively they can use their mobile wallet to take a picture of the QR code displayed on the screen. In either case, your phone does not need to be turned on in order to receive bitcoins, so you can publish your QR code or bitcoin address and accept payments 24/7.

To make things easier, click the Receive button. The screen on the next page is displayed.

The QR code is displayed larger, to make it easier for your sender to scan. You can optionally specify an amount of bitcoin to "request", and that requested amount is encoded in the QR code. When the sender scans the new QR code, their wallet software will automatically fill in the correct amount of bitcoin to pay. This feature is mostly used by merchants.

Press your phone's Back button to return to the main Mycelium screen. Let's imagine that you've received a small amount of bitcoin and that your balance is not zero. Now, you want to send some bitcoin to somebody else. Click Send.
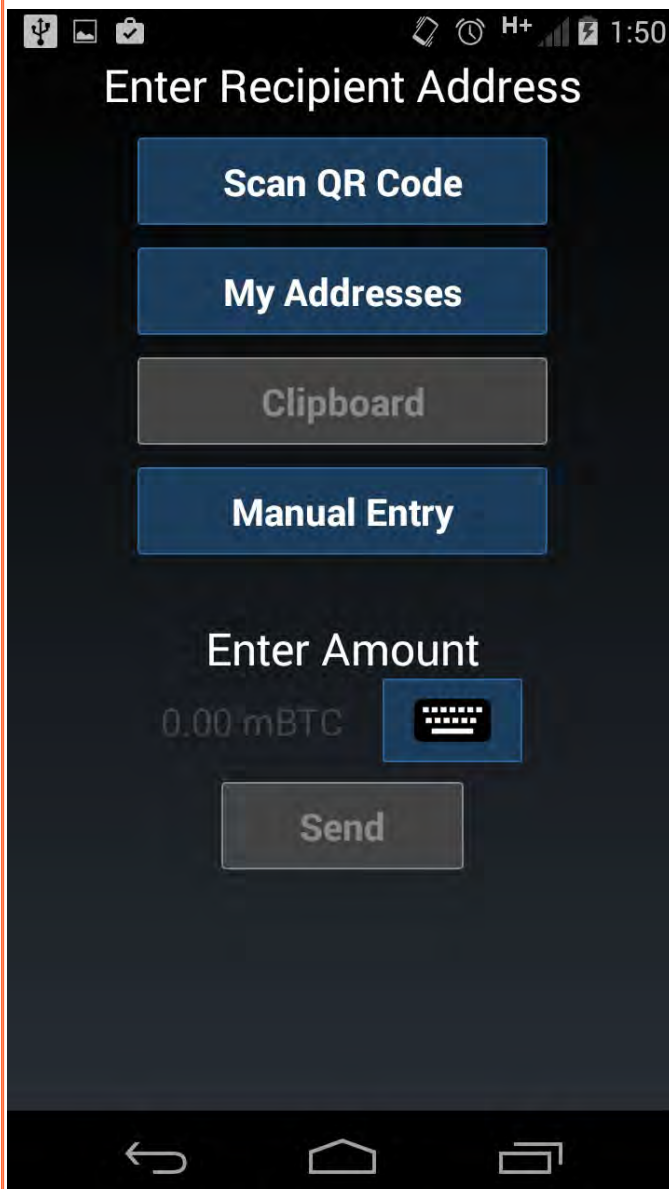
This screen appears. The top option, Scan QR Code, is probably the most practical option. If you press it, your phone's camera will be activated and you will see what the camera sees. As soon as the camera sees a QR code, it will focus on it and scan it. When it does, you will be brought back to this screen.

Press the keyboard icon. Enter the amount of mBTC to send. If you prefer, you can press where it says "mBTC" and the measurement will change to USD (US Dollars). Type the amount of US dollars to send and press Ok. You will come back to the Send screen.

Press Send to complete the transaction, and within seconds it will complete.

Your other options on the Send screen are to choose an address from your address book ("My Addresses"), paste an address that you copied earlier ("Clipboard") or manually enter an address ("Manual Entry").

