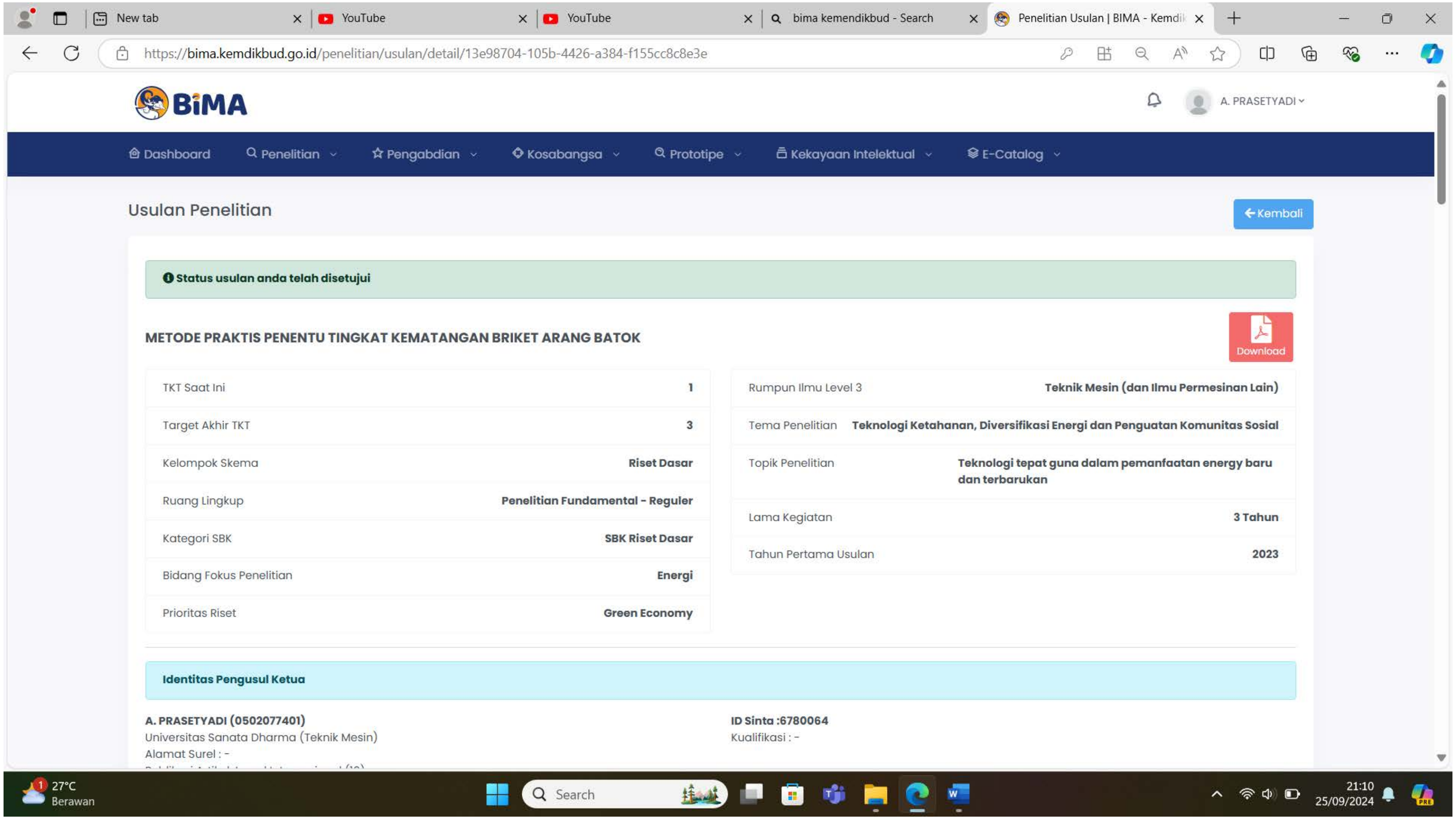
Log Book Penelitian terkait Publikasi dan Pembagian Kerja


New tab | YouTube | YouTube | bima kemendikbud - Search | Penelitian Usulan | BIMA - Kemdik

https://bima.kemdikbud.go.id/penelitian/usulan/detail/13e98704-105b-4426-a384-f155cc8c8e3e

BiMA

A. PRASETYADI

Dashboard | Penelitian | Pengabdian | Kosabangsa | Prototipe | Kekayaan Intelektual | E-Catalog

Usulan Penelitian

Kembali

Status usulan anda telah disetujui

METODE PRAKTIS PENENTU TINGKAT KEMATANGAN BRIKET ARANG BATOK

Download

TKT Saat Ini	**1**
Target Akhir TKT	**3**
Kelompok Skema	**Riset Dasar**
Ruang Lingkup	**Penelitian Fundamental - Reguler**
Kategori SBK	**SBK Riset Dasar**
Bidang Fokus Penelitian	**Energi**
Prioritas Riset	**Green Economy**

Rumpun Ilmu Level 3	**Teknik Mesin (dan Ilmu Permesinan Lain)**
Tema Penelitian	**Teknologi Ketahanan, Diversifikasi Energi dan Penguatan Komunitas Sosial**
Topik Penelitian	**Teknologi tepat guna dalam pemanfaatan energy baru dan terbarukan**
Lama Kegiatan	**3 Tahun**
Tahun Pertama Usulan	**2023**

Identitas Pengusul Ketua

A. PRASETYADI (0502077401)
Universitas Sanata Dharma (Teknik Mesin)
Alamat Surel : -

ID Sinta :6780064
Kualifikasi : -

27°C Berawan | Search | 21:10 25/09/2024

New tab | YouTube | YouTube | bima kemendikbud - Search | Penelitian Usulan | BIMA - Kemdik

https://bima.kemdikbud.go.id/penelitian/usulan/detail/13e98704-105b-4426-a384-f155cc8c8e3e

BiMA

A. PRASETYADI

Dashboard | Penelitian | Pengabdian | Kosabangsa | Prototipe | Kekayaan Intelektual | E-Catalog

Identitas Pengusul Ketua

A. PRASETYADI (0502077401)
Universitas Sanata Dharma (Teknik Mesin)
Alamat Surel : -
Publikasi Artikel Jurnal Internasional (10)
Publikasi Artikel Jurnal Nasional Terakreditasi (1)
Publikasi Artikel Prosiding (0)
Kekayaan Intelektual (0)
Buku (0)

ID Sinta :6780064
Kualifikasi : -

Anggota Usulan Dosen

NIDN	Nama Anggota	Peran	Uraian Tugas	Status
0528046601	PETRUS KANISIUS PURWADI	Anggota Pengusul	Mengembangkan Proses Pengeringan Briket Arang Batok	Menyetujui
0503106501	FRANCISCUS ASISI RUSDI SAMBADA	Anggota Pengusul	Mengembangkan Proses Pengujian Tingkat Kekeringan Briket Arang Batok	Menyetujui

Anggota Usulan Mahasiswa

NIM	Nama	Instansi	Prodi	Peran	No HP	Surel	Uraian Tugas
Anggota Mahasiswa Kosong							

Anggota Usulan Umum

27°C Berawan | Search | 21:11 25/09/2024

New tab | YouTube | YouTube | bima kemendikbud - Search | Penelitian Usulan | BIMA - Kemdik

https://bima.kemdikbud.go.id/penelitian/usulan/detail/13e98704-105b-4426-a384-f155cc8c8e3e

BiMA

A. PRASETYADI

Dashboard | Penelitian | Pengabdian | Kosabangsa | Prototipe | Kekayaan Intelektual | E-Catalog

NIM	Nama	Instansi	Prodi	Peran	No HP	Surel	Uraian Tugas
Anggota Mahasiswa Kosong							

Anggota Usulan Umum

NIK/Paspor	Nama	Alamat	Instansi	Negara	Peran	No HP	Surel	Kualifikasi	Bidang Keahlian	Uraian Tugas
Anggota Umum Kosong										

Substansi

Nama Makro Riset: Kelompok Riset terapan manufaktur

Unduh Substansi

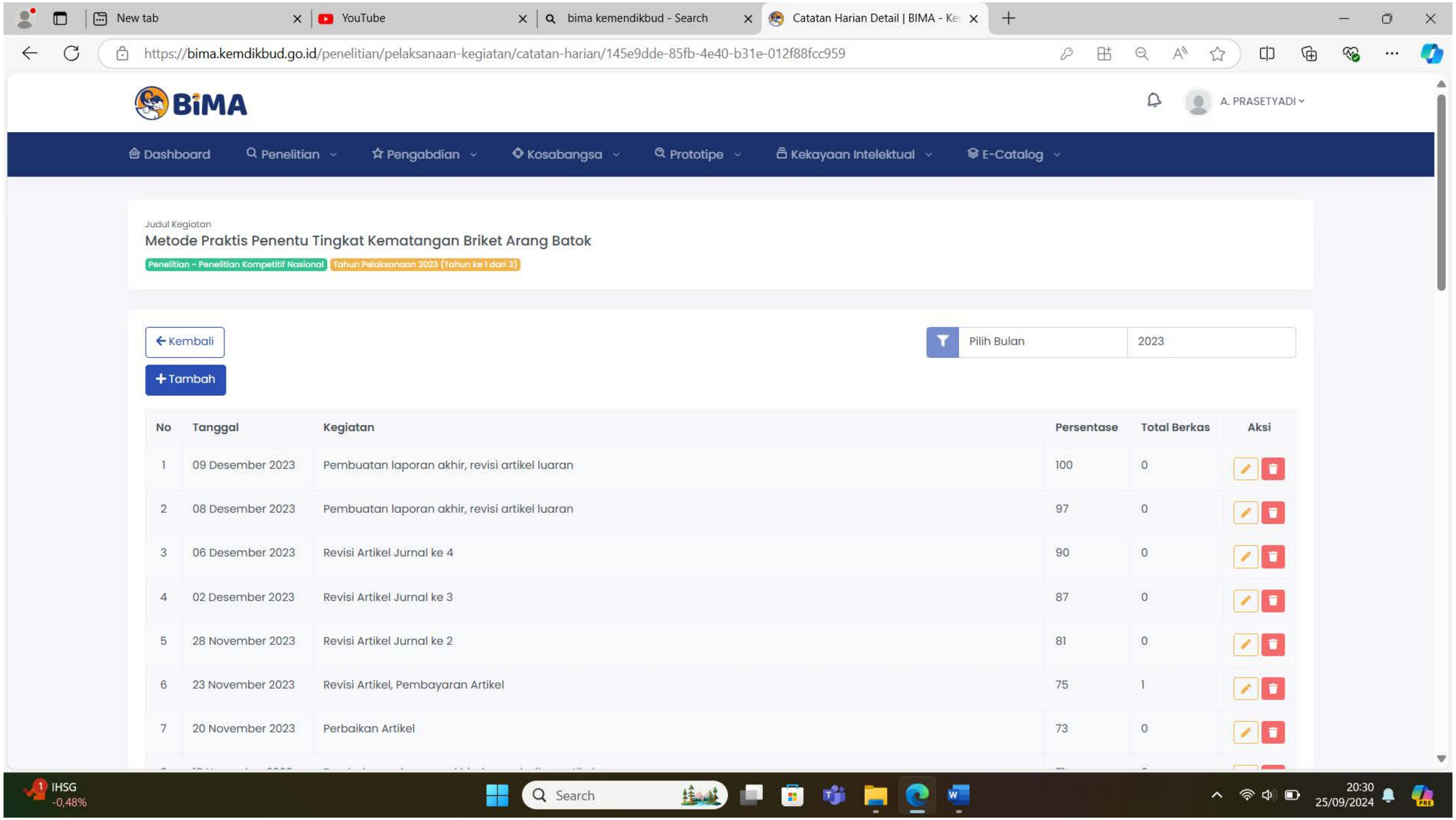
Luaran yang Dijanjikan

Urutan Thn Kegiatan	Kelompok Luaran	Jenis Luaran	Target	Keterangan
2	Luaran Wajib	Artikel di Jurnal Internasional Terindeks di Pengindeks Bereputasi	accepted/published	
1	Luaran Wajib	Artikel di Jurnal Internasional Terindeks di Pengindeks Bereputasi	accepted/published	
3	Luaran Wajib	Program komputer	Telah bersertifikat	

27°C Berawan | Search | 21:12 25/09/2024

Keterangan Pembagian Pekerjaan Penelitian:

1. Penulisan Proposal (Prasetyadi, Rusdi Sambada, Purwadi)
2. Pengambilan Sampel Briket (Prasetyadi)
3. Proses Pengeringan (Purwadi)
4. Pengukuran Parameter Mekanik (Rusdi Sambada, Staff)
5. Pengukuran Parameter Resistivitas (Prasetyadi, Staff)
6. Analisis Data (Prasetyadi)
7. Penulisan Laporan (Isi : Prasetyadi, Gambar : Rusdi Sambada)
8. Penulisan Artikel (Isi : Prasetyadi, Gambar : Rusdi Sambada)



BiMA

Dashboard | Penelitian | Pengabdian | Kosabangsa | Prototipe | Kekayaan Intelektual | E-Catalog

A. PRASETYADI

Judul Kegiatan

Metode Praktis Penentu Tingkat Kematangan Briket Arang Batok

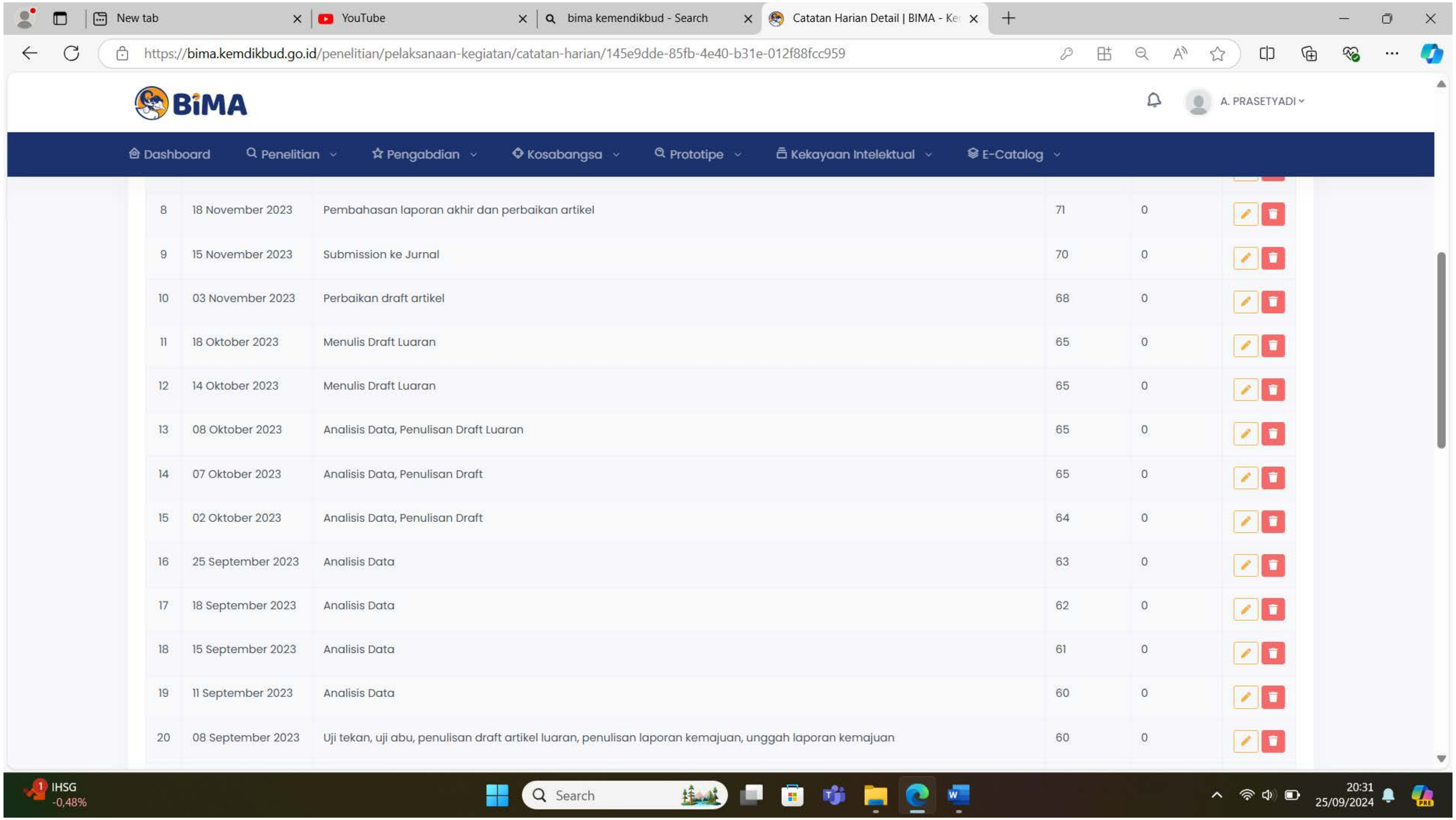
Penelitian - Penelitian Kompetitif Nasional | Tahun Pelaksanaan 2023 (Tahun ke 1 dari 3)

Kembali

Tambah

Pilih Bulan | 2023

No	Tanggal	Kegiatan	Persentase	Total Berkas	Aksi
1	09 Desember 2023	Pembuatan laporan akhir, revisi artikel luaran	100	0	
2	08 Desember 2023	Pembuatan laporan akhir, revisi artikel luaran	97	0	
3	06 Desember 2023	Revisi Artikel Jurnal ke 4	90	0	
4	02 Desember 2023	Revisi Artikel Jurnal ke 3	87	0	
5	28 November 2023	Revisi Artikel Jurnal ke 2	81	0	
6	23 November 2023	Revisi Artikel, Pembayaran Artikel	75	1	
7	20 November 2023	Perbaikan Artikel	73	0	



8	18 November 2023	Pembahasan laporan akhir dan perbaikan artikel	71	0
9	15 November 2023	Submission ke Jurnal	70	0
10	03 November 2023	Perbaikan draft artikel	68	0
11	18 Oktober 2023	Menulis Draft Luaran	65	0
12	14 Oktober 2023	Menulis Draft Luaran	65	0
13	08 Oktober 2023	Analisis Data, Penulisan Draft Luaran	65	0
14	07 Oktober 2023	Analisis Data, Penulisan Draft	65	0
15	02 Oktober 2023	Analisis Data, Penulisan Draft	64	0
16	25 September 2023	Analisis Data	63	0
17	18 September 2023	Analisis Data	62	0
18	15 September 2023	Analisis Data	61	0
19	11 September 2023	Analisis Data	60	0
20	08 September 2023	Uji tekan, uji abu, penulisan draft artikel luaran, penulisan laporan kemajuan, unggah laporan kemajuan	60	0

New tab | YouTube | bima kemendikbud - Search | Catatan Harian Detail | BIMA - Ke

https://bima.kemdikbud.go.id/penelitian/pelaksanaan-kegiatan/catatan-harian/145e9dde-85fb-4e40-b31e-012f88fcc959

BiMA

A. PRASETYADI

Dashboard | Penelitian | Pengabdian | Kosabangsa | Prototipe | Kekayaan Intelektual | E-Catalog

21	06 September 2023	uji tekan, uji abu, pengambilan briket batch 3, penulisan draft laporan kemajuan, penulisan draft artikel	55	0
22	05 September 2023	uji tekan, uji abu, pengambilan briket batch 3, penulisan draft laporan kemajuan	50	0
23	01 September 2023	Uji abu, uji hambatan briket batch 2, pemesanan briket batch 3	45	0
24	30 Agustus 2023	Uji abu, uji hambatan briket batch 2, merancang draft	42	0
25	29 Agustus 2023	Uji tekan , uji abu, uji hambatan briket batch 2, analisi data untuk merancang model	37	0
26	28 Agustus 2023	Uji tekan, uji abu, uji hambatan briket batch 2, analisis data batch 1	35	0
27	25 Agustus 2023	Uji tekan, uji abu, uji hambatan briket batch 2, memasukkan data dalam excel	30	0
28	23 Agustus 2023	Pengukuran Briket untuk batch ke-2 : Uji tekan, uji abu, uji hambatan	27	0
29	22 Agustus 2023	Mengambil briket kering batch 2, mengukur briket basah	24	0
30	20 Agustus 2023	Mengambil briket setengah kering	20	0
31	12 Agustus 2023	Menghubungi penyedia Briket untuk bahan batch ke-2	18	0
32	10 Agustus 2023	Mengukur Burning Rate, Kelembaban, Uji Tekan	15	0
33	08 Agustus 2023	Mengukur Hambatan, Burning Rate, Kelembaban, Uji Tekan, Pertemuan Tim	12	0
34	04 Agustus 2023	Mengukur hambatan dan pengovenan briket rainbow BS, mengambil sampel	9	0

IHSG -0,48%

Search

20:31 25/09/2024

New tab | YouTube | bima kemendikbud - Search | Catatan Harian Detail | BIMA - Ke

https://bima.kemdikbud.go.id/penelitian/pelaksanaan-kegiatan/catatan-harian/145e9dde-85fb-4e40-b31e-012f88fcc959

BiMA

A. PRASETYADI

Dashboard | Penelitian | Pengabdian | Kosabangsa | Prototipe | Kekayaan Intelektual | E-Catalog

32	10 Agustus 2023	Mengukur Burning Rate, Kelembaban, Uji Tekan	15	0	
33	08 Agustus 2023	Mengukur Hambatan, Burning Rate, Kelembaban, Uji Tekan, Pertemuan Tim	12	0	
34	04 Agustus 2023	Mengukur hambatan dan pengovenan briket rainbow BS, mengambil sampel	9	0	
35	02 Agustus 2023	Mencoba pengukuran dengan briket rainbow, mengambil sampel	7	0	
36	01 Agustus 2023	Diskusi hasil proses awal pengujian peralatan dan menguji ulang peralatan, mengambil sampel	6	0	
37	31 Juli 2023	Pengambilan sampel awal dan percobaan peralatan uji, pembelian bahan kotak sampel tambahan	5	0	
38	27 Juli 2023	Pembagian kerja dengan staff terkait rencana kerja baru, pemesanan bahan peralatan uji	4	0	
39	14 Juli 2023	Merancang Alat Pengukur, Menghubungi laboratorium PKim untuk menanyakan kemungkinan penggunaan boom calorimeter	3	0	
40	12 Juli 2023	Diskusi Perbaikan Proposal	2	0	
41	26 Juni 2023	Membicarakan strategi akuisisi briket	1	0	
42	15 Juni 2023	Diskusi dengan tim mengenai rencana kerja	-	0	

IHSG -0,48% Search 20:32 25/09/2024

Keterangan Aktifitas Log Book Penelitian

Metode Praktis Penentu Tingkat Kematangan Briket Arang Batok

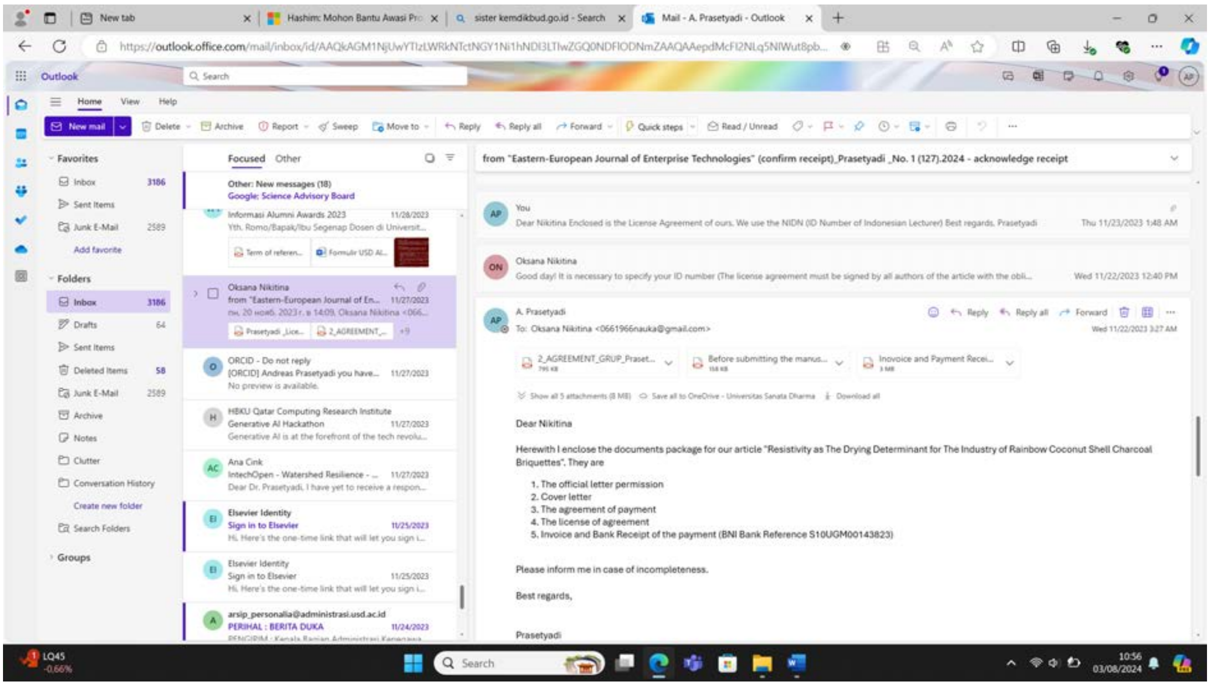
No Aktifitas Log	PIC	Keterangan
1	Prasetyadi, Rusdi	Pengunggahan Laporan ke Bima dilakukan bersama Revisi Artikel dilakukan oleh Prasetyadi
2	Prasetyadi, Rusdi	Perbaikan laporan akhir bagian gambar oleh Rusdi Draft Laporan Akhir dan Revisi Artikel dilakukan oleh Prasetyadi
3	Prasetyadi, Rusdi	Perbaikan gambar oleh Rusdi Perbaikan isi artikel oleh Prasetyadi
4	Prasetyadi	Perbaikan bahasa artikel oleh Prasetyadi
5	Prasetyadi	Perbaikan bahasa artikel oleh Prasetyadi
6	Prasetyadi	Perbaikan struktur artikel oleh Prasetyadi
7	Prasetyadi	Perbaikan struktur artikel oleh Prasetyadi
8	Prasetyadi, Rusdi	
9	Prasetyadi	
10	Prasetyadi	
11	Prasetyadi	
12	Prasetyadi	
13	Prasetyadi	
14	Prasetyadi	
15	Prasetyadi, Rusdi	Prasetyadi menyiapkan isi, Rusdi menyiapkan gambar
16	Prasetyadi	
17	Prasetyadi	
18	Prasetyadi	
19	Prasetyadi	
20	Prasetyadi, Rusdi	Rusdi mengawasi Pengukuran Prasetyadi menyiapkan draft penulisan Bersama mengunggah laporan kemajuan
21	Prasetyadi, Rusdi	Rusdi mengarahkan proses uji di Lab Prasetyadi menyiapkan draft laporan dan mengambil briket batch 3
22	Prasetyadi, Rusdi	Rusdi mengarahkan proses uji di Lab Prasetyadi mengambil briket batch 3 di CV MAC (gagal)
23	Pasetyadi, Rusdi	Rusdi mengarahkan proses uji di Laboratorium Prasetyadi memesan briket
24	Prasetyadi, Rusdi	Prasetyadi dan Rusdi menemani proses pengujian di Lab serta merancang draft artikel untuk INCASST
25	Prasetyadi, Rusdi	Prasetyadi dan Rusdi mendiskusikan data pengukuran pada Batch 1 untuk briket berbentuk Rainbow; Prasetyadi dan Rusdi mengarahkan staff dalam menguji hambatan briket
26	Prasetyadi, Rusdi	Prasetyadi dan Rusdi mengarahkan staff dalam menguji hambatan briket; Prasetyadi mengkompilasi data pengukuran batch 1
27	Prasetyadi, Rusdi	Prasetyadi dan Rusdi mengarahkan staff dalam pengukuran briket batch 2 serta mendokumentasi data

28	Rusdi	Rusdi mengarahkan staff dalam pengukuran briket
29	Prasetyadi, Rusdi	Prasetyadi mengambil briket batch 2; Rusdi mengarahkan staff dalam pengukuran briket batch 2
30	Prasetyadi	Prasetyadi mengambil sampel briket ½ kering
31	Prasetyadi	Prasetyadi menghubungi penyedia briket
32	Prasetyadi, Rusdi	Prasetyadi dan Rusdi mengarahkan pengukuran briket
33	Peneliti dan Staff	Prasetyadi dan Rusdi mengarahkan pengukuran, Peneliti dan Staff mendiskusikan pendokumentasian data pengukuran awal
34	Prasetyadi, Rusdi	Prasetyadi dan Rusdi mengarahkan pengukuran dan menguji hasil awal
35	Prasetyadi, Rusdi	Prasetyadi dan Rusdi mengarahkan pengukuran dan menguji hasil awal
36	Peneliti, Staff	Peneliti dan Staff menguji peralatan untuk dipergunakan dalam penelitian
37	Prasetyadi	Prasetyadi menyiapkan sampel awal dan membeli materi penyimpanan sampel
38	Peneliti, Staff	Pertemuan untuk mengkoordinasi pekerjaan
39	Prasetyadi	Prasetyadi menghubungi pihak terkait tentang kemungkinan pengujian
40	Peneliti	
41	Peneliti	
42	Peneliti	