Obtaining Bitcoin

There are several good ways to obtain Bitcoin in Australia:

- Use an online exchange or direct Bitcoin sales site
- Find and use a Bitcoin ATM
- Locate a local bitcoin trader on a site like LocalBitcoins.com
- Sell goods or services and accept bitcoins as payment
- 'Mine' bitcoins yourself (only for advanced users and investors)

Use an online exchange or direct Bitcoin sales site
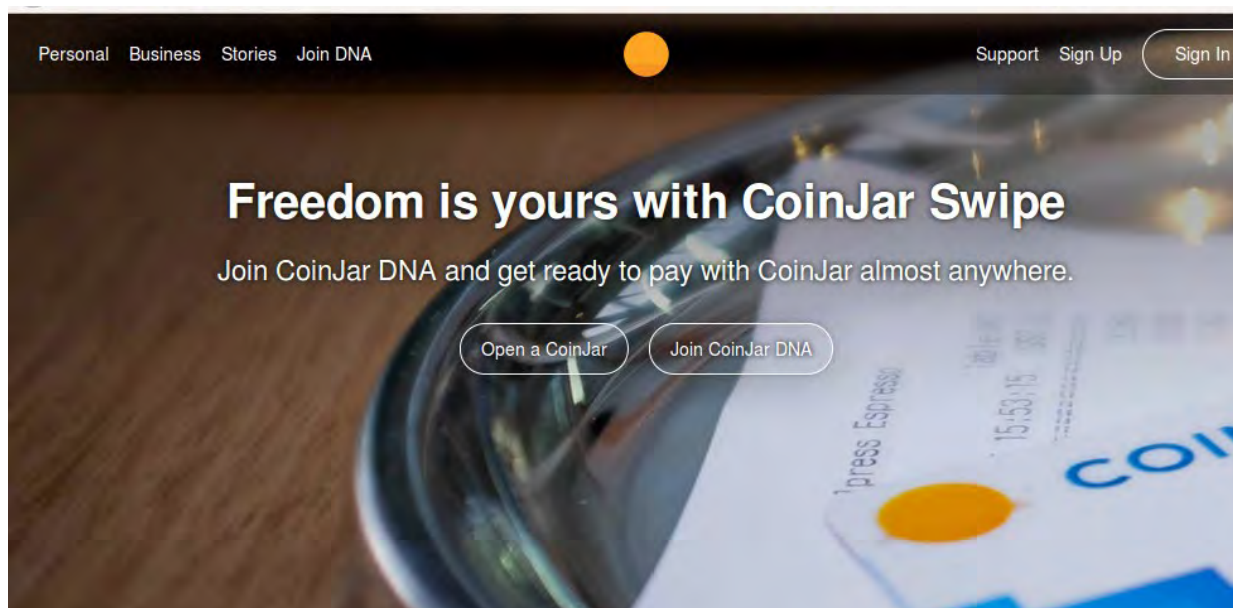
Source: www.coinjar.com.au

An exchange connects buyers with sellers, much like a commodities exchange. Buyers can see a list of Sell Orders and either accept an existing Sell Order or create a Buy Order. Sellers, of course, can either accept an existing Buy Order or create a Sell Order. Each type of order specifies how much is desired to buy/sell and for what price the trader wants to sell at.

Because a single bitcoin is worth so much money ($420 as of this writing), it is not uncommon to see fractions of a bitcoin on offer. This is perfectly possible as a single bitcoin can be split up into eight decimal places.

After signing up to an exchange with an e-mail address and password, the user must get their money into the exchange. If they want to send Bitcoin for sale, the exchange provides an extremely basic wallet service and an address to send the bitcoins to. If the user instead wishes to buy Bitcoin with Australian dollars, they must go to a bank branch to make a cash deposit, or send money electronically through Bpay or a regular bank transfer. The user may also need to send proof of

identity to the exchange site before the site will allow the transfer of money. If the user wants to transfer Australian dollars out of the exchange site, they will also need to provide their bank account details.

The exchange will take a small commission on trades, usually between 1-2%, plus GST that applies to the commission only. Trades only occur when a buyer accepts a Sell Order or a seller accepts a Buy Order – it is not an instant sale.

Some popular exchanges in Australia include iGot and CoinSpot, the latter being an Australian company.

A direct Bitcoin sales site works similarly to an exchange, but any trades occur between the user and the sales site – not directly between users. There is one price for selling and one slightly higher price for buying, or sometimes one single price. There is often a commission of 1-2% to the sales site. As soon as the user wants to buy or sell, the sales site will fulfil their order. This is the most trouble-free way to trade bitcoins, however the sales site is now obliged to add 10% GST to the total purchase. The added expense has now turned a lot of users away from these sites.