Yogyakarta, 26 September 2024

Peneliti 1	Peneliti 2	Peneliti 3
A. Prasetyadi	Petrus Kanisius Purwadi	Rusdi Sambada

1. **Pengiriman naskah (22/11/2023) dan pemrosesan awal (penyelarasan bahasa)**



Outlook

Re: from "Eastern-European Journal of Enterprise Technologies" (confirm receipt)_Prasetyadi _No. 1 (127).2024 - acknowledge receipt

From A. Prasetyadi <pras@usd.ac.id>
Date Wed 11/22/2023 3:27 AM
To Oksana Nikitina <0661966nauka@gmail.com>

5 attachments (8 MB)

2_AGREEMENT_GRUP_Prasetyadi _ukr_eng signed.pdf; Before submitting the manuscript_2023 Prasetyadi.pdf; Inovoice and Payment Receipt.pdf; Prasetyadi _License_Agreement_ENG_EEJET_2023 with other (2).pdf; Surname_Cover Letter EEJET 2023 Prasetyadi.pdf;

Dear Nikitina

Herewith I enclose the documents package for our article "Resistivity as The Drying Determinant for The Industry of Rainbow Coconut Shell Charcoal Briquettes". They are

1. The official letter permission
2. Cover letter
3. The agreement of payment
4. The license of agreement
5. Invoice and Bank Receipt of the payment (BNI Bank Reference S10UGM00143823)

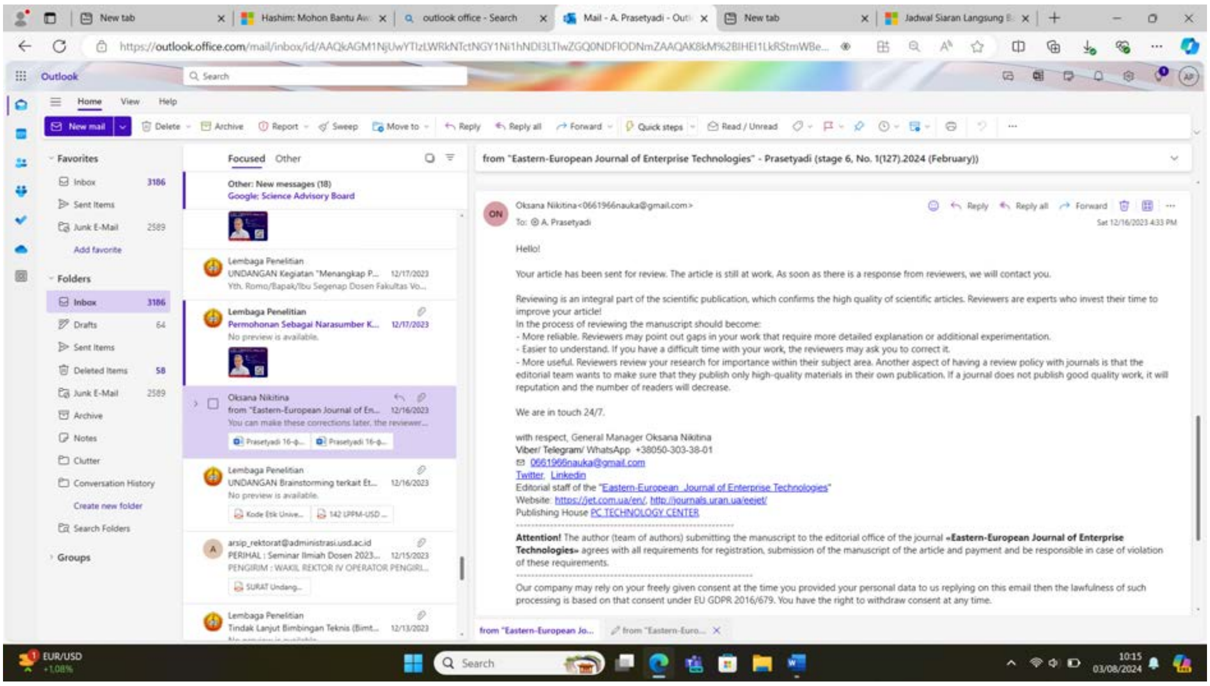
Please inform me in case of incompleteness.

Best regards,

Prasetyadi

From: Oksana Nikitina <0661966nauka@gmail.com>
Sent: Monday, November 20, 2023 12:09 PM

2. **Notifikasi Pengiriman naskah untuk proses review (16/12/2023)**



Outlook

Re: from "Eastern-European Journal of Enterprise Technologies" - Prasetyadi (stage 6, No. 1(127).2024 (February))

From Oksana Nikitina <0661966nauka@gmail.com>
Date Sat 12/16/2023 4:33 PM
To A. Prasetyadi <pras@usd.ac.id>

Hello!

Your article has been sent for review. The article is still at work. As soon as there is a response from reviewers, we will contact you.

Reviewing is an integral part of the scientific publication, which confirms the high quality of scientific articles. Reviewers are experts who invest their time to improve your article!
In the process of reviewing the manuscript should become:
- More reliable. Reviewers may point out gaps in your work that require more detailed explanation or additional experimentation.
- Easier to understand. If you have a difficult time with your work, the reviewers may ask you to correct it.
- More useful. Reviewers review your research for importance within their subject area. Another aspect of having a review policy with journals is that the editorial team wants to make sure that they publish only high-quality materials in their own publication. If a journal does not publish good quality work, it will reputation and the number of readers will decrease.

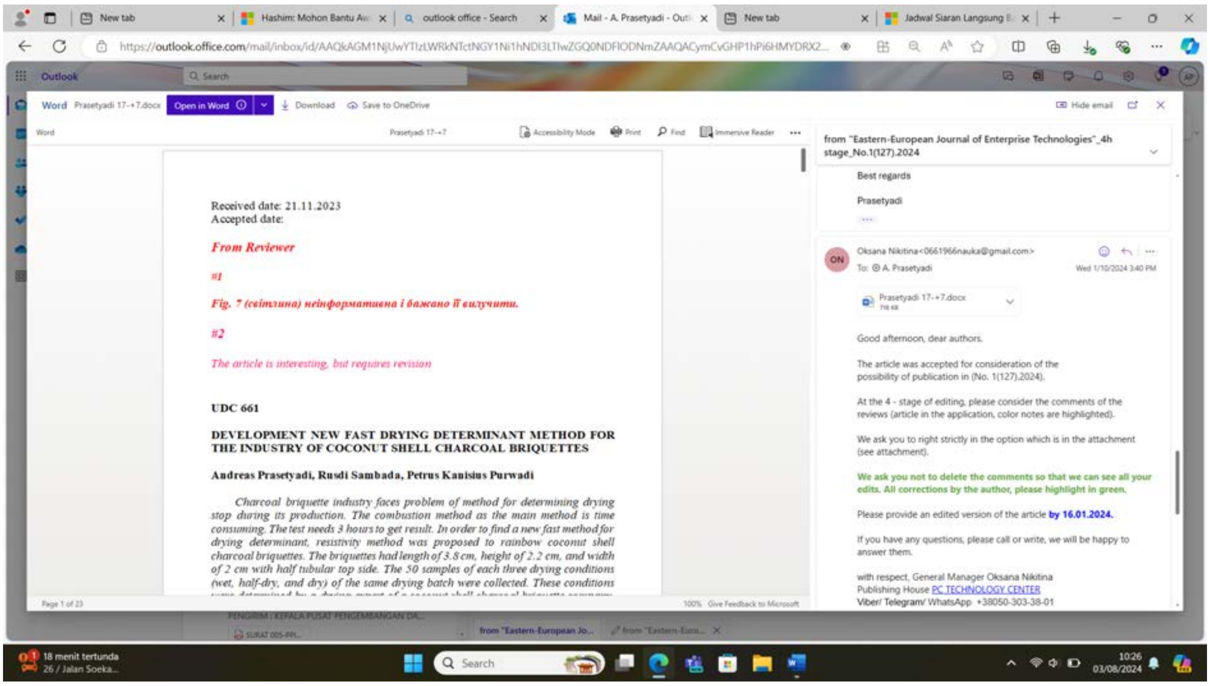
We are in touch 24/7.

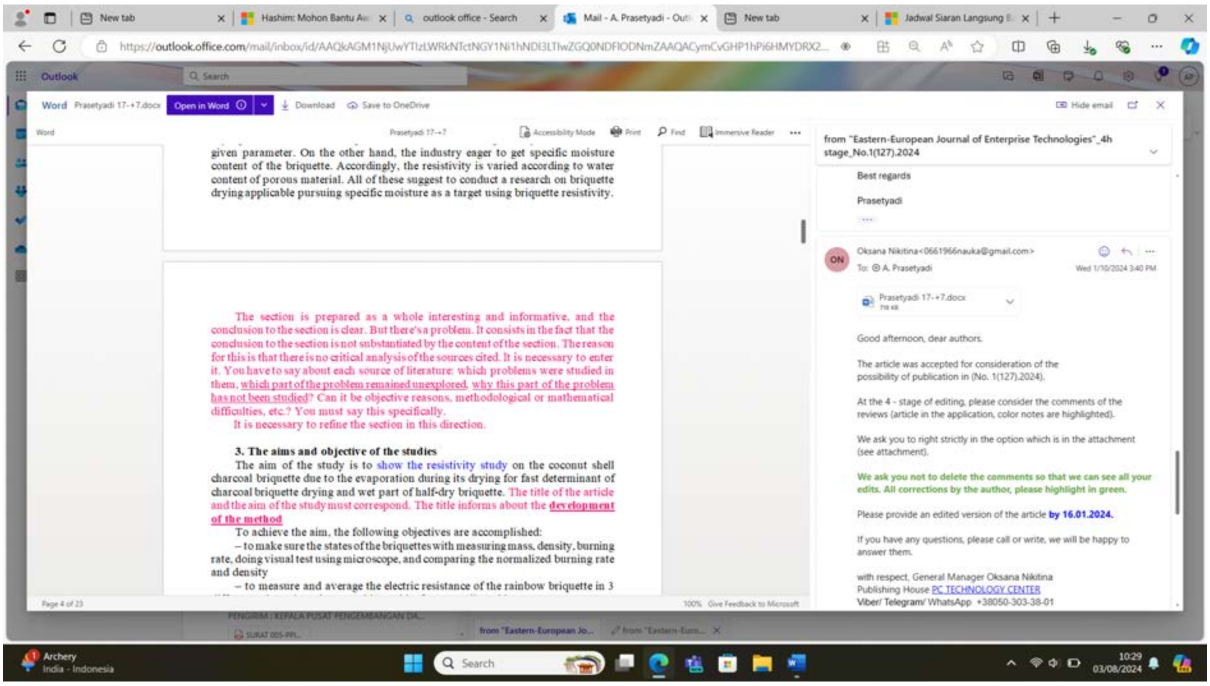
with respect, General Manager Oksana Nikitina
Viber/ Telegram/ WhatsApp +38050-303-38-01
✉ 0661966nauka@gmail.com
Twitter, Linkedin
Editorial staff of the "Eastern-European Journal of Enterprise Technologies"
Website: https://jet.com.ua/en/, http://journals.uran.ua/eejet/
Publishing House PC TECHNOLOGY CENTER

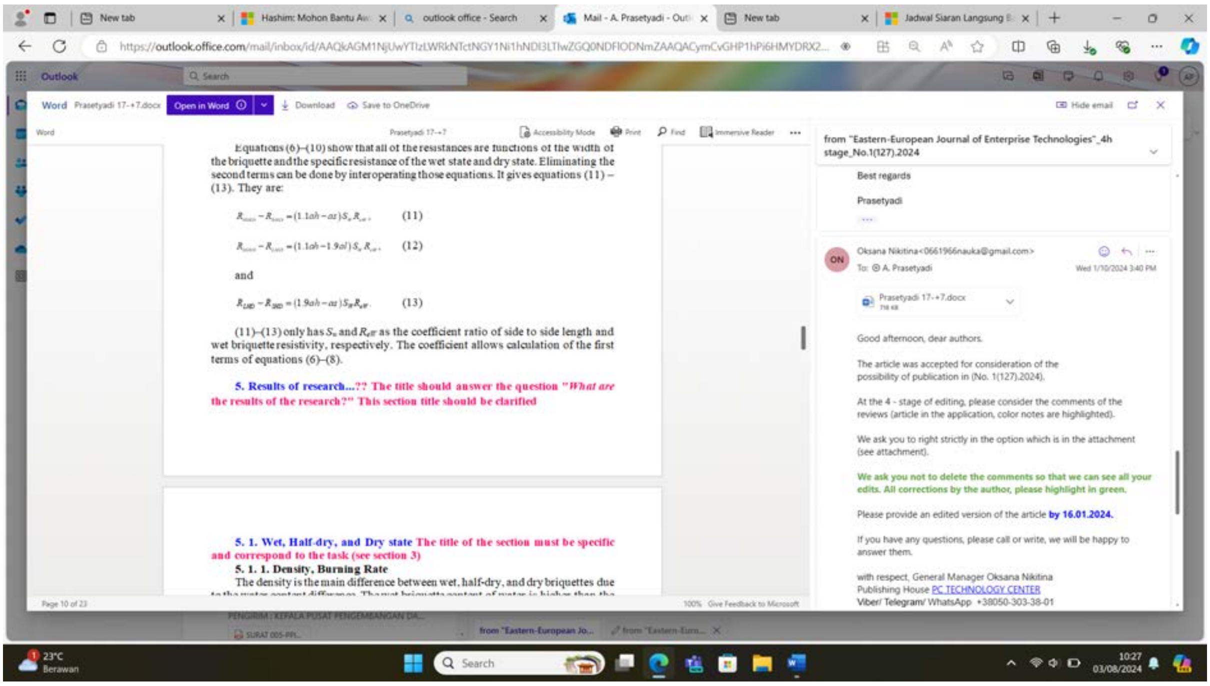
Attention! The author (team of authors) submitting the manuscript to the editorial office of the journal **«Eastern-European Journal of Enterprise Technologies»** agrees with all requirements for registration, submission of the manuscript of the article and payment and be responsible in case of violation of these requirements.

----

3. Review Artikel (10/1/2024)







Equations (6)–(10) show that all of the resistances are functions of the width of the briquette and the specific resistance of the wet state and dry state. Eliminating the second terms can be done by interoperating those equations. It gives equations (11) – (13). They are:

$$R_{...} - R_{...} = (1.1ah - az)S_e R_{...}, \quad (11)$$

$$R_{...} - R_{...} = (1.1ah - 1.9al)S_e R_{...}, \quad (12)$$

and

$$R_{LHD} - R_{SHD} = (1.9ah - az)S_R R_{eW}. \quad (13)$$

(11)–(13) only has S_e and R_{eW} as the coefficient ratio of side to side length and wet briquette resistivity, respectively. The coefficient allows calculation of the first terms of equations (6)–(8).

5. Results of research...?? The title should answer the question "*What are the results of the research?*" This section title should be clarified

5. 1. Wet, Half-dry, and Dry state The title of the section must be specific and correspond to the task (see section 3)

5. 1. 1. Density, Burning Rate

The density is the main difference between wet, half-dry, and dry briquettes due

from "Eastern-European Journal of Enterprise Technologies"_4h stage_No.1(127).2024

Best regards

Prasetyadi

Oksana Nikitina<0661966nauka@gmail.com>
To: A. Prasetyadi
Wed 1/10/2024 3:40 PM

Prasetyadi 17-+7.docx

Good afternoon, dear authors.

The article was accepted for consideration of the possibility of publication in (No. 1(127).2024).

At the 4 - stage of editing, please consider the comments of the reviews (article in the application, color notes are highlighted).

We ask you to right strictly in the option which is in the attachment (see attachment).

We ask you not to delete the comments so that we can see all your edits. All corrections by the author, please highlight in green.

Please provide an edited version of the article **by 16.01.2024.**

If you have any questions, please call or write, we will be happy to answer them.

with respect, General Manager Oksana Nikitina
Publishing House PC TECHNOLOGY CENTER
Viber/ Telegram/ WhatsApp +38050-303-38-01

Outlook

from "Eastern-European Journal of Enterprise Technologies"_4h stage_No.1(127).2024

From Oksana Nikitina <0661966nauka@gmail.com>
Date Wed 1/10/2024 3:40 PM
To A. Prasetyadi <pras@usd.ac.id>

1 attachments (718 KB)
Prasetyadi 17-+7.docx;

Good afternoon, dear authors.

The article was accepted for consideration of the possibility of publication in (No. 1(127).2024).

At the 4 - stage of editing, please consider the comments of the reviews (article in the application, color notes are highlighted).

We ask you to right strictly in the option which is in the attachment (see attachment).

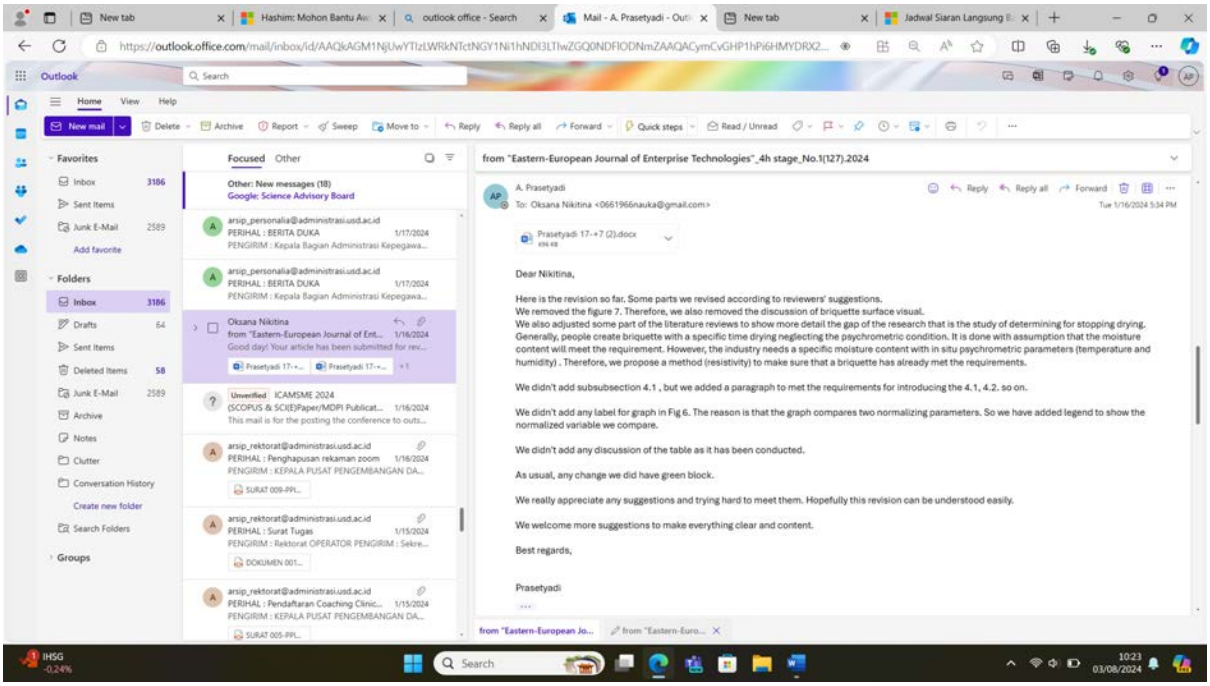
We ask you not to delete the comments so that we can see all your edits. All corrections by the author, please highlight in green.

Please provide an edited version of the article **by 16.01.2024.**

If you have any questions, please call or write, we will be happy to answer them.

with respect, General Manager Oksana Nikitina
Publishing House PC TECHNOLOGY CENTER
Viber/ Telegram/ WhatsApp +38050-303-38-01
0661966nauka@gmail.com
Twitter, Linkedin
Editorial staff of the "Eastern-European Journal of Enterprise Technologies"
Website: https://jet.com.ua/en/, http://journals.uran.ua/eejet/

4. Mengumpulkan revisi naskah dan penjelasan terhadap beberapa hal yang tidak disetujui dalam review (16/1/2024)



Outlook

Re: from "Eastern-European Journal of Enterprise Technologies"_4h stage_No.1(127).2024

From A. Prasetyadi <pras@usd.ac.id>
Date Tue 1/16/2024 5:34 PM
To Oksana Nikitina <0661966nauka@gmail.com>

1 attachments (696 KB)
Prasetyadi 17-+7 (2).docx;

Dear Nikitina,

Here is the revision so far. Some parts we revised according to reviewers' suggestions.
We removed the figure 7. Therefore, we also removed the discussion of briquette surface visual.
We also adjusted some part of the literature reviews to show more detail the gap of the research that is the study of determining for stopping drying. Generally, people create briquette with a specific time drying neglecting the psychrometric condition. It is done with assumption that the moisture content will meet the requirement. However, the industry needs a specific moisture content with in situ psychrometric parameters (temperature and humidity) . Therefore, we propose a method (resistivity) to make sure that a briquette has already met the requirements.

We didn't add subsubsection 4.1 , but we added a paragraph to met the requirements for introducing the 4.1, 4.2. so on.

We didn't add any label for graph in Fig 6. The reason is that the graph compares two normalizing parameters. So we have added legend to show the normalized variable we compare.

We didn't add any discussion of the table as it has been conducted.

As usual, any change we did have green block.

We really appreciate any suggestions and trying hard to meet them. Hopefully this revision can be understood easily.

We welcome more suggestions to make everything clear and content.

Best regards,

Prasetyadi

From: Oksana Nikitina <0661966nauka@gmail.com>
Sent: Wednesday, January 10, 2024 3:39 PM
To: A. Prasetyadi <pras@usd.ac.id>
Subject: from "Eastern-European Journal of Enterprise Technologies"_4h stage_No.1(127).2024

Good afternoon, dear authors.

The article was accepted for consideration of the possibility of publication in (No. 1(127).2024).

At the 4 - stage of editing, please consider the comments of the reviews (article in the application, color notes are highlighted).

We ask you to right strictly in the option which is in the attachment (see attachment).

We ask you not to delete the comments so that we can see all your edits. All corrections by the author, please highlight in green.

Please provide an edited version of the article **by 16.01.2024.**

If you have any questions, please call or write, we will be happy to answer them.

with respect, General Manager Oksana Nikitina
Publishing House PC TECHNOLOGY CENTER
Viber/ Telegram/ WhatsApp +38050-303-38-01
✉ 0661966nauka@gmail.com
Twitter, Linkedin
Editorial staff of the "Eastern-European Journal of Enterprise Technologies"
Website: https://jet.com.ua/en/, http://journals.uran.ua/eejet/

Received date: 21.11.2023
Accepted date:

Catatan berwarna hijau adalah catatan reviewer 2
Catatan berwarna merah adalah catatan reviewer1

From Reviewer

#1

Fig. 7 (світлина) неінформативна і бажано її вилучити.

#2

The article is interesting, but requires revision

UDC 661

DEVELOPMENT NEW FAST DRYING DETERMINANT METHOD FOR THE INDUSTRY OF COCONUT SHELL CHARCOAL BRIQUETTES

Andreas Prasetyadi, Rusdi Sambada, Petrus Kanisius Purwadi

Charcoal briquette industry faces problem of method for determining drying stop during its production. The combustion method as the main method is time consuming. The test needs 3 hours to get result. In order to find a new fast method for drying determinant, resistivity method was proposed to rainbow coconut shell charcoal briquettes. The briquettes had length of 3.8 cm, height of 2.2 cm, and width of 2 cm with half tubular top side. The 50 samples of each three drying conditions (wet, half-dry, and dry) of the same drying batch were collected. These conditions were determined by a drying expert of a coconut shell charcoal briquette company. Then, the resistances were measured and the geometrical factor was applied to find their resistivities. A model of resistivity at cross sectional layer was also applied to find the coefficients of front-tail, base-top, and side-side directions. These coefficients became particular way to find the position of the wet part in half-dry briquettes. The results of the work show that resistivities in combination with its distribution are potential to be used for fast drying stop determinant. The wet and dry briquettes have resistivities difference order of 10^2. The resistivities of the wet and dry briquettes are 450 kiloohm and 28 megaohm for every centimeter length, respectively. The half-dry and the dry briquettes have equal order of resistivities. However, the resistivities distribution of both conditions are very different. The dry briquettes have homogenous resistivities among the measurement emphasizing drying process of solid. It was also found that the half-dry briquette has surface dry part until 0.55 cm depth. The center of the briquette is still wet

Keywords: charcoal briquette, resistance measurement, fast drying determinant, resistivity method

1. Introduction

Briquette is a kind of prospective solid fuel renewable energy for many parts of the world [1], therefore, its production becomes important study in recent years. A main reason of studying the topic is about pursuing method to provide affordable green energy. Charcoal briquette is considered a reasonable fuel for local community especially the agricultural community [2]. Accordingly, local resources become an important discussion in the area [1]. The other popular issues are the technology and parameters for the production [3]. The charcoal briquette production consists of charcoal preparation, milling and mixing, compaction and moulding, and drying.

Charcoal briquette drying is important in charcoal briquette production in term of time, quality, and cost. The drying affects moisture content of the briquette implying briquette quality [3, 4]. Excepting the charcoal processing, coconut shell charcoal briquette production needs ⅔ of the production time for drying in a plant applying a hot air oven. The drying time is far longer in traditional method which depends on simple solar drying. Intermittency of solar heat existance, temperature, and humidity variations during the drying make the drying time extend. Moreover, time to move the briquette from storage to the field where the briquettes are exposed to the solar rays reduces drying effectiveness. To reduce the drying time, fossil fuel oven is usually applied. But it affects the drying cost and its carbon emission.

The drying time implies cost of production of the briquettes. Generally, it comes from the worker and production cycle. Longer time of drying means higher worker cost intensity. It also means higher investment costs to meet a specific amount productivity target. Some researchers reported that drying time determines the carbon content of the briquette. It implies the calorific values of the briquette, which is a primary parameter of quality showing the quality of the briquette [5]. Therefore, drying time is an essential issue of briquette charcoal production. It implies, a study of fast drying determinant is relevant to conduct.

2. Literature Review and Problem Statements

As a renewable energy easily applied in many regions, charcoal briquette gets attention from many researchers, but its drying is rarely discussed. Some issues becoming the main topic of the research include charcoal processing, briquette production steps and the availability of the material.

The charcoal briquettes can be produced from many organic material types, especially agriculture products. A briquette can be produced from biomass waste or specified wood planted for the briquette. Rice husk or straw, and palm shell or kernel, and sago are some waste that is reported for the briquette. Rice husk or straw charcoal briquette can be produced with corn or cassava starch without any difference of its combustion characteristic [6]. The palm shell or kernel charcoal briquette was also reported to be a potential source for renewable energy in order to cope Ghana energy crisis [7]. The sago stem midrib can also be proceeded to be activated charcoal briquette [8]. A rubber wood waste for briquette production was reported as added value of plantation cycle [9]. As it comes from biomass, the charcoal briquette is regarded to have negative carbon emissions. Moreover, the biomass material of the briquette fuel is usually the secondary product or by-product of agriculture. Therefore, the emission goes for the main product. The emission is calculated from the processing only.

The briquette should have charcoal processing first. The temperature is important in charcoal processing and affecting the final quality of the solid fuel. Malaysian Bamboos were made by kiln at 750 ^oC to be charcoal suitable for domestic use [10]. Increasing temperature above 600 ^oC for charcoal processing of sapwood and heartwood increases fixed carbon, but reduce slightly the calorific value [11]. Below the temperature, higher temperature charcoal production increases charcoal calorific value [12]. The effect of charcoal processing temperature to the quality also appears on density, durability, compressive strength, and water resistance [13].

The other studies concerning charcoal briquette production are about the briquette materials, binders, and quality tests. The availability of material is essential for briquette production concerning about its sustainability and economical calculation [14]. The binder composition was studied for corn and cassava starch resulting similar quality effect [15]. The same article also mentioned the bonding relation to the hardness of the briquette. The compaction affected calorific value positively, but it had negative impact on its burning rate [16]. The quality is shown with proximity tests such as moisture, volatile, ash, fixed carbon, and calorific values [17]. The quality of the briquette was also shown by combustion temperature and ignition rate. A good briquette was reported to have high-temperature combustion and low ignition rate [8, 16]. A research on the variability of quality was reported by [18]. The research mentions that a good quality briquette has high fixed carbon, heating value, and low ash and volatile. The works show that drying is the only relatively homogenous parameter. The material becomes an issue due to the availability of the local. The study's spirit is usually based on renewable energy necessity [7]. The bonding and composition are studied to meet optimum briquette production. However, the drying study in briquette production still needs to be explored.

The drying briquette issues are generally limited to moisture content and technology of the drying. A review on briquette production reported that 68 % of the briquette production concerned about moisture content. The moisture content of briquettes ranges from 2.50% until 10.4% [3]. ~~Unfortunately~~ However, targeting specific moisture in a production step is far from the spotlight in pursuing briquette quality. The moisture generally becomes the given of the process. It is in opposition to production process in an enterprise which needs moisture content as the targeting variable.

The drying process of solid materials, a typical process in industry, generally consists of three steps: constant rate, first fall, and second fall. First, the constant drying rate happens when the mass transfer exists to keep constant surface humidity. This condition takes place in a saturated system. The water is homogeneously distributed. The drop water content at the surface makes the water flow from the inner part to the surface. Second, the first drying rate fall is the main character of the process when the water content at the surface is below saturation. In this situation, the internal driving force cannot spontaneously flow the water to the surface. The drying process depends on surface contact with the air. Third, the second drying fall follows as the surface's water content is under the wet bulb condition. Temperature is vital to push the water to the surface [19].