Some direct Bitcoin sales sites have closed down in the wake of the ATO's ruling on Bitcoin, however Coinjar is still operating.

Use a Bitcoin ATM

Manufacturers such as Robocoin, Lamassu and Genesis1 are currently selling "Bitcoin ATMs". Essentially, you insert cash into the machine, hold your mobile wallet up to its camera, and the ATM sends you bitcoins.

Some machines are also "two-way" - you can send them bitcoins and they will dispense cash. This is not as common as two-way machines are more expensive for operators to purchase and keep stocked.

You can locate Bitcoin ATMs on the following site:
www.bitcoinatmmap.com

Source: www.lamassu.is

Most Bitcoin ATMs available for purchase include Know Your Customer features such as an ID scanner or a fingerprint reader, and will demand identification

before allowing a transaction. The only Bitcoin ATMs permanently operating in Australia are Robocoin, Lamassu or Genesis1 models and are capable of verifying your identity before allowing the purchase of bitcoins.

Locate a local Bitcoin trader

Source: www.localbitcoins.com

LocalBitcoins.com is essentially a classified-ad service, where traders post information about how much Bitcoin they are willing to trade and for what price. Users then meet up with the trader at a coffee shop or other agreed public area and carry out the trade.

It's also possible to find traders on Gumtree.com and many other classified ad sites.

Sell goods and services and accept Bitcoin as payment

Although this is an option, it is not one in wide use in Australia. There is no 'eBay' or 'Gumtree' for Bitcoin. Some Gumtree sellers specify that they accept Bitcoin but this is not as easy to use as a Bitcoin-specific site.

This seller on Gumtree will accept Bitcoin as payment for his car.
Source: www.gumtree.com.au/s-ad/melbourne-region/cars-vans-
utes/1999-mitsubishi-lancer-sedan/1059985966

The website Fiver.com allows users to offer professional services, such as logo design or voiceovers for radio advertisements, for only $5. Fiver supports Bitcoin payments, so this is a good method for people with special skills to receive Bitcoin in exchange for providing a service.

Mine Bitcoins

Successful, profitable mining of bitcoins requires special mining machines worth thousands of dollars. It also requires cheap electricity, cheap cooling and a lot of technical knowledge. Mining machines become obsolete quickly, and when the machine becomes obsolete it starts costing more money than it generates. Mining machines are also difficult for their manufacturers to design, and sometimes there can be large delays in fulfiling their orders.

Because of the upfront cost, rapid turnover of equipment, technical knowledge, risk and necessity of cheap electricity, most Bitcoin users do not mine, and mining is considered to be the domain of well-funded companies now.

Specific details on Bitcoin mining are beyond the scope of this submission.

Many services exist on the internet where a user can rent processing power from a professional mining facility. This is known as "Cloud Mining". Ideally, the mining undertaken by the user's processing power would generate more money than the rental charges and create a positive Return On Investment. However, BitAwareAustralia is not aware of any users who have made a profit with Cloud

Mining. In addition, there have been some known scams with supposed "Cloud Mining" facilities simply sending an ever-decreasing percentage of their customer's own funds back to the customer – no mining was ever taking place.

Although most Cloud Mining operators are staying within the boundaries of law, BitAwareAustralia recommends users avoid cloud mining services for the moment as they do not appear to be a wise investment.

How and Where to Spend Bitcoins

Many websites are available to provide a searchable index of websites and physical places to spend bitcoins. The two most popular are www.spendbitcoins.com and www.coinmap.org. As of this writing, Coinmap.org shows 170 physical locations in Australia where bitcoins are accepted, out of 5,829 physical locations worldwide.


Source: www.coinmap.org, retrieved 1 July 2014

For almost any product category it's highly likely you will find a merchant who will

accept Bitcoin for it. From fresh coffee and niche books, to cars and real estate; there are Bitcoin-accepting merchants both in Australia and overseas for nearly anything.