Drying a briquette, a process of reducing the water content and any other liquid-solid of a briquette, depends on the relative humidity, temperature difference, contact surface and time. The main function of drying is to reduce the water content of a material [19]. In addition to temperature, humidity became the second important parameter affecting the results of drying in coating using water base material [20]. Temperature difference between the air and the material also essential parameter for drying process [21]. The higher temperature of the solids than the air allows the water content to be released due to its internal driving force. Such drying is the main principle of contact drying method. The temperature difference between the solid and the air affects the water's evaporation speed on the surface, which becomes the principle of the convective drying approach. Less temperature of the solid also increases evaporation speed following the diffusive and purging principle. Such phenomena are part of the hot-air drying method. The contact surface of the air and solid implies convective evaporation. Forced convective flow is usually applied to increase the evaporation rate. The more a briquette is exposed to the air, the less water content is in the briquette.

Water content is hypothesized to be the reason for the increase of the electric conductivity of the briquette. Water insertion of compacted carbon particles increases its conductivity, especially in saturated conditions. The relationship between water and carbon is less significant than water – water [22]. The amount of water content in a porous carbon still affects the conductivity due to ionic transport [23]. Water has a conductivity of 3.5 10–5 Sm^{-1}, and the amorphous carbon has a conductivity of 1.25 10^3 Sm^{-1}, but compaction of the carbon reduces its conductivity without reducing its porous [24]. The existence of water in the carbon-compacted block increases conductivity significantly.

The distribution of water inside the briquette during the drying depends on the evaporation on its surface. The process makes a distribution of water content inside of the briquette. According to the report of [21], water distribution follows the distance from the surface. Briquette's surface content is less water than the depth. The water content was left in the depth of the briquette. Separated section of dry and wet appears because of the drying steps. These sections create a pattern of resistivity. Therefore, water content after the drying process of a briquette affects its resistivity. However, the study of the resistivity effects of the water content for briquette drying is scarce. With an assumption that the more water inside of the briquette, the less electric resistance is, the model of the amount of water content can be traced through its resistivity. Higher electricity resistance happens when the briquette gets drier.

The drying process is essential in briquette production and the study of briquette drying was out of the studies spots. The moisture content is generally considered as a given parameter. On the other hand, the industry eager to get specific moisture content of the briquette. Accordingly, the resistivity is varied according to water content of porous material. All of these suggest to conduct a research on briquette drying applicable pursuing specific moisture as a target using briquette resistivity.

The section is prepared as a whole interesting and informative, and the conclusion to the section is clear. But there's a problem. It consists in the fact that the conclusion to the section is not substantiated by the content of the section. The reason for this is that there is no critical analysis of the sources cited. It is necessary to enter it. You have to say about each source of literature: which problems were studied in them, which part of the problem remained unexplored, why this part of the problem has not been studied? Can it be objective reasons, methodological or mathematical difficulties, etc.? You must say this specifically.

It is necessary to refine the section in this direction.

3. The aims and objective of the studies

The aim of the study is to show the resistivity study on the coconut shell charcoal briquette due to the evaporation during its drying for fast determinant of charcoal briquette drying and wet part of half-dry briquette. The title of the article and the aim of the study must correspond. The title informs about the **development of the method**

To achieve the aim, the following objectives are accomplished:

– to make sure the states of the briquettes with measuring mass, density, burning rate, doing visual test using microscope, and comparing the normalized burning rate and density

– to measure and average the electric resistance of the rainbow briquette in 3 different orientation; they are side to side, front to tail, and bottom to top

– calculate the resistivities of the briquettes according to geometrical factor accommodating the different shape of surfaces.

– to calculate the coefficients of the model and find the depth of the wet and dry part layer of half-dry briquette.

4. Materials and Methods

4.1. Object and hypothesis of the study

- object of research?
- the main hypothesis of the study?
- assumptions made in the work?
- simplifications adopted in the work?

An element's electric resistance depends on the material's length, cross-sectional area, and resistivity. Based on the principle, a model of the cross-sectional resistance ratio will be built assuming isotropic resistivity. The resistivity distribution will be applied to predict the water content of the material, indicating the drying process condition. The model will be plotted to resistances measured for wet, half-dry, and dry charcoal determined by the experienced quality control person of the briquette company as the validation.

4. 1. The Rainbow Coconut Shell Charcoal Briquette

The briquettes used in the research were rainbow-type coconut shell briquettes collected from a briquette company in Klaten, Central Java, Indonesia. They had a length of 3.8 cm, a height of 2.2 cm, and a width of 2 cm. Therefore, the briquettes had a volume of 11.4 cm^3. The base of the briquette is a rectangle, and the top of the briquette is half tube. The shape of the rainbow-type coconut shell charcoal briquette is shown in Fig. 1. The radii of the semi tubular is half of the rectangular width.

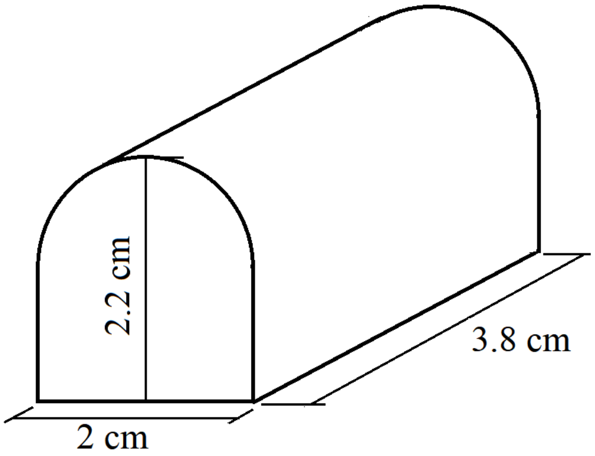


Fig. 1. The rainbow-type coconut shell charcoal briquette and its dimensions

The calorific value of the briquette is rated 7000 cal/gr. The briquette had a composition of 95 % coconut shell charcoal and 5 % starch of cassava flour. Thirty per cerectant weight of demineralized water was added during the mixing. Compaction with a ratio of 4:1 was conducted using a screw-type pressing machine during the molding. A hot air drying was applied to the briquette for drying with an average temperature increase from room temperature to 100 °C in two days.

4. 2. Drying state model

The drying process follows heat transfer and mass transfer principles. The water content removal as the mass transfer starts from the surface. It also happens to heat transfer. While the heat flows from the surface to the briquette's depth, there is a temperature gradient. The gradient forms a temperature contour shown in [21]. The contour also happens for water content. The water content of the surface tends to be dryer than the depth. After the constant drying phase, the separation zone happens. There are two zones, the dry and the wet. Therefore, a wet and dry distribution model can be proposed for cross-section areas, as shown in Fig. 2. The wet and dry sections are distributed at the horizontal and vertical cross-sections.

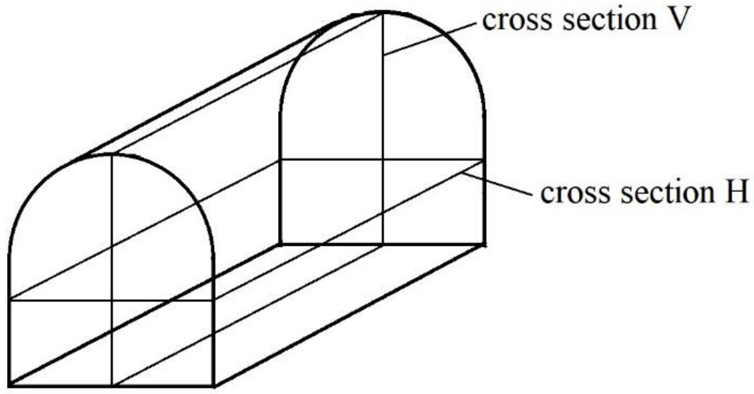


Fig. 2. Horizontal and Vertical cross sections

Assuming that the drying process in both cross-section areas is isotropic, the dry part of the cross-section is b. The wet part left in the centre of the cross-section is signed with a. Additional alphabet after the ‘a’ shows part of the direction of the cross-section areas. The *as* is used to name the wet part of the horizontal cross-section in the direction of side to side. It is shown in Fig. 3. The *ah* is applied for the wet part of the base-top direction in Fig. 4. The *al*; mentions the wet part in the direction of the front-tail as shown in Fig 5. It can be inferred that the horizontal cross-section has a wet part of as and al. The vertical cross-section has a wet part of *ah* and *al*.

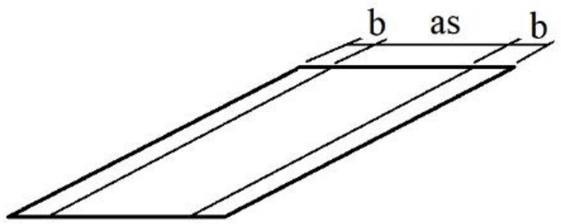


Fig. 3. The distribution of wet and dry part in side-side direction

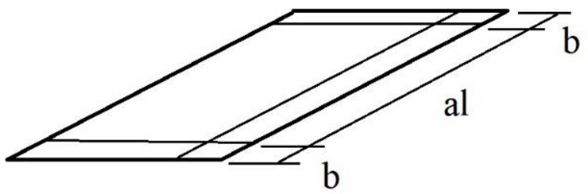


Fig. 4. The distribution of wet and dry part front-tail direction

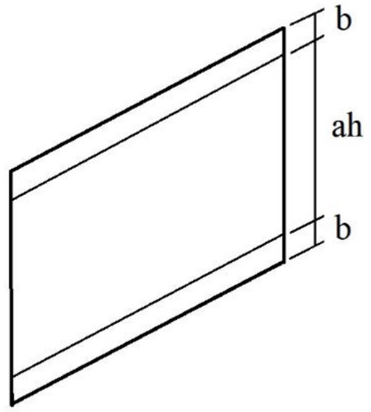


Fig. 5. The distribution of wet and dry part of base-top direction

Regarding the shape as mentioned in Fig. 1, only front and tail have equal distance for the cross-section. Therefore, the side-side layer needs adjustment of the cross-section area and the base-top layer need adjustment of the distance. The cross-sections in opposite sides have the same distance. These adjustments become the geometrical factors.

4. 3. Resistance measurement

The resistance measurement of the briquettes was applied with two probes of digital ohmmeter with a sensitivity of 2 digits ranging from 0 – 40 megaohm. The resistance between surfaces on opposite sides was measured on all surfaces of each briquette sample. There were 50 samples of each drying condition: wet, half-dry, and dry. The wet briquettes were the briquettes after leaving the compaction process and did not go for drying yet. Such briquette has saturated water content. Half dry was the briquette, having been in the oven for 1 of 2 days drying. The temperature of the oven at that time was 50 ^{o}C. The dry briquettes were the briquettes leaving the oven under the QC inspection. The temperature of the oven when the drying stopped was 100 ^{o}C. The surface for the contact position of the probes and the probe distance are shown in Table 1.

Table 1
Resistance and probe position

Variable	Probe position	Probe distance (cm)
RL	Front and tail	3.8
RH	Base and top	2.2
RS	Left and right side	2

The positions of the probes as mentioned in Table 1 were on the longest distance of the cross-sections. With adjustment of the distance, the probe distance of the base-top became 1.985 cm. The distance was the average of the distance between the base and the top the briquette.

4. 4. Analysis of the resistance

Resistance is predicted to be proportional to charcoal briquette length, resistivity, and its cross-section inverse. Even though the briquette has been compacted, it is still porous. During the briquette, these pores are filled with water. The water increases its conductivity. However, as the water is equally distributed through the briquette, the resistances of R_L, R_H, and R_S are assumed to be proportional to each length and cross-section inverse. As the drying occurs, the resistance will increase following the reduction of the briquette's water-filled porous. The drying reduces the water from the surface; therefore, the ratio of the water-filled porous part among the resistance direction will change as the briquette gets dryer.

The resistivity of the briquette is assumed to be equal and depends only on the water filling the porous. This resistivity shows the character of the material. Following the strategy in Geophysics, the resistivity of a material can be traced from a measurement as equation (1). R_e and R_{eApp} are the resistivity of the material and its measurement result or apparent resistivity. The K is the geometry factor representing the material's geometrical approach:

$$R_e = KR_{eApp}. \tag{1}$$

The shape of the rainbow briquette needs cross-section adjustment of the measured resistance, namely the cross-section factor. The factors are calculated assuming that the cross-sections of the briquette are equal on the opposite sides where the probes are located. For the front-tail side, both cross-sections are equal; the cross-section factor is equal to its cross-section. The half-conic shape affects the cross-section for the base-top and right side–left side. The cross-section factors are calculated from equation (2):

$$cross-section\ factor = \frac{volume}{probe\ distance}. \tag{2}$$

Assumed resistivity of the briquette with any water content is homogenous. Then, the resistance between the front and tail (R_L) is proportional to its length coefficient (L) – as mention in equation (3):

$$R_L = LR_e. \tag{3}$$

A similar approach can be applied to the resistance of left and right (R_S), and base and top (R_H). They are proportional to wide coefficient (S) and height coefficient (H) respectively as mentioned in equation (4) and (5):

$$R_S = SR_e, \tag{4}$$

$$R_H = HR_e. \tag{5}$$

The wet condition gives a primary ratio proportional to its length. It is 3.8: 2.2:

2. It shows the ratio of L_W: H_W : S_W. The subscript W of the coefficient means wet condition. The ratio L_{HD} : H_{HD} : S_{HD} and L_D : H_D : S_D parts of the wet briquette in each direction in half dry and dry condtion, respectively. The relationships of each coefficient will be:

$$R_{SHD} = asS_W R_{eW} + 2bS_W R_{eD}, \tag{6}$$

$$R_{HHD} = ahH_W R_{eW} + 2bS_W R_{eD}, \tag{7}$$

and

$$R_{LHD} = alL_W R_{eW} + 2bS_W R_{eD}, \tag{8}$$

with R_{eW} and R_{eD} are the specific resistence of the element at wet and dry condition, respectively. It also assumes that the wet area is located bS_W from the surface. Applying the ratio at wet, it can be get:

$$R_{HHD} = 1.1ahS_W R_{eW} + 2bS_W R_{eD}, \tag{9}$$

and

$$R_{LHD} = 1.9alS_W R_{eW} + 2bS_W R_{eD}. \tag{10}$$

Equations (6)–(10) show that all of the resistances are functions of the width of the briquette and the specific resistance of the wet state and dry state. Eliminating the second terms can be done by interoperating those equations. It gives equations (11) – (13). They are:

$$R_{HHD} - R_{SHD} = (1.1ah - as) S_W R_{eW}, \tag{11}$$

$$R_{HHD} - R_{LHD} = (1.1ah - 1.9al) S_W R_{eW}, \tag{12}$$

and

$$R_{LHD} - R_{SHD} = (1.9ah - as) S_W R_{eW}. \tag{13}$$

(11)–(13) only has S_w and R_{eW} as the coefficient ratio of side to side length and wet briquette resistivity, respectively. The coefficient allows calculation of the first terms of equations (6)–(8).

5. Results of research...?? The title should answer the question "*What are the results of the research?*" This section title should be clarified

5. 1. Wet, Half-dry, and Dry state The title of the section must be specific and correspond to the task (see section 3)

5. 1. 1. Density, Burning Rate

The density is the main difference between wet, half-dry, and dry briquettes due to the water content difference. The wet briquette content of water is higher than the others. Therefore, its density is the highest. The half-dry also has a slightly higher density than the dry briquette. The wet briquette has a density higher than 1.4 g/cm^3. The dry briquette has a density of 1.14 g/cm^3. Accordingly, more than 3 gr water evaporated during the drying. It counts for nearly 30 % of the mass.

The average mass and density of the different water content of the briquette can be seen in Table 2. The table shows that wet briquette has the highest density and burning rate. Oppositely, the dry briquette has the lowest density and burning rate. In addition to differences in mass and density, the burning rate of the briquette also depends on the water content. The wetter, the higher the burning rate is. The difference between wet and dry briquette burning rates is about 0.04–0.05 g/minute. The number is around 30 % of the burning rate mass of the dry briquette. It confirms the mass difference between dry and wet briquette.

Table 2

Mass, burning rate, and density of the briquette in each condition

Condition	Average mass (gr)	Burning rate (g/minute)	density (g/cm^3)
Wet	16.71	0,221	1.465
Half-dry	13.06	0,199	1.146
Dry	13.00	0,175	1.140

5. 1. 2. Comparing the normalized burning rate and density

Normalization of the density and burning rate are calculated to the density and burning rate of the wet briquettes. The normalization of the densities and burning rates were conducted to the density of the wet. Therefore, both normalizations of the wet briquettes are ones. The comparison of the burning rate normalization and the density normalization can be used to predict whether the water distributed equally at the half-dry briquette. The comparison of the normalized burning rate and density of the briquettes in every condition is shown in Fig. 6.

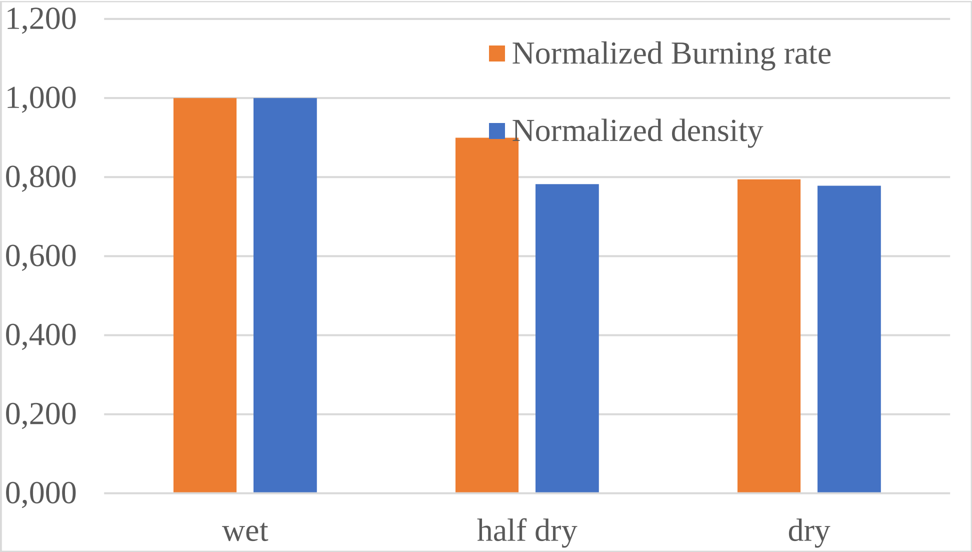
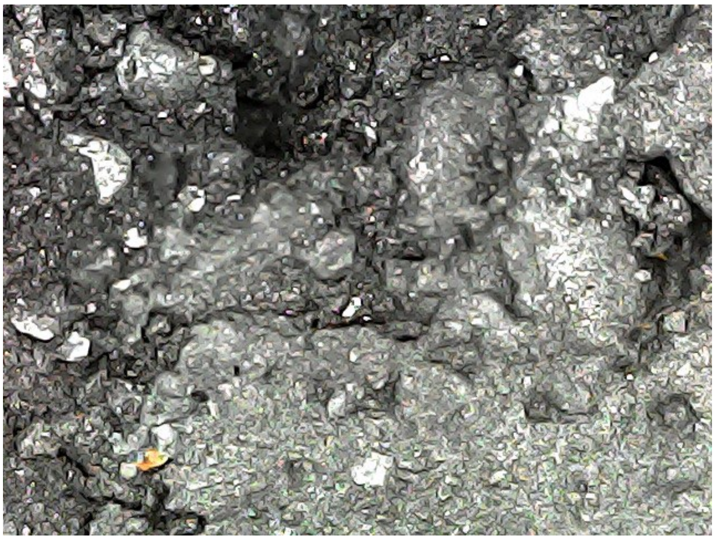


Fig. 6. The comparison of normalized burning rate and density
It is necessary to label the ordinate axis

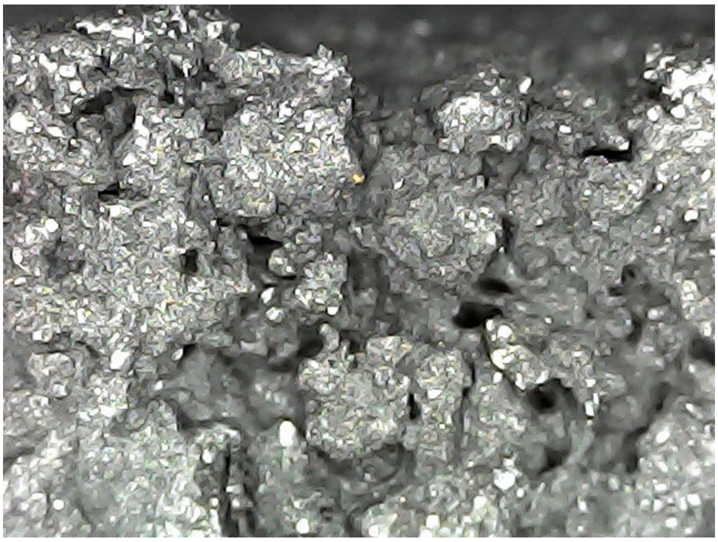
The half-dry briquette has highest dissimilarity between the normalization of burning rate and the normalization of the density. The wet briquette has equal normalizations of density and burning rate. The dry briquette has slightly difference between the burning rate normalization and the density normalization. The half-dry briquette has slightly different with the dry, but it has clear difference of the burning rate. It means that water content is not equally distributed in the half-dry briquette.

5. 1. 3. Visual of the Wet, Half-dry, and Dry Briquettes

Appearances of the wet, half-dry and dry briquette under a microscope can be seen in Fig. 7, *a–c*. The figure informs that wet briquette has porous containing water. The surface seems smooth, and the charcoal granules can be seen clearly. The half-dry briquette is porous. The depth of the porous can be seen clearly. It is different from the dry briquette, which shows that it is deep and porous. The base of the porous half-dry can be seen clearly from the microscope, but the dry briquette cannot be seen.



a



b

c

Fig. 7. The appearance of briquette surfaces under the microscope: *a* – a wet briquette; *b* – a half-dry briquette; *c* – a dry briquette What is the scale of these photos?

The appearance of the half-dry briquette is similar to the dry one. Both briquette surfaces have clear porous surfaces. The porous is greater than the briquette particle. The porous of the dry is bigger than the half-dry.

5. 2. The Average Resistance of the Briquettes The title of the section must be specific and correspond to the task (see section 3)

Table 3 mentions average resistances of the wet, half-dry, and dry briquettes. RL, RH, and RS are the resistances of the front-tail direction, base-top direction, and side – side direction, respectively. The RLs have highest resistance among the other direction resistances. RSs tend to be the least resistances.

Table 3
Average resistances of wet, half dry and dry condition

Condition	RL	RH	RS	unit
BS (Wet)	151.1031	101.7528	63.1401	kOhm
SK (Half Dry)	9.0814	6.62156	5.82362	MOhm
KR (Dry)	7.613911	6.198	5.32784	MOhm

Generally, the resistance of the wet briquette is in kilo ohm, while the resistances of other conditions are in units of mega ohm. It informs that water content significantly affects the resistance. The length of the bands representing probe position distances affects its resistance. However, the resistance of dry conditions tends to be less than half dry in all conditions.

5. 3. The Resistivities The title of the section must be specific and correspond to the task (see section 3)

Applying the cross-section factor to the average resistance, the briquette resistivities every centimeter and 1 cm square cross-section according to its direction are shown in Table 4. The cross-section factors of the briquette are shown in Table 5. The factors reflect effects of the ends of the cross-section area where the probes located.

Table 4
The resistivities of wet, half dry and dry condition for every 1 cm^2 cross-section

Condition	L	H	S	unit
RW	5,698 10^{-01}	4,694 10^{-01}	3,204 10^{-01}	M ohm m
RHD	3,424 10^{1}	3,055 10^{1}	2,955 10^{1}	M ohm m
RD	2,871$10^{1}$	2,859 10^{1}	2,704 10^{1}	M ohm m

Table 5
Cross-section factor of the resistivity

Direction	Cross-section factor (cm^2)
L	3.771
H	4,613
S	5,074

The half-dry has highest resistivity, but it has less homogeneous resistivity than the dry. It can be seen at Table 4. The element resistivity of 1 square centimeter briquette of the front – tail at half-dry was 3.424 10^{-1} M ohm m. But the left-right side resistivity of an element of 1 square centimeter was 2.955 10^{-1} M ohm m. The dry briquette has 2.871 10^{-1} M ohm m and 2.704 10^{-1} M ohm m of front – tail and side – side resistivity, respectively. The resistivity range of the half dry briquette is 4.69 M ohm m, while the dry briquette has resistivity range of 1.67 M ohm m.

Higher resistivity of half dry than dry briquette resistivity happens due to the character of water content of the porous material. The amorphous carbon has higher conductivity than water. But the saturated water porous material allows ionic flows as aforementioned in introduction. When the water was trapped inside of the briquette, the cross-section of the briquette is less than dry briquette. It implies higher resistivity of the briquette at half dry than the dry one. The range of resistivity also confirms the situation as the front-tail resistivity difference between half-dry and the dry is higher than side-side resistivity different between both.

Averaging the resistivity at Table 4 informs general resistivity of the briquette as shown in Table 6. The resistivity confirms that the wet briquette has far less resistivity than half-dry and the dry one. The order of difference is 10^2. The wet briquette has resistivity order of ten kilo ohm, while the half-dry or the dry briquette has resistivity order of mega ohm. Therefore, it is easy to differ the wet briquette and the half-dry or the dry briquette.

Table 6
Average resistivity of the briquette for 1 square centimeter

Condition	Resistivity (mega ohm m)	Standard deviation of the resistivity (mega ohm m)
wet	$5.196\ 10^{-1}$	$1.254\ 10^{-1}$
half-dry	$3{,}240\ 10^{1}$	2.472
dry	$2{,}86510^{1}$	$9.340\ 10^{-1}$

Applying equation (1) to the data of the resistivity, it can be found the averages and their standard deviation as shown in Table 6. The half-dry and the dry briquette have different resistivity distribution, even they have the same order. Both have order of mega ohm, but the half-dry standard deviation of the resistivity is 2.47 mega ohm m while the dry briquettes have standard deviation of 0.93 mega ohm m. The dry briquette has less resistivity deviation than half-dry.

5. 4. The Coefficients of the model and the depth of the wet part of half-dry briquette

The resistivities of the Table 4 can be used for calculating equations (11), (12), and (13) to find –208.91, –7.1629, and –1.0983 for *ah*, *as*, and *al*, respectively. They are the coefficients of the model that can be used for calculating the position of the wet part of the half-dry briquette.

Application of the numbers to equation (5) can bring b as 0.553. The number means that 0.553 cm from the surface of the average half-dry briquette is dry while the rest is still wet. It is also confirmed by the work of [25] explained that after 5 hours drying, the briquette surface was dry but the inside was damp. The rest of the briquette is still wet when the briquette is considered half dry. At the dry briquette, this wet part disappears.

6. Discussions of the developing fast drying determinant for the coconut shell charcoal briquette using resistivity

The dry briquette density of 1.14 g/cm^3 was very close to average of the briquettes reviewed by [3]. Their reviewed briquette densities were ranging from 0.43 – 3.03 g/cm^3 with average of 1.16 g/cm^3. It confirms the quality of the briquettes of the study when they are dry.

The burning rate, mass and density as mentioned in Table 2 are proportional each other. It can be interpreted that the heat was used to evaporate the wet briquette's water content. In other words, the burning rate is proportional to the fired fixed carbon and does not depend on water content. The wet briquette contents highest part of water, therefore it has highest burning rate. For equal carbon combustion, the wet briquettes lost highest amount of water.

The normalized burning rate comparison to normalized density mentions that another essential factor took place for the half-dry, as shown in Fig. 6, which is the water content location. The wet and dry briquettes have comparable normalized burning rates and density. However, half-dry briquette has a significant difference in burning rate and density. The factor confirms the reason of the quality control people preferring to check the drying state using combustion rather than mass, even if the method needs a longer time to do. It can be inferred that a half-dry briquette relates to the combustion quality. The person does not focus on the density as the way to check because it has very little difference in density between half-dry and dry briquette as shown in Fig. 6. The difference between normalized burning rate and density trends in a half-dry briquette can be interpreted that the wet and the dry parts exist separately in a half-dry briquette. The wet has a relatively homogeneous water content among all of the briquettes. The dry briquette also has homogeneous conditions of being no water. The normalized density and normalized burning rate difference show this homogeneity.

The difference of resistivity order can be easily used to determine the briquette not in wet condition. The distribution of the resistivity data can be used to differ the half-dry and the dry briquette. The resistivities of the half-dry tend to be spread, while the dry briquettes are homogenous. The difference of the half-dry briquettes can be in order of 1 mega ohm m. The variation of the dry briquettes resistivities is less than 1 mega ohm m. Therefore, the strategy to check the stopping time of drying is following:

– Collecting 10 briquettes randomly from the oven,

– Measuring the resistances of each briquette in 3 direction,

– Calculate the resistivities of the briquettes according to equation (1),

– If the resistivities < 1 mega ohm m, the briquettes are still wet,

– If the resistivities > 1 mega ohm m, check the standard deviations of the resistivities,

– If the standard deviation > 1 mega ohm m, the briquettes are still half-dry,

– If the standard deviation < 1 mega ohm m, the briquettes are dry. The drying process can be stopped. Otherwise, the oven has to be on.