Making an online payment with Bitcoin seems fairly self-explanatory; just send X amount of bitcoins to the address displayed onscreen; but how does Bitcoin work for a real-life transaction? We will explain how one of Perth's most popular Bitcoin-accepting businesses handles it.
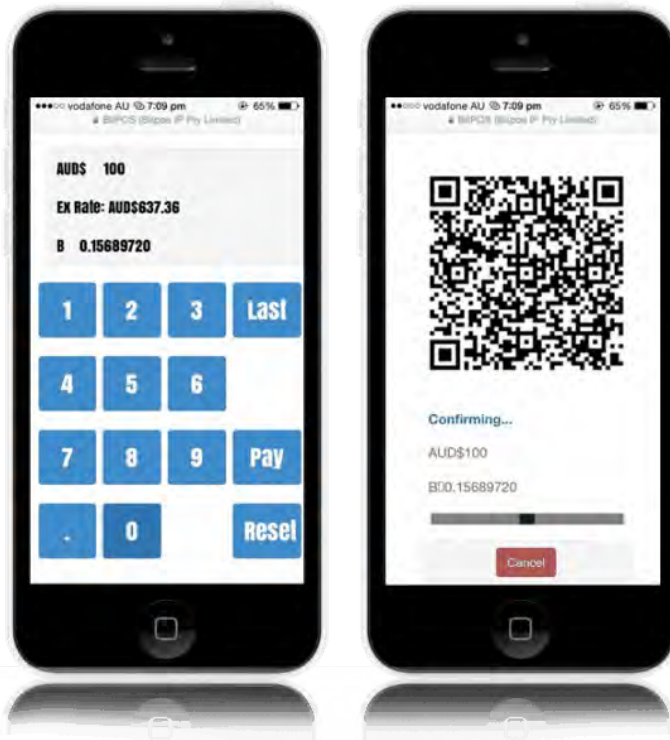
The staff behind the counter takes my order and tallies up how much, in Australian dollars, this will cost me. When I offer to pay Bitcoin, they open up a website on their computer, called BitPOS. On the BitPOS onscreen keypad, the staff member types in the amount of Australian dollars I need to be charged, and hits Pay.

BitPOS knows the exchange rate between AUD and BTC, and creates a QR code that specifies the correct amount of BTC. The QR code is displayed on-screen or, if a receipt printer is attached to the computer, the QR code is printed out.

I, as the customer, use my mobile wallet to scan the QR code and I hit Send. My phone sends the transaction to the Bitcoin network, and within a few seconds my transaction has become known to BitPOS. The merchant's computer shows a green tick to confirm that the transaction has been received, and I can leave with my purchases.

Within the next ten minutes, the transaction will become an irrefutable part of the Bitcoin blockchain (ledger of transactions). BitPOS sells the bitcoins that I sent to it and within 24 hours BitPOS sends Australian dollars to the merchant via the regular banks, minus a 1% processing fee.

Some merchants would instead elect to keep the bitcoins, or attempt to sell them at a later time, but most Australian merchants use BitPOS or a similar system to receive Australian dollars.

Why the general public should use Bitcoin
Extremely brief description – for more detail please see www.bitawareaustralia.org

- Bitcoin gets more valuable over time – it's designed to be deflationary.

- Bitcoin is yours – nobody can take it from you, not even a corrupt government or a failing bank

- Paying with Bitcoin is more secure than paying with credit/debit card (henceforth referred to as Credit Cards). Credit cards are a "pull" system – because you provide secret information to the merchant who then "pulls" the money from your account to theirs. Bitcoin is not a pull system. It's a "push" system – your bitcoin wallet creates a transaction where it sends the money. This is similar to a bank deposit, which is also a push system. Fraud is virtually non-existent with Bitcoin.

- Bitcoin gives you a degree of privacy in your financial transactions, because bitcoin addresses cannot be easily matched up to names.

- It's quick, simple and cheap to send money to others no matter where they are in the world.

- It is useful as a travel currency, because it is accepted in most countries, and it costs less to buy than foreign currency.

BitAwareAustralia's position on Bitcoin Tourism

Bitcoin can be bought, sold and spent nearly everywhere in the world without needing to be converted into "local currency". This makes it particularly advantageous for tourists and businesspeople who do a lot of overseas travelling. In addition, Bitcoin can be purchased with as little as 1% commission and no unfair exchange rate, if you shop around before you leave.

The Bitcoin a tourist brings with them can be used at outlets in Australia. The tourist might not need to get as much money converted to Australian dollars if they can be sure of being able to use Bitcoin to pay for tours, food, accommodation and basic essentials here.

It makes sense for the Australian government and State tourism authorities to encourage the use of Bitcoin by people visiting Australia. Every dollar not wasted in foreign exchange commissions is potentially an extra dollar for Australian businesses, and extra GST for Australia herself.