The work can improve decision time for charcoal briquette drying. The proposed approach does not need combustion test. Normal combustion time for the briquette was 3 hours. However, it needs some calculations due to statistical calculation and logical decision procedure. Application development to help the operator can be done to make the method work easily. The operator just focuses on measuring the resistance of the briquettes.

In addition to necessity of creating application to make the calculation easier, the method has disadvantage of the necessity to collect randomly more than 10 briquettes from the oven. Opening the oven for collecting the briquette for resistances measurement, generally changes the condition of the oven. The temperature of the oven decrease and the humidity increase due to air flow from the outside. Accordingly, it affects affect drying time. A skillful operator for collecting briquette is important to limit the effect. It is also the reason to collect the briquette in three conditions only rather than drying time data collection.

The cross-sectional method provides information of the wet and dry parts model of the rainbow briquettes. The coefficients earned from equations (11)–(13) can be used to find the location of the wet part from the surface. The wet part of average half-dry briquettes located 0.553 cm from the surfaces. The dry part was on the surface until 0.553 cm. The wet part has resistivity of 5.20 kiloohm m. The dry part has resistivity of 28 megaohm m. The combination of the dry and wet part of the briquette makes bulk resistivity of half-dry higher than the dry briquette. The wet briquette has less resistivity than the dry briquette if the water content allows ions flowing across. In the case the wet part enclaved inside the dry part, the ionic flow cannot exist. Therefore, the half-dry briquette seems have less cross-section than the dry briquette. Consequently, the half-dry briquette has higher resistivity than the dry one.

Availability to determine the location of the wet part enclaved inside the briquette is useful for other research on briquette drying. Different condition of the briquettes provides different wet location. Fine variations of drying time difference can be conducted to understand more the mechanism of briquette drying. It will be useful to predict optimal drying treatment of the briquettes.

The results are presented in tables, but they are not discussed? It is necessary to interpret/discuss all the results presented in sections 5.1...5.4

7. Conclusions

1. Three different briquette conditions were studied in term of density, burning rate, and visual. The density of the wet briquettes was 1.4 g/cm^3. The dry coconut shell charcoal briquette density was 1.14 g/cm^3. The dry briquette is more porous than half-dry and the wet which can be seen using microscope. The burning rate are also different. It is clear that there were three different conditions of the briquettes. Accordingly, the normalized densities were not linear to normalized densities. These indicate enclaved the wet part inside of the half-dry briquette.

2. The wet rainbow briquette resistance has order of kiloohm. The half-dry and dry briquette resistance has order of megaohm. The clear difference of wet and dry indicates the probability applying the resistivities for drying stop determinant, especially to differ the wet and not wet.

3. The calculated averages resistivities of the coconut shell charcoal briquette were 450 kiloohm, 3.1 megaohm, and 2.8 megaohm for the wet, half-dry, and dry briquette, respectively. The dry briquettes tend to be more homogenous in resistivity

than half-dry briquettes. The dry briquette has less deviation than half-dry. It means that the resistivity distribution can be applied to differ the half-dry and the dry briquettes.

4. The proposed cross-sectional model can inform the wet part of the half-dry briquette. With the coefficients of –208.91, –7.1629, and –1.0983 for bottom-top, side-side, and front-tail wet part, it could be calculated that the half-dry briquette has dry part just 0.553 cm from the surface. The other part inside of the briquette is still wet.

While the resistivities can differ the wet from half-dry or dry briquette, the distribution of the resistivities can differ the dry from the half-dry briquette. Therefore, combination of resistivities and its distribution can be applied for stopping drying as it can show the condition when the briquette is already dry. Practically, the briquette employee can use ohm meter to measure the briquette samples during the drying process. Such process can be done faster than waiting for conventional approach by quality control person using combustion test. In addition, the model can also show the position of wet and dry part of the half-dry briquettes.

Conflict of Interest

The authors declare that the work does not have any conflict of interest.

Financing

The research is supported by DRTPM with contract number of 181/E5/PG.02.00.PL/2023 and 0423.10/LL5-INT/AL.04/2023.

Data availability

The manuscript has data included as electronic supplementary material

Use of artificial intelligence

The authors confirm that they did not use artificial intelligence technologies when creating the currrent work.

Acknowledgement

The authors express their gratitude to DRTPM for the funding of the research. They also appreciates Mr. Rony, Mr. Martono, Mr. Widodo, Mr. Intan for the support of the research activities.

References

1. Laska, G., & Ige, A. R. (2023). A Review : Assessment of Domestic Solid Fuel Sources in Nigeria. *Energies*, *16*(4722), 1 - 20. doi:https://doi.org/10.3940/en16124722
2. Khan, A. U., Jan, Q. M., Abas, M., Muhammad, K., Ali, Q., & Zimon, D. (2023). Utilization of Biowaste for Sustainable Production of Coal Briquettes. *Energies, 16*(7025), 1-16. doi:https://doi.org/10.3390/en16207025
3. .Marreiro, H. M., Peruchi, R. S., Lopes, R. M., Andersen, S. L., Eliziario, S. A., & Junior, P. R. (2021, December 10). Empirical Studies on Biomass

Briquette Production: A Literature Review. *Energies, 14*(8320), 1 - 40. doi:https://doi.org/10.3390/en1428320

4. Sunardi, Djuanda, & Mandra, M. A. (2019). Characteristic of Charcoal Briquette from Agricultural Waste with Compaction Pressure and Particle Soze Variation as Alternative Fuel. *International Energy Journal, 19*, 139-148.

5. Doloksaribu, M. (2014). Pembuatan Briket Arang Dari Tanah Gambut Pengganti Kayu Bakar. *Jurnal Pengabdian kepada masyarakat Penerapan Iptek*s, *20(75)*, 70-76.

6. Adam, S. S., Aiman, J. r., Zainuddin, F., & Hamdan, Y. (2021). Processing and Characterisation of Charcoal Briquettes Made from Waste Rice Straw as A Renewable Energy Alternative. *Journal of Physics: Conference Series, 2080*, 012014. doi:doi:10.1088/1742-6596/2080/1/012014

7. Bonsu, B. O., Takase, M., & Mantey, J. (2020). Preparation of charcoal briquette from palm kernel shells: case study in Ghana. *Heliyon, 6,* e05266. doi:doi.org/10.1016/j.heliyon.2020.e05266

8. Lestari, L., Variani, V. I., Virihu, M. Z., Raharjo, S., Saleh, I., & Aprilla, N. (2020). Effect of Compaction Pressure on Quality of Activated Charcoal Briquette Made from Sago Stem Midrib Material. *IOP Conf. Series: Materials Science and Engineering, 797,* 012022. IOP. doi:doi:10.1088/1757-899X/797/1/012022

9. Hamzah, F., Fajri, A., Harun, N., & Pramana, A. (2023). Characterization of charcoal briquettes made from rubber rods and coconut shells with tapioca as an adhesive. *IOP Conf. Series: Earth and Environmental Science. 1182*, pp. 012071. IOP Publishing. doi:10.1088/1755-1315/1182/1/012071

10. Jarawi, N., & Jusoh, I. (2023). Charcoal Properties of Malaysian Bamboo Charcoal Carbonized at 750 °C. *BioResources, 18*(3), 4413-4429. doi:10.15376/biores.18.3.4413-4429

11. Kwon, S.-M., Kwon, G.-J., Jang, J.-H., & Kim, N.-H. (2012). Characteristic of Charcoal in Different Carbonization Temperature. *Journal of Forest Science, 28*(4), 263-267. doi:dx.doi.org/10.7747/JFS.2012.28.4.263

12. Yan, W., Chen, Z., & Sheng, K. (2015). Carbonization temperature and time improving quality of charcoal briquettes. *Nongye Gongcheng Xuebao/Transactions of the Chinese Society of Agricultural Engineering, 31*(24), 245-249. doi:10.11975/j.issn.1002-6819.2015.24.037

13. Saneewongnaayutaya, N., Khamdaeng, T., Panyoyai, N., Tippayawong, N., & Wongsiriamnuay, T. (2022). Production and Characterization of Fuel Briquettes from Rice Husks and Tobacco Stalks. *AIP Conference Proceedings, 2681*, pp. 020051. doi:doi.org/10.1063/5.0115139

14. Njenga, M., Mwampamba, T. H., & Herzog, S. (2021). *Challenges and opportunities for charcoal briquette enterprises in East Africa*. Retrived from https://www.researchgate.net/publication/352561574

15. Fadzli, S. S., Zainuddin, F., Morgan, N. Z., & Zaroni, H. H. (2023). Comparison of Corn and Tapioca Starch Binders on the Characteristic of Rice Straw Charcoal Briquettes. *Emerging Technologies for Future Sustainability*. doi:DOI: 10.1007/978-981-99-1695-5_5

16. Pratama, B. H., Syarief, A., Saputra, M. P., & Azis, A. P. (2022). Effect

of Compaction Pressure and Sawdust Size on Briquette Made from Ulin Wood (Eusideroxylon Zwageri) and Gelam Wood (Melaleuca Cajuputi) to Combustion Characteristics. *Mechta International Journal of Mechanical Engineering Technologies and Applications*, *3*(2), 100 -106. doi:doi.org/10.21776/MECHTA.2022.003.02.4

17. Rapheala, I. A., & Abayomi, B. (2021). Production and Characterisation of Briquettes from Maize Stalk and Neem Leaves Admixture. *Acta Chemica Malaysia (ACMY), 5*(2), 77-81. doi:10.2478/acmy-2021-0012

18. Mencarelli, A., Cavalli, R., & Greco, R. (2022, July). Variability on the energy properties of charcoal and charcoal briquettes for barbecue. *Heliyon, 8*, e10052. doi://doi.org/10.1016/j.heliyon.2022.e10052

19. Parikh, D. M. (2014). Solids Drying: Basics and Aplications. *Chemical Engineering*, pp. 42-45.

20. Song, X., Wei, J., Mao, Z., Chi, X., Zhu, Z., Han, G., & Cheng, W. (2023). Effect of Hot-Air Conditions on the Drying Efficiency and Performance of Waterborne Coating on Pine Wood. *Forests, 14*(1572), 1752. doi:https://doi.org/10.3390/f14091752

21. Paul, G., Olivier, M., Esther, A., Daniel, M., & Jean, C.-L. (2019). Heat and Mass Transfer Local Modelling Applied to Biomass Briquette Drying. *Procedia Manufacturing*, *35*, 149-154. doi:10.1016/j.promfg.2019.05.018

22. Brennan, J. K., Bandosz, T. J., Thomson, K. T., & Gubbins, K. E. (2001). *Water in Porous Carbon. Colloids and Surfaces : A Physicochemical and Engineering Aspects*, *187-188*, 539-568.

23. Rembert, F., Jougnot, D., & Guarracino, L. (2020). A fractal model for the electrical conductivity of water-saturated porous media during mineral precipitation-dissolution process. *Advances in Water Resources*, *145*, 103742.

24. Ibrahim, M., Said, M. N., & Asmawi, R. (2015). Characterization of Carbon Brush from Coconut Shell for Railway Application. *Applied Mechanics and Materials*, 773-774, 291-295. doi:10.4028/www.scientific,net/AMM.773-774.291

25. Gunawan, S., Nursanni, B., Suprapto, & Januariyansah, S. (2022). The utilization of biomass waste as charcoal briquette to reduce waste disposal. *Journal of Physics: Conference Series*, *2193*, 012086. doi:10.1088/1742-6596/2193/1/012086.

References

1. Laska, G., & Ige, A. R. (2023). A Review : Assessment of Domestic Solid Fuel Sources in Nigeria. Energies, 16(4722), 1 - 20. doi:https://doi.org/10.3940/en16124722

2. Khan, A. U., Jan, Q. M., Abas, M., Muhammad, K., Ali, Q., & Zimon, D. (2023). Utilization of Biowaste for Sustainable Production of Coal Briquettes. Energies, 16(7025), 1-16. doi:https://doi.org/10.3390/en16207025

3. .Marreiro, H. M., Peruchi, R. S., Lopes, R. M., Andersen, S. L., Eliziario, S. A., & Junior, P. R. (2021, December 10). Empirical Studies on Biomass Briquette Production: A Literature Review. Energies, 14(8320), 1 - 40. doi:https://doi.org/10.3390/en1428320

4. Sunardi, Djuanda, & Mandra, M. A. (2019). Characteristic of Charcoal

Briquette from Agricultural Waste with Compaction Pressure and Particle Soze Variation as Alternative Fuel. International Energy Journal, 19, 139-148.

5. Doloksaribu, M. (2014). Pembuatan Briket Arang Dari Tanah Gambut Pengganti Kayu Bakar. Jurnal Pengabdian kepada masyarakat Penerapan Ipteks, 20(75), 70-76.

6. Adam, S. S., Aiman, J. r., Zainuddin, F., & Hamdan, Y. (2021). Processing and Characterisation of Charcoal Briquettes Made from Waste Rice Straw as A Renewable Energy Alternative. Journal of Physics: Conference Series, 2080, 012014. doi:doi:10.1088/1742-6596/2080/1/012014

7. Bonsu, B. O., Takase, M., & Mantey, J. (2020). Preparation of charcoal briquette from palm kernel shells: case study in Ghana. Heliyon, 6, e05266. doi:doi.org/10.1016/j.heliyon.2020.e05266

8. Lestari, L., Variani, V. I., Virihu, M. Z., Raharjo, S., Saleh, I., & Aprilla, N. (2020). Effect of Compaction Pressure on Quality of Activated Charcoal Briquette Made from Sago Stem Midrib Material. IOP Conf. Series: Materials Science and Engineering, 797, 012022. IOP. doi:doi:10.1088/1757-899X/797/1/012022

9. Hamzah, F., Fajri, A., Harun, N., & Pramana, A. (2023). Characterization of charcoal briquettes made from rubber rods and coconut shells with tapioca as an adhesive. IOP Conf. Series: Earth and Environmental Science. 1182, pp. 012071. IOP Publishing. doi:10.1088/1755-1315/1182/1/012071

10. Jarawi, N., & Jusoh, I. (2023). Charcoal Properties of Malaysian Bamboo Charcoal Carbonized at 750 °C. BioResources, 18(3), 4413-4429. doi:10.15376/biores.18.3.4413-4429

11. Kwon, S.-M., Kwon, G.-J., Jang, J.-H., & Kim, N.-H. (2012). Characteristic of Charcoal in Different Carbonization Temperature. Journal of Forest Science, 28(4), 263-267. doi:dx.doi.org/10.7747/JFS.2012.28.4.263

12. Yan, W., Chen, Z., & Sheng, K. (2015). Carbonization temperature and time improving quality of charcoal briquettes. Nongye Gongcheng Xuebao/Transactions of the Chinese Society of Agricultural Engineering, 31(24), 245-249. doi:10.11975/j.issn.1002-6819.2015.24.037

13. Saneewongnaayutaya, N., Khamdaeng, T., Panyoyai, N., Tippayawong, N., & Wongsiriamnuay, T. (2022). Production and Characterization of Fuel Briquettes from Rice Husks and Tobacco Stalks. AIP Conference Proceedings, 2681, pp. 020051. doi:doi.org/10.1063/5.0115139

14. Njenga, M., Mwampamba, T. H., & Herzog, S. (2021). Challenges and opportunities for charcoal briquette enterprises in East Africa. Retrived from https://www.researchgate.net/publication/352561574

15. Fadzli, S. S., Zainuddin, F., Morgan, N. Z., & Zaroni, H. H. (2023). Comparison of Corn and Tapioca Starch Binders on the Characteristic of Rice Straw Charcoal Briquettes. Emerging Technologies for Future Sustainability. doi:DOI: 10.1007/978-981-99-1695-5_5

16. Pratama, B. H., Syarief, A., Saputra, M. P., & Azis, A. P. (2022). Effect of Compaction Pressure and Sawdust Size on Briquette Made from Ulin Wood (Eusideroxylon Zwageri) and Gelam Wood (Melaleuca Cajuputi) to Combustion Characteristics. Mechta International Journal of Mechanical Engineering

Technologies and Applications, 3(2), 100 -106. doi:doi.org/10.21776/MECHTA.2022.003.02.4
17. Rapheala, I. A., & Abayomi, B. (2021). Production and Characterisation of Briquettes from Maize Stalk and Neem Leaves Admixture. Acta Chemica Malaysia (ACMY), 5(2), 77-81. doi:10.2478/acmy-2021-0012
18. Mencarelli, A., Cavalli, R., & Greco, R. (2022, July). Variability on the energy properties of charcoal and charcoal briquettes for barbecue. Heliyon, 8, e10052. doi://doi.org/10.1016/j.heliyon.2022.e10052
19. Parikh, D. M. (2014). Solids Drying: Basics and Aplications. Chemical Engineering, pp. 42-45.
20. Song, X., Wei, J., Mao, Z., Chi, X., Zhu, Z., Han, G., & Cheng, W. (2023). Effect of Hot-Air Conditions on the Drying Efficiency and Performance of Waterborne Coating on Pine Wood. Forests, 14(1572), 1752. doi:https://doi.org/10.3390/f14091752
21. Paul, G., Olivier, M., Esther, A., Daniel, M., & Jean, C.-L. (2019). Heat and Mass Transfer Local Modelling Applied to Biomass Briquette Drying. Procedia Manufacturing, 35, 149-154. doi:10.1016/j.promfg.2019.05.018
22. Brennan, J. K., Bandosz, T. J., Thomson, K. T., & Gubbins, K. E. (2001). Water in Porous Carbon. Colloids and Surfaces : A Physicochemical and Engineering Aspects, 187-188, 539-568.
23. Rembert, F., Jougnot, D., & Guarracino, L. (2020). A fractal model for the electrical conductivity of water-saturated porous media during mineral precipitation-dissolution process. Advances in Water Resources, 145, 103742.
24. Ibrahim, M., Said, M. N., & Asmawi, R. (2015). Characterization of Carbon Brush from Coconut Shell for Railway Application. Applied Mechanics and Materials, 773-774, 291-295. doi:10.4028/www.scientific,net/AMM.773-774.291
25. Gunawan, S., Nursanni, B., Suprapto, & Januariyansah, S. (2022). The utilization of biomass waste as charcoal briquette to reduce waste disposal. Journal of Physics: Conference Series, 2193, 012086. doi:10.1088/1742-6596/2193/1/012086.

Author’s order	First Name	Middle name	Second Name
1	Andreas		Prasetyadi
2	Rusdi		Sambada
3	Petrus	Kanisius	Purwadi

Andreas Prasetyadi
Corresponding Author
Doctor of Technical Sciences, Lecturer
Department of Mechanical Engineering
University of Sanata Dharma
Paingan, Maguwoharjo, Depok, Sleman, Indonesia 55282
E-mail: pras@usd.ac.id
ORCID: https://orcid.org/0000-0002-6235-597X
Contact tel.:
ResearchGate: https://www.researchgate.net/profile/A_Prasetyadi

Scopus ID : 57202324629
https://www.scopus.com/authid/detail.uri?authorId=57202324629
Researcher ID: AAP-8979-2021

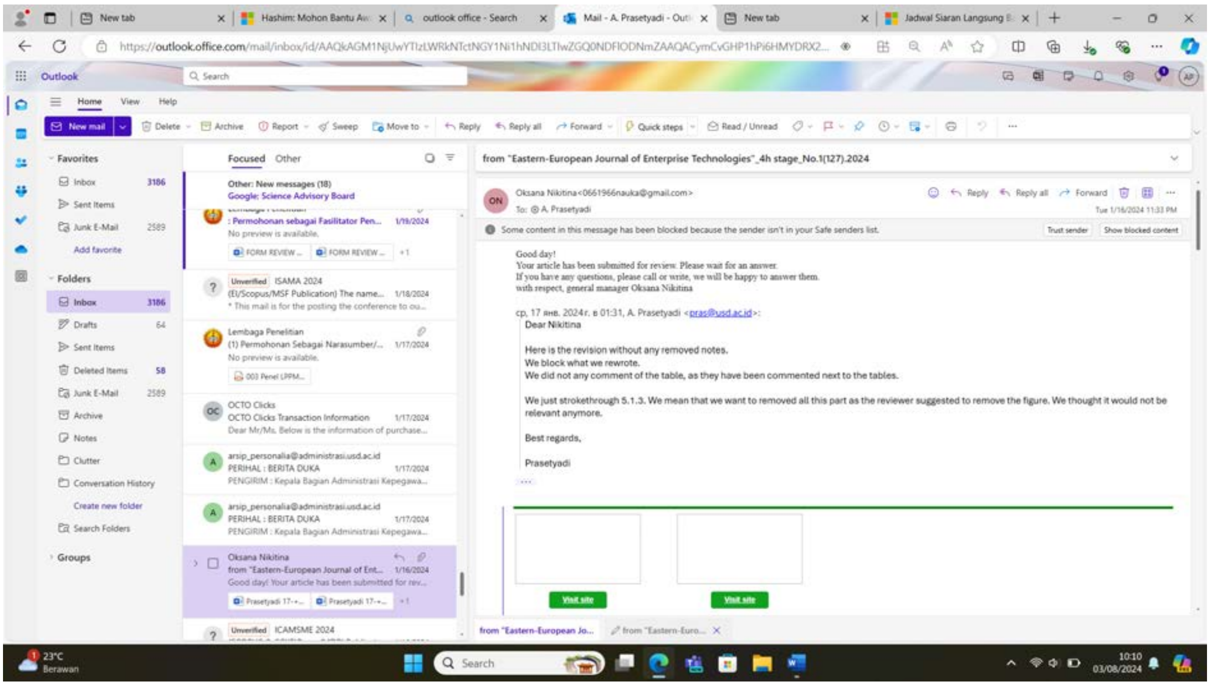
Rusdi Sambada
Doctor of Technical Sciences, Lecturer
Department of Mechanical Engineering
University of Sanata Dharma
Paingan, Maguwoharjo, Depok, Sleman, Indonesia 55282
E-mail: rusdi@usd.ac.id
ORCID: https://orcid.org/0000-0002-6555-7307
Contact tel.:
ResearchGate: https://www.researchgate.net/profile/Rusdi-Sambada
Scopus ID : 57217202332
https://www.scopus.com/authid/detail.uri?authorId=57217202332
Researcher ID: GPF-9656-2022

Petrus Kanisius Purwadi
Master of Technical Sciences, Lecturer
Department of Mechanical Engineering
University of Sanata Dharma
Paingan, Maguwoharjo, Depok, Sleman, Indonesia 55282
E-mail: pur@usd.ac.id
ORCID: https://orcid.org/0009-0000-1094-9672
Contact tel.:
Scopus ID : 57193123292
https://www.scopus.com/authid/detail.uri?authorId=57193123292
Purwadi, Petrus Kanisius - Author details - Scopus Preview

Widya Wijayanti PhD, Professor
Professor Mechanical Engineering Brawijaya University, Malang Indonesia*
*E-mail: * widya_dinata@ub.ac.id*

Atit Koonsrisuk
Professor School of Mechanical Engineering Suranaree University of Technology, Thailand*
*E-mail: * atit.sut@gmail.com*

5. Notifikasi pengiriman naskah kembali ke reviewer (16/1/2024)



Outlook

Re: from "Eastern-European Journal of Enterprise Technologies"_4h stage_No.1(127).2024

From Oksana Nikitina <0661966nauka@gmail.com>
Date Tue 1/16/2024 11:33 PM
To A. Prasetyadi <pras@usd.ac.id>

Good day!
Your article has been submitted for review. Please wait for an answer.
If you have any questions, please call or write, we will be happy to answer them.
with respect, general manager Oksana Nikitina

ср, 17 янв. 2024 г. в 01:31, A. Prasetyadi <pras@usd.ac.id>:

> Dear Nikitina
>
> Here is the revision without any removed notes.
> We block what we rewrote.
> We did not any comment of the table, as they have been commented next to the tables.
>
> We just strokethrough 5.1.3. We mean that we want to removed all this part as the reviewer suggested to remove the figure. We thought it would not be relevant anymore.
>
> Best regards,
>
> Prasetyadi
>
> ---
>
> **From:** A. Prasetyadi <pras@usd.ac.id>
> **Sent:** Tuesday, January 16, 2024 10:44 PM
> **To:** Oksana Nikitina <0661966nauka@gmail.com>
> **Subject:** Re: from "Eastern-European Journal of Enterprise Technologies"_4h stage_No.1(127).2024
>
> Dear Nikitina,
>
> I am very sorry due to our mistake.

I will revise again.

Best regards,

Prasetyadi

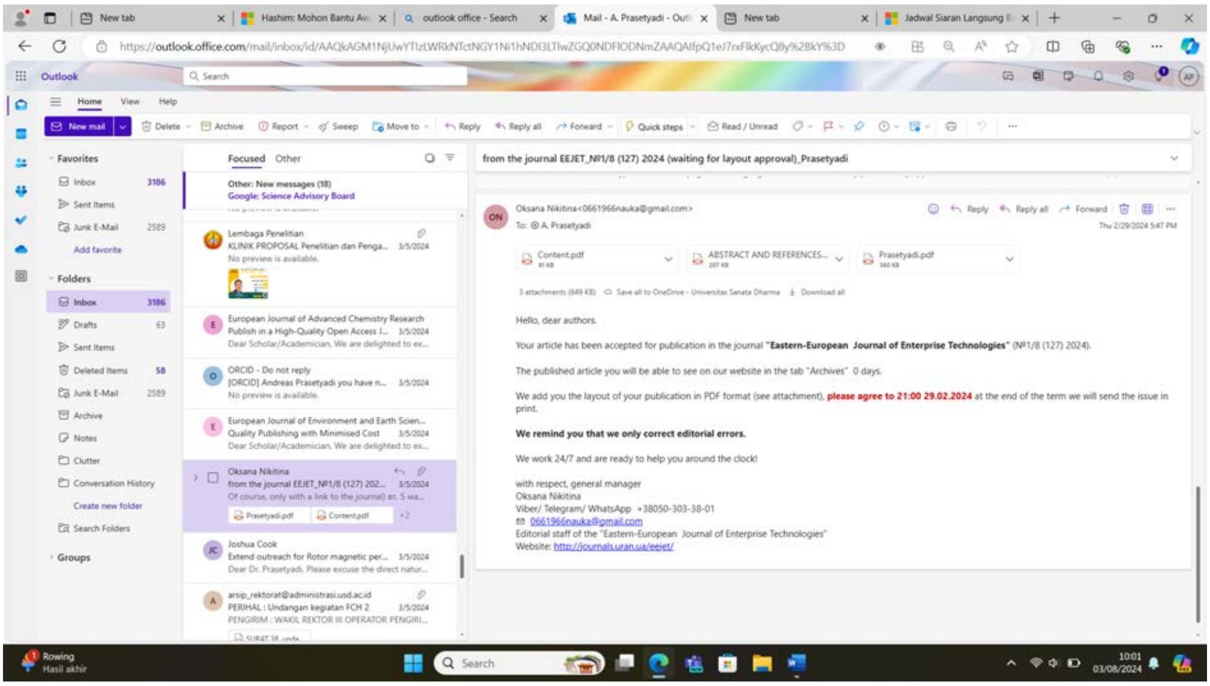
From: Oksana Nikitina <0661966nauka@gmail.com>
Sent: Tuesday, January 16, 2024 5:38 PM
To: A. Prasetyadi <pras@usd.ac.id>
Subject: Re: from "Eastern-European Journal of Enterprise Technologies"_4h stage_No.1(127).2024

I don't accept it because

We ask you not to delete the comments so that we can see all your edits. All corrections by the author, please highlight in green.

--

6. **Notifikasi artikel diterima (8/2/2024) untuk diterbitkan dan proof reading untuk dipublikasi (29/2/2024)**



Outlook

from the journal EEJET_№1/8 (127) 2024 (waiting for layout approval)_Prasetyadi

From Oksana Nikitina <0661966nauka@gmail.com>
Date Thu 2/29/2024 5:47 PM
To A. Prasetyadi <pras@usd.ac.id>

3 attachments (649 KB)
Content.pdf; ABSTRACT AND REFERENCES.pdf; Prasetyadi.pdf;

Hello, dear authors.

Your article has been accepted for publication in the journal **"Eastern-European Journal of Enterprise Technologies"** (№1/8 (127) 2024).

The published article you will be able to see on our website in the tab "Archives" 0 days.

We add you the layout of your publication in PDF format (see attachment), **please agree to 21:00 29.02.2024** at the end of the term we will send the issue in print.

We remind you that we only correct editorial errors.

We work 24/7 and are ready to help you around the clock!

with respect, general manager
Oksana Nikitina
Viber/ Telegram/ WhatsApp +38050-303-38-01
0661966nauka@gmail.com
Editorial staff of the "Eastern-European Journal of Enterprise Technologies"
Website: http://journals.uran.ua/eejet/

Eastern-European
Journal
of Enterprise
Technologies

Letter of acceptance

Article_«DEVELOPMENT NEW FAST DRYING DETERMINANT METHOD USING RESISTIVITY FOR THE INDUSTRY OF COCONUT SHELL CHARCOAL BRIQUETTES»_ by the authors Andreas Prasetyadi, Rusdi Sambada, Petrus Kanisius Purwadi was accepted for publication in the journal "Eastern-European Journal of Enterprise Technologies" and will publish in February issue of journal (No 1/8 (127) 2024).

08.02.2024

Sincerely,
Head of Publishing Department
Prylutska Yuliia