BitAwareAustralia sees this as an extra opportunity for smaller towns in greater need of tourism dollars. By accepting Bitcoin throughout the town, they are encouraging visitors with bitcoins to stay in the town and spend money there rather than in the capital cities. This could contribute to the economic

sustainability of towns and small cities due to increased visitor numbers and greater per-visitor expenditure.

Planning is underway for a Bitcoin-based economy in Launceston, Tasmania which we believe will prove the viability of the idea in an Australian city.[1]

Part of the Australian Government's Tourism 2020 strategy is to build competitive digital capacity, in particular increasing the percentage of tourism operators who accept bookings and payment online.[2] The low cost and short set-up times to start taking Bitcoin payments online should be of particular benefit to operators that have not yet stepped fully into the internet age.

BitAwareAustralia recommends federal, state and local shire tourism programs consider the adoption of Bitcoin to maximise the amount of money spent by tourists in the Australian economy and lessen the amount of money lost to exchange fees by multinational companies.

BitAwareAustralia's position on GST for purchase or sale of bitcoins

BitAwareAustralia has been concerned with the ATO's recent guidelines on Bitcoin being classed as an asset instead of a currency.

We understand this means the purchase of Bitcoins will attract GST, and the sale of products with Bitcoin as the payment method will still attract GST as you would expect. This effectively double-taxes Bitcoin and makes it prohibitively expensive to deal with in Australia.

Although it might not kill Bitcoin in Australia, it will be a severe blow to the industry and to individual retailers. Who would buy bitcoins to use as money if it's 10% more expensive to use Bitcoin? Payment processors like BitPOS have already started to add an additional 10% GST component to sales, simply to cover their own costs in selling the bitcoins for Australian dollars.

We expect Australian bitcoin businesses will move offshore, taking jobs and wealth creation with them. Those that are left will be weak and unable to compete with their international competitors due to incurring extra GST costs.

The bright side is that the Australian government appears willing to support Bitcoin businesses with advice (business.gov.au has a page for Bitcoin businesses) and the ATO position is otherwise quite fair. This indicates to us that the GST

component to the Bitcoin price may have simply been an ill-thought mistake that can be corrected.

The way to solve the problem is for the ATO to treat Bitcoin as a "foreign currency". This still retains the fair parts of the ATO position, yet removes the need to pay GST on the purchase of bitcoin. Bitcoin is officially recognized as a "private money" in Germany and the United Kingdom.[3] We hope this recognition by foreign governments may satisfy Australian tax law of Bitcoin's status as "foreign currency".

The Bitcoin community is not looking for a free ride or to use our currency as a tax haven. The community largely accepts the need to pay Capital Gains Tax on any Bitcoin investment profits. The Bitcoin community is happy to pay GST on goods or services bought using Bitcoin. Our only point of contention to the ATO's ruling is to our industry being rendered uncompetitive because of additional GST levied over and above our fiat-based competitors and international bitcoin-based competitors.

BitAwareAustralia recommends Bitcoin be officially classed as a "foreign currency" and treated as such under existing taxation law.

References

[1] Jon Southurst: "Small Australian City Plans Big Bitcoin Economy" (2014, October 29) Retrieved from http://www.coindesk.com/small-australian-city-plans-big-bitcoin-economy/

[2] Australian Government Department of Resources, Energy and Tourism & Tourism Australia: "Tourism 2020 Overview". Retrieved from http://www.tourism.australia.com/documents/Tourism_2020_overview.pdf

[3] PJ Delaney: "Germany recognised Bitcoin as 'private money' over half a year ago" (2014, April 22). Retrieved from https://www.cryptocoinsnews.com/germany-recognized-bitcoin-private-money-over-half-year-ago/

Glossary of Common Terms

Address

A bitcoin address is used to send and receive transactions on the Bitcoin network. It consists entirely of a string of numbers and letters, but is commonly represented as a QR code that can be scanned with a mobile phone. A bitcoin address is quite comparable to a bank account number.

Altcoin

The collective name for alternative digital currencies based on the concepts, or even the direct computer source code, of Bitcoin. As of this writing, the most common altcoins are Litecoin, Dogecoin and Darkcoin.

AUD

Australian Dollars

Bitcoin ATM

A Bitcoin ATM is, at a bare minimum, a machine that a customer can use to buy bitcoin with cash. Some machines can also buy bitcoin from consumers and dispense cash (Two-Way ATMs). The One-Way ATMs are sometimes referred to as "Bitcoin Vending Machines".

Bitcoin Whitepaper

This refers to the paper "Bitcoin: A Peer-to-Peer Electronic Cash System", written in 2008 by 'Satoshi Nakamoto'. It describes how the Bitcoin protocol would work and laid down the foundations of Bitcoin. Mr Nakamoto released the Bitcoin software in the following year.

BitPOS

An Australian business that allows merchants to accept bitcoins as payment and receive Australian dollars in their bank account, without any prior Bitcoin knowledge.

Blockchain

The full list of transactions ever performed on the Bitcoin network. It is separated into 10-minute "blocks" for important technical reasons that are described in the Bitcoin Whitepaper. The Blockchain is what gives Bitcoin its transparency and ensures all participants in the network can have confidence in every transaction.

Blockchain.info

A popular website that allows visitors to explore the bitcoin blockchain. It also provides a wallet service.

Block reward

The reward given to a miner who has successfully solved a transaction block. This consists of newly-minted bitcoins as well as transaction fees.

BTC

Abbreviation for the "Bitcoin" unit of currency.

Coinjar

Popular Australian business and website. It offers Bitcoin buying and selling, merchant services, and a web-based wallet.

Confirmation

A transaction is said to be "confirmed" when it has been included in a ten-minutely transaction block, and then confirmed again every time a new transaction block occurs. The more "confirmations" a transaction has, the less likely it can be reversed. At the current state of Bitcoin, a single confirmation is usually considered irreversable.

Cryptocurrency

A form of currency based on mathematical algorithms. A cryptocurrency is produced by solving mathematical problems based on cryptography. Bitcoin is a cryptocurrency.

Cryptography

The basis of the mathematical problems used to verify and secure bitcoin transactions. Cryptography also ensures nobody other than you can spend your Bitcoin balance.

Exchange

A physical place, or website, where a customer can buy and sell Bitcoin for Australian dollars.

mBTC or millibitcoin

1 thousandth of a bitcoin (0.001 BTC)

Mining

The act of solving cryptographic problems to create a new transaction block and confirm recent transactions. The potential reward is a number of bitcoins and the proceeds of transaction fees.

Mixing service

A service that mixes your bitcoins with someone else's, sending you different bitcoins than the ones you sent to it. The objective is to obscure the origin of the money and prevent a particular bitcoin from being traced to you. Also known as a tumbler.

Mt. Gox

Founded in 2010, this was one of the first bitcoin exchanges, and for a time it was the most popular. It has now gone into administration.

Multisig

Not possible to explain in a few lines. Among other things, Multisig (short for "multiple signature") addresses provide better security for a user's funds.

P2P (Peer-to-Peer)

Decentralised interactions that happen between at least two parties in an interconnected network. There is no central party controlling the network.

Paper wallet

A printed sheet containing the details needed to send transactions from a bitcoin address. Because the details are only stored on the paper, it is impossible for computer hackers or viruses to steal the funds from the wallet.

QR code

Similar to a barcode, but in two dimensions (shaped like a square). QR codes contain data that can be interpreted by computer or mobile phone. Bitcoin addresses are often represented as QR codes to make them easier to use.

Satoshi

The smallest amount of bitcoin possible (0.00000001 BTC). Currently, nearly worthless. Named after Bitcoin's creator, Satoshi Nakamoto.

Satoshi Nakamoto

The original inventor of the Bitcoin protocol, developer of the Bitcoin software in its early days, and author of the Bitcoin Whitepaper. He has not been present in the development of Bitcoin since 2010, and his full identity is unknown. Through examination of the Bitcoin blockchain, it is known that Mr Nakamoto holds a large quantity of bitcoins from mining in the first year of Bitcoin, yet has not spent any of his money.

Silk Road

An online marketplace, mostly for drug dealing. It accepted Bitcoin as the sole payment method for anonymity reasons. Despite this precaution, Silk Road's operator was discovered and arrested by the FBI in October 2013, and the site taken down permanently. Copycat site "Silk Road 2.0" has recently suffered the same fate.

Transaction fee

A small fee imposed on some transactions sent across the bitcoin network, depending on a set of rules. Addition of a fee when it is not strictly needed can also lessen the time needed to confirm the transaction. Transaction fees are awarded to the miner that successfully creates the new block.

USD

United States dollars

Wallet

A method of storing bitcoins for later use. This usually takes the form of a website or mobile phone app that also provides services for sending money.